6

Another Urban Biopolitics Is Possible

> At present an analytical science of the city which is necessary is only at the outline stage. . . . The right to the city cannot be conceived of as a . . . a return to traditional cities. It can only be formulated as a transformed and renewed right to urban life . . . is it here necessary to exhibit the derisory and untragic misery of the inhabitant, of the suburban dweller and of the people who stay in residential ghettos, in the mouldering centre of old cities and in the proliferations lost beyond them? One only has to open one's eyes to understand the daily life of the one who runs from his dwelling to the station, near or far away, to the packed underground train, the office or the factory, to return the same way in the evening and come home to recuperate enough to start again the next day. The picture of this generalized misery would not go without a picture of 'satisfactions' which hides it and becomes the means to elude it and break free from it.
>
> —(LEFEBVRE, "THE RIGHT TO THE CITY," 1996 [1968])

Urban thought has long been biopolitical. Politicians, intellectuals, journalists, philanthropists, social reformers, urban planners, sanitary inspectors, medical officers, and a growing band of social scientists have long worried about the relations between vitality and urban space—from graveyards, docks, sewage systems, parks, centers and peripheries, from suburbs, to apartment blocks, industrial zones, and council estates.[1] These concerns

about governing the vital life of cities have been bound up with particular ways of knowing cities and those who dwell in them, creating a practical expertise of government that draws on philosophy, ethics, sociology, statistics, and politics and links these to low-key, everyday strategies for governing conduct (Osborne and Rose, 1999). In almost all such strategies, even those that deploy authoritarian tactics of law and punishment, individual city dwellers have been a key target for management, urged to work on themselves, their conducts and habits, and to take responsibility for themselves in the name of individual or collective health and life.

In this chapter, we will not revisit the critical evaluations of the many and varied regimes of biopolitics that have taken urban mental life or urban mental disorder as their problem. Rather, we will argue that it is possible to imagine another way of governing the vital and neural lives of urban citizens, based on different knowledges, different strategies, and different forms of subjectification. There are possibilities, perhaps no more than that, in the emerging neurosocial knowledge that we have outlined in this book, for a perception of human vitality that no longer sees individuals as distinct, bounded biological domains but rather as inextricably immersed in, constituted with, even sometimes devastated by, the intra-individual, biological, physical, semantic, and affective worlds they inhabit. Such a perception also sees humans, individually and collectively, as actively making their lives, not just as constrained or enabled by material resources, but also formed by aspirations and judgments, shaped by esoteric meanings and memories. In the urban biopolitics that we imagine, the authorities that would govern mental life and mental distress would no longer be primarily psychiatrists, care workers, or others authorized because of their professional mental health training, but all those involved in shaping and planning the spaces, habits, and exposures that make up the everyday network of niches and trajectories that interlace across every city.

This would be a biopolitics in which individuals did not just have legal, political, and welfare rights to the city (whatever these might mean in practice) but rights, rather, to vitality, and to the affordances that would enable that vitality to unfurl itself. Claims to rights and justice are often asserted, of course, to contest the patterns of capital accumulation and privatization, race- and class-based segregation, and the direct and indirect violence of containment and securitization that have been characteristic of urban development globally since the Second World War. It is important to support those claims, and we certainly do, but not to take the language of rights and justice as exhaustive of a meaningful politics of urban life. We need a

biopolitics that brings the living bodies and souls of humans to the center of questions of urban governance, and that addresses injustice, at least in part, in terms of the unequal distribution of bodily encounters and exposures.[2]

Urban Justice: The Right to the City

Urban justice today is, as we have already implied, often framed in terms of claims to 'rights to the city,' with Rights to the City groups emerging around the world, in marginalized communities, not just in the Global North but also, for example, in Brazil and Ecuador (Minton, 2017). But what are these rights? For Peter Marcuse, the right to the city is "a claim and a banner under which to mobilize one side in the conflict over who should have the benefit of the city and what kind of city it should be. It is a moral claim, founded on fundamental principles of justice, of ethics, of morality, of virtue, of the good" (Marcuse, 2009: 192). Marcuse argues that it can unify "those directly in want, directly oppressed, those for whom even their most immediate needs are not fulfilled: the homeless, the hungry, the imprisoned, the persecuted on gender, religious, racial grounds" (ibid.: 19), with "those superficially integrated into the system and sharing in its material benefits, but constrained in their opportunities for creative activity, oppressed in their social relationships, guilty perhaps for an undeserved prosperity, unfulfilled in their lives' hopes" (ibid.). Well, perhaps. But what seems to be at stake here is a nostalgia for a different city—a wholesome integration of humanized space and humanized life in the face of the disenchantment of the actual city: technologized, capitalized, privatized, fragmented, exploited for private profit and social control by technocrats, bankers, constructors, estate agents, and so on. Who, confronted with such a vision, does *not* dream of the city of good citizens, engaged in their polity, caring for their neighborhood, becoming themselves in their relation with their material and interpersonal urban world?

Perhaps Henri Lefebvre was anticipating such arguments when, a quarter of a century ago, he wrote: "The career of the old classical humanism ended long ago and badly. It is dead. Its mummified and embalmed corpse weighs heavily and does not smell good . . . Trivialities and platitudes are wrapped up in this 'human scale.' It is not even an ideology, barely a theme for official speeches" (Lefebvre, 1996 [1968]: 149). Indeed, we could do worse than return to Lefebvre's impassioned text that seems to be the root of later writings that frame the demand for urban justice in terms of a right to the city. For Lefebvre, the right to the city should be posed neither as a demand to restore some traditional city; nor in terms of an opposition between the

horrors of urban life and the comforts of nature, in which the countryside appears as a kind of restorative break from the city. These ways of thinking relinquish a claim on the city itself, a claim to inhabit the city well, a claim to "renewed centrality, to places of encounter and exchange, to life rhythms, and time uses, enabling the full and complete *usage* of these moments and places" (ibid.: 179, emphasis in original). We need instead, says Lefebvre, to open our eyes to the real miseries of urban existence as they are lived, the generalized misery that is "the daily life of the one who runs from his dwelling to the station, near or far away, to the packed underground train, the office or the factory, to return the same way in the evening and come home to recuperate enough to start again the next day" (ibid.: 159).

