Introduction

Our program of research on 'the urban brain' began in an unlikely way, in a series of workshops under the rather pretentious title, "a new sociology for a new century."[1] Our objective was actually more modest than it sounded: it was to bring sociological thinking into conversation with contemporary research in the biosciences, in particular with the neurosciences, and to explore the possibilities of such a conversation in relation to just one important contemporary issue. We deliberately chose to focus on an area that had been the topic of debates in sociology, psychiatry, and politics for many decades: mental health in the city (Fitzgerald, Rose, et al., 2016b; Fitzgerald, Rose, et al., 2016a). We wanted to put together an experiment to see the possibilities, and the limits, of a collaboration that brought together leading research in the social sciences and leading research in the neurosciences. What was possible in this space, and what, if anything, could be gained for understanding the ways in which urban living and human mental life were intertwined? What was it about city life that was so bad for the mental health of many people, at the same time that it was beneficial for others? And what might be the implications of the success or failure of such an experiment for our call for a 'revitalization' of social science?

Of course, there has always been traffic between the social sciences and the life sciences. No one who has tried to understand the nature and development of living organisms could ignore that those organisms make their lives in a world beyond the borders of their bodies, even though in their research that world is so often confined to a few roughly sketched 'factors' or confined

to a box termed 'environment.' In their turn, sociology, anthropology, political science, even human geography, have always depended on beliefs about the kinds of creatures that human beings are, seldom articulated, usually drawing implicitly on the particular 'lay biology' that is the common sense in their time and place. Our research, initially funded under a program for 'transforming social science,' was in part driven by dissatisfaction with this dual inheritance. We were motivated not only by our disenchantment with the current state of sociology, but also by a sense that something new was taking shape in the sciences of life, in the many sub-disciplines of biology and neurobiology, and notably in genetics. Genetics, for many social scientists, had long been the last refuge of biological determinism, whatever geneticists might have said about their interest in 'gene-environment interactions.' But now, it seemed, something basic had changed: the scientific necessity of recognizing that 'the environment' was not merely something external to the organism with which an inborn genetic program 'interacted.' As the field moved from genetics to genomics, research was showing that the expression of DNA sequences and their implications for human development, and for health and illness, was fundamentally shaped by the experiences undergone by the organism as it develops in a particular milieu and hence that the pertinent dimensions of that milieu—biographical, material, social, even semantic—needed to be characterized and somehow incorporated into investigations and interpretations.

At the same time, something was happening in the social sciences. As feminist social scientists began to insist on the imperative to take seriously what it meant for humans to be 'embodied,' some also began to recognize the need to think through exactly what it meant for human capacities and attributes to be enabled and constrained by the facts of human biology.[2] Much of this work remained—and remains—at an abstract theoretical level. But, in our view, once we recognize that humans, as living organisms, are always and inescapably biosocial beings, many of the long-standing concerns of the social sciences about the implications of poverty, inequality, and exploitation, working and living conditions, the injuries of race, gender, and class, must be cast as both sociopolitical *and* corporeo-cerebral. To take this recognition seriously requires sustained conversations between social scientists and life scientists. These conversations will not be easy. They will certainly involve conflict over questions of research, evidence, truth, justice, politics, and much more. But they are crucial, especially at a time when human beings are coming to realize just how closely their fates, individually and collectively, are braided within their capacity to survive, and to make

their lives, as particular kinds of organisms adapted to a very specific set of ecological and geological conditions.[3]

This book is a contribution to such a conversation. It is not a manifesto of intentions. It is rather an attempt to think about just one node of the biosocial and biopolitical everyday: mental health. In particular, it focuses on the mental health of people who live in those complex, ever-changing, often stressful places that we call cities. Our discussion raises what might seem to be a very abstract and grandiose question: how should we understand human mental life today? Perhaps this is the kind of question best left to philosophers. Whether we wish it or not, however, mental health and mental disorder force us to consider such a question directly, precisely because the now long-standing disputes between sociologists, psychiatrists, and neuroscientists about the explanation of mental disorder are, at their root, disputes about the tangles of biological, psychological, biographical, social, and political forces that shape human mental life. While philosophers wrestle with seemingly irresolvable questions about mind-body relations, the explanations forged within the empirical sciences themselves are forcing us to go beyond the heritage of debates over dualism and the snares their binaries—mind/body, organism/environment, individual/social—set for our thought. Our focus—mental disorder in cities—may seem terribly mundane for those embroiled in these grand abstract debates. But we suggest that such 'field work in philosophy' may enable us to sidestep these snares and begin to create a path for future thought.

Perhaps it was once possible to think of questions of mental order and dis-order as somewhat marginal. Philanthropists and activists might have been concerned about conditions in asylums and mental hospitals; social historians might have drawn our attention to the therapeutic consequences of the history of ideas about lunacy, madness, and mental illness. But as for mental disorders themselves, even as recently as the 1960s it seemed perfectly plausible to think of them as afflicting only a relatively small number of people whose ailments were the remit of specialist doctors and mental health professionals. No longer. It is not only that the media is full of stories about the mental problems of younger people and students; of the deep trauma of those who have suffered abuse; of the psychological effects of war and climate change; or simply of the everyday hidden struggles of people with anxiety and depression. It has become habitual to use the term 'mental health' to talk about this widening domain, but while we use the term in this book, we also ask whether mental health is the right frame within which to understand and respond to anxious children, to young people worried about

their bodies, to workers stressed by the unceasing demands of their employers, to people of color experiencing the aggressions of everyday racism, to households despairing of their future as their livelihoods are destroyed by financial insecurity, to migrants experiencing economic exploitation and social exclusion, to older people struggling with the memory lapses that are so common in later life, and so on? There is pervasive uncertainty about who is or is not a suitable case for what sort of treatment, and the distinction between 'normality' and 'pathology'—always fragile and contested in relation to psychiatry—seems increasingly hard to sustain.

These issues have implications for the specific problem that we focus on in this book: the relationship between mental distress and urban life.[4] There are many reasons for thinking that urban living might actually be good for people's well-being and life chances. There