Half a century ago, David Harvey considered these issues in *Social Justice and the City* (Harvey, 2009 [1973]). In arguing for the need to bring together a sociological and geographical imagination of the city, Harvey suggested that this would both "enabl[e] us to grasp history and biography and the relations between the two in society," and help "the individual to recognize the role of space and place in his [sic.] own biography, to relate to the spaces he sees around him, and to recognize how transactions between individuals and between organizations are affected by the space that separates them" (ibid.: 23–24). For Harvey, in 1973, bridging the gap between urban history and urban biography means not only understanding spatial form as a socially symbolic function, but also recognizing that the symbolic dimension was as much a psychological function as anything else (ibid.: 330). He thus believed that we could learn from laboratory experiments on the reaction to various forms of spatially organized stimuli—from "reactions to complexity, depth perception, associations in meaning, pattern preferences, and so on" (ibid.: 33).[3] But he considered that it would be extremely difficult to relate these findings to complex activity patterns as they unfold in the city. Perhaps this is why he posed the question of justice, not in terms of the lived experiences of individuals as they give meaning to the social and symbolic dimensions of their urban habitat, but rather in terms of "territorial distributive justice" which could be assessed by measuring how equitably resources were distributed across some territory. And while, in later writings, Harvey extends this question to ecological justice, thinking in terms of "inequalities in protection against environmental hazards," and their effects on the "marginalized disempowered, and racially marked positions of many of those affected" (Harvey, 1996: 385–386), the question of lived experience in the city remains subsumed with a demand for "a just and ecologically sensitive urbanization process under contemporary conditions" (ibid.: 438).

The challenge, for us, is to place that issue of lived experience at the center of a concern for urban justice, that is, to focus on the ways that urban injustice is deeply enmeshed in the inequitable ways in which we *inhabit* urban space, and in the possibilities and constraints of the human biology that is in a constant state of active co-constitution with such sites and practices of inhabitation. This is what a specifically political attention contributes: a method for grasping the socio-spatially- and socio-politically-shaped distribution of urban exposure, ranging from stress, isolation, and trauma to environmental pollution, air quality, noise, and heat.

Of 'Other' Urban Spaces

Urban geographers seeking to imagine 'other urban spaces' often revisit Michel Foucault's strange essay on heterotopia (Foucault, 1967).[4] In his text, Foucault variously describes heterotopias as 'emplacements' "that have the curious property of being in relation with all the other sites, but in such a way as to [suspend], neutralize, or invert the set of relations that they happen to designate, mirror, or reflect" (Foucault, 1986 [1967]: 24).[5] In a later reflection on the essay, Peter Johnson argues that Foucault uses the idea of heterotopia to contest "utopian forms of resistance and transgression based on a space of liberation"(Johnson, 2006: 82).[6] Heterotopias are "fundamentally disturbing places . . . there is no inevitable relationship with spaces of hope. It is about conceiving space outside, or against, any utopian framework or impulse" (ibid.: 84). But it would be misleading to think of these 'other spaces' as merely the products of Foucault's political imagination.

Consider, for example, the cemetery, which figures prominently in Foucault's analysis. As Johnson points out, referring to Foucault, while on the one hand, a cemetery is an emplacement of "profound spatio-temporal disruption, a place that encloses an 'absolute break with traditional time,'" on the other, the location of cemeteries was the focus of repeated concerns about hygiene in the growing European cities, which led to their removal from the sacred environs of the church to the outskirts of cities (Johnson, 2012: n.p.).[7] Indeed, questions of health in cities—of births and deaths, of illnesses and hygiene—have long been a privileged focus of 'the will to govern.' Foucault's lectures on 'the politics of health in the eighteenth century' could be viewed as the first in his series of thoughts on 'governmentality' and 'biopolitics'; they focus extensively on the ways that urban health became a central concern for authorities—"medical management determined by the authorities, supported by an administrative apparatus, framed by strict

legislative structures, and addressing itself to the entire collectivity" (Foucault, 1999: 90).[8]

This new role for medicine as part of the rationalities of 'police'[9] gave a special place to the medicalization of the ordinary family. While the aristocratic family remained, primarily as a mechanism for inheritance, the families of the respectable class and of the laboring poor were now conceived as machines for health, with new rules for parents on the care, dress, and exercise of the child to ensure "the good development of the organism" and on the necessity to maintain a healthy and purified space in the domestic dwelling. But alongside this was a recognition that the city—with its districts suffused by dampness and exposure, its poor ventilation, its potentially dangerous water and sewage systems, the location of cemeteries and slaughterhouses—was both perhaps the most dangerous milieu for the health of the population and a potential locus for their control. Regular panics over urban rates of mortality led—both in France and in England—to the demand for medical surveillance of urban space and its most dangerous locales. It also led to a great concern over prisons, ships, ports, and hospitals, all seen as places that were vulnerable, because they were openings for disease to enter the city. Further, the hospital, while a crucial site for reform and medical improvement, and indeed for medical education, was radically insufficient for addressing the spatial distribution of disease—a perception that gave rise to a series of programs and experiments for disseminating medical persona across the space of the population, in managing towns both large and small, treating indigents, children, and families, and in fact serving to constitute the social body itself.

The medico-administrative complex that began to form, a complex of knowledge, expertise, and intervention organized around towns and cities, served not just as one of the first dimensions of governmentality, but also as the foundation of what would later become sociology: "medical reason was itself a specialising and urbanising science . . . by the 1830s a discourse on the 'medical climatology' of towns had evolved into an empirical medical topography concerned with the mapping of disease in localised spaces" (Osborne and Rose, 1999: 743). This coming-together was not principally a negative program concerned with eradicating disease, but rather a positive program for the promotion of good health: "the task of good government of urban space" in the mid-nineteenth century was not just to minimize disease but "to promote health" (ibid.). The city thus became an 'ethicohygienic' space—a territory in which the moral life of the citizenry was mapped into the spatiality of disease: 'milieu' and 'character' were made into functions

of one another until, very gradually, "the spatial relation of citizen to habitat was turned into one that can and should be governed" (ibid.). In this sense, "the healthy city is not a city of minimal disease and social contentment, it is an active organic striving for its own maximisation against all that which would threaten it" (ibid.: 753).

Such a 'will to health' conceives of the city "as a network of living practices of well-being" and aims "to shape the ecology of the city in order to maximise the processes that would ensure the well-being of its inhabitants individually and in their 'communities'" (Osborne and Rose, 1999: 750).[10] All aspects of urban life are to be "mobilized in the name of a norm of well-being," from zoning habitations, managing pollution from vehicles, design of urban spaces were "suffused with this 'ecological' concern for health"—a program that involved alliances between health professionals, non-governmental organizations, community groups, and many others to manage "aspects of urban existence—jobs, housing, environment, public safety, diet, transport—not just to ward off sickness but to promote well-being" (ibid.: 752).

When we speak of our wish for a new urban biopolitics, informed by the new sciences of the living, are we not, then, merely translating this governmental will to health into a new language? In wishing to empower local communities, are we not, once more, allocating them responsibilities for their own healthiness, to strive for well-being in all aspects of their lives, to adopt healthy lifestyles, eat properly, manage stress, activate their self-responsibility? Are we not, yet again, seeking to create and instrumentalize an ethic in which the governing ambition for urban economy—in all senses of that term—is to be achieved by inculcating and activating each individual's aspiration for their own health?

To govern the city in the name of health: this hardly constitutes a radically new politics of life, even if it draws on new ways of framing this issue within the life sciences to explore the relations between bodies and cities. It remains true that, as Austin Zeiderman has remarked, in relation to his research on urban biopolitics in Bogotá, Colombia, "we understand little about how the politics of life functions in urban contexts and how it affects the way cities are planned, built, governed, and lived" (Zeiderman, 2013: 72). And yet, as Zeiderman shows, biopolitics, and in particular the politics of biological citizenship can bite both ways: he gives the example of people living in designed 'high risk zones' in Bogotá who negotiate their claims on the state via their relationship to the specific geological and biological vulnerabilities through which these zones are governed. Such an analysis

reframes the idea of 'rights to the city' in an empirically grounded manner, for, as Zeiderman shows, "the right to housing is thus a privilege bestowed on members of a collectivity whose entitlements are grounded not only in shared membership within a political community but also in their common condition of vulnerability" (ibid.: 73).

The shift to a biopolitical point of view, then, shows us how questions of justice and rights can move beyond concerns with distribution of resources or democratic participation, to be connected with concerns about specific forms of bodily vulnerability. If we are going to think biopolitically, we need to expand our horizons beyond the regulatory effects of urban public health, and of the fragility of bodies submitting passively to the normative demands for the management of their corporeal existence. As Elizabeth Grosz puts it, "cities have always represented and projected images and fantasies of bodies . . . the city . . . enframes, protects, and houses while at the same time taking its own forms and functions from the (imaginary) bodies it constitutes . . . cities of the future, like cities of the present, will not be imposed on an unwilling populace, that is, from the outside" (Grosz, 2001: 48–53). With the fantasy of regulatory and normative imposition thus put to one side, we need to think more expansively about how bodies and brains are shaped in and through the space and places we are born and grow in, dwell in, move through, that shape us as we shape them.

Transcorporeal Exposures: Beyond the Binary

We have become accustomed to think of the relations between bodies and environments as a relationship between two domains. Public health officers think of the habits and practices of those who live in particular urban environments, and focus on how the relationships between urban surroundings, on the one hand, and individual behaviors, on the other, can be made more salutary. Geneticists who consider such matters talk of "GxE," and ponder the interaction of genes with the environment. Specialists in human relations think of workplaces as unsafe or demanding environments, and their effects on our minds and brains. We ourselves fall into ways of writing about pollution in our external environment and its effects on our bodies, our diet, our physical health. And so on. It seems hard to escape this dualism of the inside and the outside, the transactions across the seeming natural border of the skin, the organic unity that it encloses and the portals to the external world that it guards. But for a new urban biopolitics, we need to think beyond this binary.

Conceptually, perhaps this is what Gilles Deleuze tried to convey in his account of the fold: "what always matters is folding, unfolding, refolding" (Deleuze, 1993: 137). It is not a matter of "the interaction between a human animal biologically equipped with senses, instincts, needs, and an external, physical, interpersonal, social environment. . . . the inside is itself no more than a moment, or a series of moments, though which a 'depth' has been constituted within human being . . . a space or series of cavities, pleats and fields, which only exist in relation to those very forces, lines, techniques and inventions that have created them" (Rose, 1996: 188). As Stacey Alaimo argues, material interchanges between human bodies and the environment require "corporeal theories, environmental theories, and science studies [to] meet and mingle in productive ways . . . [T]he environment" is not located somewhere out there, but is always the very substance of ourselves" (Alaimo, 2010: 4). A new practice of ethics is required once one recognizes that the human is embedded in, suffused by, constituted through the very stuff of the material world: a "fraught sense of political agency" can emerge "from the perceived loss of boundaries and sovereignty . . . a trans-corporeal subjectivity in which bodies extend into places and places deeply affect bodies" (ibid.: 5). We see the same approach in other authors who have conjoined the histories of environment and health to grasp how the chemical, industrial, and economic transformations that have "so thoroughly shaped modern environments" have also produced a slew of "toxic, over infectious, agents of illness" which, as they come to settle in the bodies of more and more people, may even mark a new kind of "epidemiological transition" in which the body is enmeshed in "a wide range of material flows, from commodities to the inadvertent byproducts of industry and agriculture to more obscure and natural processes that have not always fallen within the analytic domain of human culture" (Mitman, Murphy, et al., 2004: 3; 10).

Michelle Murphy has traced the highly specific ways that such chemical exposures get materialized—what she calls "the historical ontology of exposure" (Murphy, 2006: 7). But how are we to think about the politics of exposure when the flows—both inside the body and around it—are not so obviously 'material'? How should we think about exposure when the psyche is engaged? How should we think about exposure when these transactions—of exposure, and intoxication—seem to involve vectors (stress, fear, anticipation) that are much less easy to grasp? This is not to endorse a distinction between the psyche and the body, but precisely the reverse: to ask how we can think about exposures when the materiality of being exposed is inextricably entangled with both conscious and non-conscious mental processes.

Opening Our Eyes

What would it mean, then, to act on Lefebvre's injunction that we quoted at the start of this chapter—to "open one's eyes to understand the daily life of the one who runs from his dwelling to the station, near or far away, to the packed underground train, the office or the factory, to return the same way in the evening and come home to recuperate enough to start again the next day"? What would it mean to do this with a focus, not only on the strictly corporeal, but also on the psychological, the mental, and the neurobiological dimensions of transcorporeality? What would it mean to refuse the binary of organism and environment, using the resources offered to us by the emerging 'ecosocial' or 'neuroecosocial' approaches that we outlined in our last chapter? And how might we reconfigure our approach to social justice in the city in this light?

We can start with the argument we have made at various points in the previous chapters: that humans, like other animals, inhabit, develop in, dwell in, move through certain niches, trajectories across space and time that are composed of relations and transactions between humans, and between humans and their non-human companions, and the material environment that both inhabit. Thus, following our argument in the previous chapter, one might 'decompose the city' analytically into a multiplicity of such niches, or 'biosocial localities,' each with its own characteristic forms of life and its characteristic biologies. This would enable us to have a more finely tuned attention to the well-known gross demographic indicators showing how morbidity and mortality take different patterns in different districts or areas within cities.

But these exposures are not merely material. A niche is not simply the 'objective' material space that one occupies, or moves through over minutes, hours, days of the week, months, and years. For humans, at least, one's niche is not a set of extra-corporeal geolocations 'out there.' We suggested in the last chapter that a niche is more like an *Umwelt* as characterized by Jakob von Uexküll (von Uexküll, [1934] 2010). Although the German word '*Umwelt*' simply translates as 'environment,' von Uexküll uses it to emphasize the ways in which a living creature does not just 'interact' with a given environment, but actively transmutes that environment into a milieu for living its own particular form of life. Thus the *Umwelt* for each animal is that which it perceives, senses, renders perceptible in and through its own sense organs—sight, hearing, smell, taste, and so on. It is a world of saliences, of the elements that are of salience to a particular creature in its form of life—its sustenance, its threats,

its prey, its conspecifics, its points of reference. These *Umwelten* are not quite objective and not quite subjective, indeed not conceptualizable in terms of such an inner/outer binary in the first place. The tick, the bat, the dog, the human . . . each lives in an 'irreal world'—to use the term coined by Nelson Goodman (Goodman, 1978). And for the human, the *Umwelt* is made up of the particular array of saliences, persons, buildings, visibilities, and affects experienced by those who navigate a biosocial niche, not just shaped by the evolution of our species and the characteristics of our sense organs, but also saturated by memories and meanings, spatialized in terms of pleasures and fears, hopes and dreams, real or imagined experiences, and by the resonances of names and stories of places and spaces.

Mental Maps of the Imagined City

How should we proceed to grasp the diversity of these urban *Umwelten*? One might start by examining the method used by Kevin Lynch in his classic book *The Image of the City* (Lynch, 1960). For Lynch, an image was more than a mental representation. What he terms the "environmental image" is an integral part of each culture, and while it may be "less vivid" today than in pre-industrial societies, it "is still a fundamental part of our equipment for living," permitting "purposeful mobility" for those who inhabit it (ibid.: 124).[11] The environmental image acts as an organizer of activity, its patterns provide a basis for the ordering of knowledge—and vice versa—and its symbolic qualities can establish an emotional relationship between an environment and those who dwell within it, whether of fear or of comfort. What one sees, says Lynch, is "based on exterior form," but how an individual "interprets and organizes this" and how they direct their attention "in turn affects what he sees" (ibid.: 131). But more than these reflections on imageability, and indeed more relevant than his much- quoted argument that urban inhabitants make their city by organizing its parts into a coherent pattern, constructed in terms of *Paths*, *Edges*, *Districts*, *Nodes*, and *Landmarks*, is Lynch's method. His research team interviewed "a small sample of citizens with regard to their image of the environment," asking them first to talk about what comes to mind when they think about their city, how they would describe it to another, and then asking them to draw a "quick map" of the central area of the city "as if they were making a rapid description of the city to a stranger" (ibid.: 140–141). They were then asked to "give complete and explicit directions for the trip they normally take going from home to

where they work," picturing themselves making the trip and reporting on the things they would see, hear, or smell, the emotional feelings that they would have at each stage of the journey. These interviews—of which we give only a partial account—were followed by what we would now describe as a walking interview or "go along" (Evans and Jones, 2011), actually taking the route they mapped in their imaginary journey, accompanied by the interviewer who used a tape recorder to capture their answers to questions about their feelings as they walked the route.[12]

Lynch was concerned with the "imageability" of different urban forms: the quality that gives them "a high probability of invoking a strong image in any given observer" (Lynch, 1960: 9). He thus drew normative conclusions from the maps that his interviewees and his researchers drew, arguing that cities need to be made legible or imageable to those who negotiate them. His book thus opened—or re-opened—a line of thought about the perception of the city and its relevance to urban design that continues today. However, we would like to take up Lynch's challenge in another way. The 'subjective' maps of those journeys from home to work that are imagined and then walked by his interviewees are maps of the niches they have constructed for themselves, niches filled with memories and emotions that suffuse the material constraints of managing their daily lives in urban space. This approach to mapping the city was taken further by Stanley Milgram. Milgram is best known for his disturbing studies of obedience to authority (Milgram and Gudehus, 1978), but he is less renowned for the psychological maps of New York and Paris that he and his colleagues created in the 1970s (reprinted in Milgram, 1992). These were collected through empirical studies drawing on Lynch's techniques, that aimed to map the 'psychological representations' that each city inhabitant carries around with them, the cognitive picture they build up of how the streets connect with one another, that enable them to move from place to place. Milgram and colleagues were concerned with the cognitive work involved in knowing a city. But they recognized that mapping is not exclusively a 'cognitive' matter. As Milgram puts it, maps are suffused by "attitudes and feelings" toward different parts of the environment based on their childhood neighborhoods, sites of romantic attachment, and so forth (ibid.: 64). Thus, while Milgram is most concerned with the ways that these maps "encode, distort or selectively represent" urban space, and the comparison with "reality," he also recognizes that such maps contain "emotional and intuitive components" and are collectively shaped, symbolic configurations of belief and knowledge (ibid.: 98–99).

For us, it is this dimension that is primary. Mental maps render visible the often non- conscious ways of inhabitation of one's niche, affectively charged memories, neural traces, which include sites of fascination and pleasure, sites of anxiety and dangers, some experienced, some from half-recalled conversations, stories, or myths. Unfortunately, Milgram did not develop this line of thought. Indeed, in his much-cited paper, "The Experience of Living in Cities," he gives priority to the idea of 'overload' in understanding the quality of urban life (Milgram, 1974: 1462). He argues that this idea was implicit in Simmel's account of the urban citizen, who conserved psychic energy by limiting close acquaintances and maintaining superficial relations with others, and devotes much attention to how individuals and organizations protect themselves from overload, at the cost of limiting spontaneous integration with the life of the city, and estranging themselves from their interpersonal and social environments. His examples are now well known: bystanders do not intervene in crises in cities as they would do in small towns and rural areas, they are less willing to trust and assist strangers, they are less likely to apologize if they bump into people in the street, and cities foster a kind of anonymity between inhabitants, an 'impersonality' that leads to tolerance of private lives and eccentricity. Nonetheless, and despite this focus on the cognitive, in his closing remarks, he refers to "the differing atmospheres of great cities such as Paris, London and New York" and the fact that each "has a distinctive flavor, offering a differentiable quality of experience" (ibid.: 1468)—intriguing remarks that, to the best of our knowledge, he did not develop in subsequent work.

Ecological Psychology

From our point of view, mental maps—if 'map' is the right word here—don't just represent, they enable; they make some ways of thinking, feeling, relating to others, managing one's life, possible, and others difficult or impossible. How then can we go forward to a more granular and transcorporeal conception of a niche, that goes beyond a species-wide conception of the *Umwelt*, that is not bound up in Cartesian binaries, that builds on the work of Lynch and Milgram, but that refuses to deploy ancient trichotomies of cognition, emotion, and volition to characterize inhabitation. One place to begin, and indeed one that has become central to the field of 'ecological psychology,' is with James Gibson's conception of affordances (the paragraphs that follow are heavily indebted to Rose, Birk, et al., 2021).[13] James Gibson invented the term 'affordances,' in his endeavor to think perception in a way

that was not premised on the idea of an 'interaction' of 'environment' and 'individual.' As he put it:

> The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. The verb to afford is found in the dictionary, the noun affordance is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment. (Gibson, 1979: 127)

For Gibson, certain material features of a niche—those that are salient in particular ways, imbued with particular meanings and affects—engage with humans co-present with them, making certain ways of acting possible (or impossible). The milieu is embodied in such a way to make it possible to walk, run, sit, look, step, stop and talk, gather in a smaller or bigger group, move through or remain—indeed to occupy that space in the kind of ways described, in such detail, in the ecological studies of William H. Whyte (Whyte, 1980; Whyte, 1988). Gibson in fact uses the term 'ecological niche' to characterize the ways that each organism is attuned to, and stimulated by, its affordances to see, think, and act in particular ways: "a niche," he suggested, "refers more to how an animal lives than to where it lives. I suggest that a niche is a set of affordances" (Gibson, 1979: 128).

Barry Smith has given us a useful interpretation of how Gibson's work enables us to grasp the ways that "the sentient organism is housed or situated within a surrounding environment of which it serves as interior boundary":

> In perception, as in action . . . we are caught up with the very things themselves in the surrounding world, and not with 'sense data' or 'representations.' . . . [but a] direct linkage between the perceiving organism and its environment which grows out of the fact that, in its active looking, touching, tasting, feeling, the organism as purposeful creature is bound up with those very objects . . . which are relevant to its life and to its tasks of the moment. (Smith, 2009: 5)

Gibson was primarily concerned with 'perception' which, for him, was not a matter of mental representations but a direct attunement between the organism and its environment in the ways that enabled its specific ways of life. Gibson makes much of the fact that for humans, as indeed for other organisms, we are not only caught up with 'things' but also with other organisms, including but not limited to our conspecifics who are themselves relevant to our lives and to our tasks of the moment. As Rietveld and Kiverstein point

out, "The human ecological niche is shaped and sculpted by the rich variety of social practices humans engage in" (Rietveld and Kiverstein, 2014: 325). The many and varied forms of life that humans have made for themselves each involve shared ways of being with others: "Affordances are possibilities for action the environment offers to a form of life, and an ecological niche is a network of interrelated affordances available in a particular form of life on the basis of the abilities manifested in its practices—its stable ways of doing things. An individual affordance is an aspect of such a niche" (ibid.: 330). Humans have to master the skilled practices, corporeal and cerebral, necessary to conduct themselves in specific situations within a form of life. Rietveld and Kiverstein are right to stress that there is a strong normative presupposition involved here, for the implication is that, in each form of life, there are 'socio-culturally' correct ways for any individual to engage with the multiple possibilities available within what they term 'the rich landscape' of human and non-human affordances.[14]

But we need to inject a certain unease into this picture, for affordances are not such for all. While Rietveld and Kiverstein celebrate the multiple possibilities opened by the publicly available character of the affordances of human niches, they do not address the ways that these are shaped by strategies of government, how they embody particular forms of authoritative knowledge, and are suffused with differentials of power. One might think here, on the one hand, of Michel Foucault's microphysics of power—as in his compelling accounts of the normalizing intent built into the design of spaces and buildings, constraining the interrelations of subjects in prisons, factories, schools, and other disciplinary institutions (Foucault, 1977 [1975]). And, on the other, one might think of Erving Goffman's careful descriptions of the ways in which individuals manage their lives in such institutions (Goffman, 1961; Hacking, 2004). But more, we would need to consider the mobile, swarming, ultra-rapid forms of free-floating control of conduct across space and time incessantly modulating conduct that are gestured at by Gilles Deleuze (Deleuze, 1992) and which were, in earlier times, also analyzed so compellingly by Goffman (Goffman, 1963; Goffman, 1967; Goffman, 1983). Normativity is, as always, intrinsically bound with judgments—by self or others—of non-normativity, of the judgment of those who, by design or for other reasons, are either not capable or not willing to manage themselves according to these norms. And it is here, in the strategies for creating and enforcing norms at any one time and place, and in the multiple forms of distress exacerbated by the perceived discrepancy

between the norms and the actuality, that we need to focus in any analysis of urban biopolitics.

Thus, while Rietveld and Kiverstein are thinking of Wittgenstein when they adopt the term "form of life," we might do better to conceptualize what is at stake here in terms of what Stephen Collier and Andrew Lakoff term a "regime of living," problematic situations where the question of how to live is at stake, both for those who would govern, and for those who are governed (Collier and Lakoff, 2007). Collier and Lakoff here draw our attention to the work necessary to create and sustain a form of life in conditions of difficulty or uncertainty, and the ways that norms are negotiated by those subjected to them. However rich the landscapes of material and socio-cultural affordances may be, then, they do not always enable lives to be led in ease or in comfort, especially for those whose 'being in the world' is non-standard. As Arseli Dokumaci reminds us, the attunement that Gibson proposes between the organism and the affordances of an ecological niche vary according to the corporeal, and indeed neural, properties, tendencies, and dispositions of the organism—in this case the human subject—at any particular time, and it is these that make it possible or impossible to see, think, and act in particular ways in that situation (Dokumaci, 2020: 397). The constant negotiation required to make a life within a normative regime is highlighted by Dokumaci's examples from the mundane lives of people with various 'impairments': a spoon that does not afford soup-eating for a person with rheumatoid arthritis, a pedestrian road crossing indicated by lights that does not afford safe crossing for those who do not see well, or a room closure—a door—that does not afford opening for someone physically unable to grasp a doorknob (ibid.: 399). Disability, she argues, "involves the making of new affordances that ensure the continuance of mundane living even under conditions in which that living is most devoid of resources. Further, these affordances are not 'normal' living gone awry; they are not yet another body technique; quoting Ayo Wahlberg, she argues that they are "kinds of living" in and of themselves with their own "vital norms" and their own "quality of life" (Wahlberg, 2016: 185). But what, for Dokumaci, is the particular "*precariousness* of the affordances made by a person with disabilities" (ibid.: 407) is also the precariousness of the affordances that have to be made and negotiated by all those living lives in conditions of adversity, and in particular those experiencing mental distress or living under the description of a mental disorder. Hence, we need to move from thinking of 'niches' to thinking of trajectories of niche construction, or what Milena

Bister, Martina Klausner, and Jörg Niewöhner refer to as 'niching' (Bister, Klausner, et al., 2016; Bieler and Klausner, 2019).[15]

Niching

Niches are constructed in action, in the actions that people take to make their lives manageable within their everyday material, symbolic, semantic, institutional, social, and political constraints.[16] While they draw some inspiration from 'niche construction theory' in evolutionary biology, Bister, Klausner, and Niewöhner propose the term 'niching' to refer, not to species or populations, but to the way that people living with a psychiatric diagnosis "constantly negotiate the multiple tensions between both being part of urban assemblages, exploring them, building social networks, conquering unknown urban spaces and engaging in modes of dwelling that close them off from urban assembling, that fold in on themselves and that individualize experiences" (Bister, Klausner, et al., 2016: 191). They argue that while psychiatry frames this in terms of individual coping strategies and the availability of social support, they "introduce the term niching to explore these tensions in relational or ecological terms . . . These ongoing processes of creating viable surroundings are by no means restricted to people with a psychiatric diagnosis. They are necessarily part of everyone's quotidian life" (ibid.: 192).

Niching, then, is the constant work of creating and recreating one's niche, not as a matter of individual agency but as "an embodied and emplaced practice, a continuous work of navigating the infrastructure of care, and the corporeal consequences of medication, that transcends the opposition of individual actor and material environment." We can see this in examples from our own research in Shanghai. As we described in chapter 3, between the time when we chose Tongli Road for our fieldwork and the actual start of the study, the small factories behind the street were declared illegal and bulldozed to the ground, with no notice, as part of Shanghai's strategy to 'move up the value chain.' Time and again, as our colleagues Lisa Richaud and Ash Amin walked from one shop to another in June 2017, they "heard of the pressure (*yali*) caused by economic collapse and existential uncertainty," yet these "forms of distress and illbeing such as low moods, worried, doubts or anxiety" were "managed in such ways that they become absorbed with everyday rituals of living"—what Richaud and Amin refer to as "situated endurance" (Richaud and Amin, 2020: 78). It was not as if the lives of these migrants were previously secure; the situation of rural-to-urban migrants in

Chinese cities, without the formal residency rights granted by urban *hukou*, is always filled with uncertainty, a constant alertness for the recurrent news of events emanating from national or city government, or from the factory owners themselves, that will require movement to another factory, another part of the city, or even a return to their villages. But, in the words of one migrant worker, the stress experienced by the continual requirement to manage one's self in conditions of precarity was "swallowed back inside one's heart" (ibid.: 97).

At least, in 2017, the inhabitants of Tongli Road did not make use of the languages of psy emanating from China's psychoboom (Yang, 2017; Zhang, 2017; Zhang, 2018); they did not translate *yali* into symptoms or seek expert assistance either in person or in the growing availability of therapeutic interventions on the internet, but rather they 'attuned' themselves via the small-scale sociality of everyday life, shared talk, jokes, complaints, and all the mundane activities of daily 'niching.' But their regimes of living were no less embodied and emplaced, and the question of how they should live was, on the one hand, a problem for those who would govern them, and on the other, an ongoing challenge for their self-management. Self-reports from rural-to-urban migrant workers seem to show less acute illness, chronic disease, and disability than either permanent rural or permanent urban residents, perhaps illustrating the so-called healthy migrant effect (Hesketh, Jun, et al., 2008). Yet long-term prospects may not be so benign (Yang, Wu, et al., 2020) if we are to take seriously the links that psychiatric and social epidemiology has identified between social suffering (Kleinman, Das, et al., 1997), structural violence (Farmer, Nizeye, et al., 2006), and the experience of dis-ease (Marmot and Bell, 2012; Allen, Balfour, et al., 2014; Marmot, 2015; Marmot, Allen, et al., 2020).

Greg Downey has given us a very different example of niching in his study of the daily lives of children living on the streets in São Salvador da Bahia, the capital of the Brazilian state of Bahia in the Northeast Region of Brazil (Downey, 2016). Downey refers to the lives of these children as "a limit case showing the challenges of living in the city as an ecological niche" (ibid.: S52).[17] As Rose, Birk, and Manning put it, the niche for these children:

> is both pre-shaped for them, and requires a constant labour of active recreation, encompassing their daily journeys from the favelas, derelict buildings or vacant spaces where they sleep, to the places where they work, to the traffic ridden streets, road junctions, pavements or elsewhere, where they make a bit of money by begging, watching parked

> cars, selling sweets on the buses, or by theft . . . They have devised forms of conduct which make their lives possible, in which they forage for food, visit charity kitchens and meal programmes or find other ways of securing their means of subsistence—for example by procuring meals from restaurant left-overs—in this niche they have collectively constructed for themselves. (Rose, Birk, et al., 2021)

But this example illustrates more than the physical demands and dangers of this daily labor, for the material, social, and neurobiosocial milieu of such 'niching' exposes the children not only to constant stress from the possibility of accidents of violence from hostile strangers, but also to a poor diet and lack of sanitation with unknown effects on their health and their gut microbiome, as well as to a range of exposures to traffic fumes, dangerous chemicals, pathogens, and parasites.

Precarious Niching

What, then, are the mental and physical costs of precarious niching? Statistical reports demonstrating the pattern of physical and mental health consequences of the Covid-19 pandemic have shone a bright and painful light on the highly inequitable distribution of precarity, even in wealthy countries with developed welfare and social security systems, and in cities that had previously imagined themselves as well-governed. In the UK, for example, despite the vacuous repetition of the mantra 'we are all in it together,' it is clear that the greatest toll in physical sickness and death has fallen on the many who are forced to make their lives in the most precarious niches, those living in poverty, inadequate housing, financial insecurity, those at risk of domestic abuse, and—in particular—members of black and minority ethnic communities, who are inter alia over-represented in the health service (Laurencin and McClinton, 2020; Office for National Statistics (UK), 2020; Rose, Manning, et al., 2020; Tai, Shah, et al., 2020). Inequities among those infected with Covid-19 and those who get very sick or die from their infection are almost certainly accounted for by the social conditions in which they live—too few rooms at home, frontline jobs that do not allow working from home, exclusion from forms of public support, and underlying medical conditions themselves arising from conditions of precarity. When it comes to mental distress, it is predictable of course that many people are sad, worried, miserable, angry, scared, exhausted, lonely, troubled, distressed, perturbed, apprehensive, dejected because of the pandemic. But it is most

likely that these feelings will tip into enduring and serious mental distress among people seeking to sustain their lives in conditions of significant existing structural adversity, experiencing enforced isolation and the evaporation of whatever meager social support was already on offer.

We have already discussed the dilemmas of 'stress' in great detail, but we can now begin to see how we might go beyond the distinction between objective and subjective that it relies upon, in other words between stress, stressors, and stress responses. In an attempt at clarification of the literature on stress "for the twenty first century," Blair Wheaton and colleagues define stressors as "conditions of threat, challenge, demands, or structural constraints that, by the very fact of their occurrence or existence, call into question the operating integrity of the organism" (Wheaton, Young, et al., 2013: 300). Starting from this definition, they argue that there is "a sequence of causation including stressors which may precipitate stress depending on the social circumstances attending the occurrence of the stressor and, therefore, its meaning, which in turn may precipitate distress, depending on the state of coping with resources when the stressor occurs. The multiple contingencies in this process suggest that many things we think of as potentially stressful turn out not to be and, even when stressful, may not translate into increased distress" (ibid.). Reprising Richard Lazarus, these authors argue that an individual organism endows something with meaning through a process of 'appraisal'—"people's evaluative judgment of the situation or event that is influenced by individual-level and environmental factors" (Epel, Crosswell, et al., 2018). It is this reaction that provokes the generalized stress response, with its hormonal cascade via the HPA axis and its neurobiological consequences of gene activation or de-activation. Unfortunately, this endeavor to clarify and simplify the confused literature into a single model is *still* grounded in the idea of some primordial boundary between the external and internal world of the individuated organism, crossed only by an internal evaluative mechanism. For the new urban biopolitics we seek, we would need a conception of stress that refused these distinctions. It would go beyond the suggestion that what was needed was to measure stress in context and the psychophysiological individuation that is their premise (ibid.: 162). It would thus underpin a different urban biopolitics of stress that did not, as Epel and her colleagues suggest, focus on individually targeted interventions that will enhance stress resilience and promote "healthy behaviors" but that would seek to reshape much more fundamentally the conditions of inhabitation of biopsychosocial niches.

To begin this task, we would need sociological and ethnographic investigations to map out the shaping of stressors by collective experiences in specific niches characterized by poverty, exclusion, isolation, racism, and violence. That is hardly new. What we add nonetheless is, first, a recognition that our forms of life have created a material exposome that is toxic not only to our corporeality in general, but to our urban brains in particular. Stress pathways are undoubtedly important here, but so, perhaps, are the disturbances in the microbiome which have been linked with anxiety, depression, and bipolar disorder. A number of researchers are now focusing on exposome-driven brain inflammation and their role mood disorders, neurodegeneration, Alzheimer's disease, and many other forms of mental disorder and distress (Ryu and McLarnon, 2009; Haney, Zhao, et al., 2013; Rosenblat, Cha, et al., 2014; Pariante, 2017). This area of work is marked by overclaiming that goes beyond the findings of research and often neglects the key question of causal direction. There is certainly no one-way path between inflammation and its cerebral and mental correlates: research shows a complex and bidirectional relationship between inflammatory brain markers and negative or positive social experiences, relations with loved ones, or the experience of loneliness (Eisenberger and Moieni, 2020). While researchers struggle with directions of causality, from our own transcorporeal perspective, this actually offers evidence of the pathways that inextricably entangle the cerebral within its ecological niche. It begins to turn theoretical accounts of atmospheres into an empirically tractable understanding of how "humans capacities, and health and disease," are shaped and reshaped by "the extensive range of specific external exposures which include radiation, infectious agents, chemical contaminants and environmental pollutants, diet, lifestyle factors (e.g. tobacco, alcohol), occupation and medical interventions" (Wild, 2012) through mechanisms including "metabolic changes, protein modifications, DNA mutations and adducts, epigenetic alterations, and perturbations of the microbiome" (Niedzwiecki, Walker, et al., 2019: 107).

We have suggested that a new vitalist urban biopolitics might begin with mapping the urban exposome. Perhaps the clearest present-day example is how researchers are currently mapping air pollution (Hoek, Brunekreef, et al., 2002; Guxens, Lubczyńska, et al., 2018), including its relationship to the probability of being diagnosed with a mental disorder (Bakolis, Hammoud, et al., 2020). A renewed urban biopolitics would be open to a range of sensory mapping strategies, coupled with neurobiological assessments of brain development across human lives, to show how precarious and dangerous inhabitations, that entail exposures to soil and water pollution,

and to industrial intoxicants, have consequences for brains as well as bodies (Katukiza, Ronteltap, et al., 2015; Porzionato, Mantiñan, et al., 2015; Ahmed, 2020).

But beyond mapping this 'material' exposome, one would also need to map the irreal worlds constituted in the niching trajectories of people living in different forms of adversity. We would thus need to combine 'ecosocial' methods, such as the mental maps of Lynch and Milgram, and the 'walk-along' interviews that have been so suggestive in the 'niching' research of Niewöhner, Bieler, Bister, and Klausner, with the ecosocial momentary assessment capacities of smartphone apps such as 'the Urban Mind' (Bakolis, Hammoud, et al., 2018), which are already being explored by a number of research groups (Erhan, Ndubuaku, et al., 2019; McEwan, Richardson, et al., 2020; Reichert, Braun, et al., 2020: 159). It is now possible to combine smartphone apps that regularly poll their users for 'Ecological Momentary Assessments' of moods and emotions, with monitoring of physiological function such as heart rate and measures of physical behavior, such as accelerometers to track the speeds of walking, non-invasive measures of brain activity such as mobile ECT or NIRS caps, and of course GPS trackers that can accurately identify a location and correlate this with features of the urban environment.

For many researchers with an experimental background, the advantage of these methods is that they enable research to move out of the lab and into real life, while avoiding the reliance on 'subjective assessments' derived from individuals' self-report on their mental state. However, for our point of view, that self-report, that is, the subjective experience of the urban environment, remains crucial. It is to this end that Winz and Söderström, developing the arguments in earlier papers by the present authors,[18] propose biosensory ethnographies that combine continuous measures of electrodermal activity (EDA) with ethnographic observations and interviews to analyze ecological processes in psychosis (Winz and Söderström, 2021). Their aim is "to provide an ecological (temporal and spatial) analysis of the actual encounter of the participants with the urban" with the aim of capturing "the situated experience of persons living with mental health problems" and illuminating "the precise ecology of mental illness" (ibid.: 161).

We take a critical distance from the framing of this work in terms of the problematic concept of psychosis and the suggestion that those living under such a diagnosis have a distinct sensory relationship with urban environments. We are also concerned with the way that this approach seems to regard those who participate in their study as experimental subjects, data

points rather than co-researchers. We also remain unconvinced that the apparently objective physiological measure of skin conductance is the most appropriate for assessing 'arousal and stress' as the corporal dimension of urban sensory experience. Nonetheless, our approach has much in common with the strategy of biosensory ethnography that these authors aim to develop. Drawing on many of the sources we have discussed in this book, we share their aspiration to "bring biosocial investigations out of the laboratory and into daily life situations [and] get a better understanding of the intertwining roles of inter-sensory perception, the built environment and spatial transitions in urban mental health" (Winz and Söderström, 2021: 169).

A New Urban Biopolitics?

When David Harvey, in *Social Justice and the City*, sought to bring together sociological and geographical imaginations of the city, his view was that, however important, the 'psychological' dimension of the urban experience, "reactions to complexity, depth perception, associations in meaning, pattern preferences, and so on" would be difficult if not impossible to relate to the actual patterns of activity as they unfolded in urban life (Harvey, 2009 [1973]: 33). If we have now reached a point when those difficulties can be overcome, technically and methodologically, what are the implications for how we might seek social justice in the vital city?

For some, the answer seems simple: if humans benefit, in terms of physical and mental well-being, from green spaces, because of their evolved love of nature, what is needed is to increase access to green spaces. But this would be an urban planner's solution to a problem that lies, not in space itself but in structural and systemic inequities in the experience of the city: the 'structural violence' (Galtung and Höivik, 1971) that is the consequence of economic, political, and legal structures, and gender discrimination and racism, impairing the lives of so many, yet so embedded in our forms of life, in the niches we inhabit and create, that they are normalized and invisible. In this sense, the demand for access to green space can lead us to a dead end. The transcorporeal exposures of bad housing, degraded neighborhoods, overcrowding, financial insecurity, precarious employment, obesogenic and polluted environments, social exclusion, racism, stigmatization, and violence cannot be combated by planting trees, encouraging urban gardening, or designing in parks, however much these might sometimes provide some temporary solace. We should not dismiss the aspirations of those urban 'Thrive' movements that are spreading to many cities across the globe, at least to the extent

that they seek to valorize and rebuild the non-professional informal networks of mutual support that are so crucial in the immediate experience of urban inhabitation. But these are not sufficient to redress the systemic inequalities, structural violence, and social suffering ingrained in the socio-spatial nature of most cities.

The need to address these systemic and structural issues does not mean that one should dismiss changes in the 'microphysics of power' materialized in urban design. In the same way as city streets have been redesigned with dropped curbs to enhance the opportunities for mobility of those who use wheelchairs or push buggies, a new vitalist biopolitics would involve multiple redesign of the micro-architecture of signage, pavements, street furniture, pedestrian spaces, transport arrangements, car-free zones, and much more. But it might also involve the kinds of large-scale urban imaginations that, in Europe, lay behind the creation of Garden Cities and New Towns, and which, in countries such as China, are underpinning major innovations in design at the whole-city level today. If it is possible to imagine, and enact, the making and remaking of neighborhoods, city centers, and whole cities for 'ecological' reasons, it is no less possible to imagine and enact the remaking of cities to maximize the vital lives, the mental and neural well-being, of all those who inhabit them.

This is, we think, one way in which, today, we can "open our eyes" to understand and transform the daily lives of those who run from their dwellings to the stations to the packed metro trains, the over-airconditioned office, the increasingly roboticized factory, the intensely surveilled call center, the brutal distribution warehouse, the relentless food delivery scooter and the like, or who are forced by social isolation and environmental danger to shelter in their apartments from morning to evening, day after day, week after week, year after year. Perhaps in this way we can, without nostalgic humanism or utopianism, answer Lefebvre's call to extend the right to the city—the vital, neuroecosocial right to the city—to all its citizens.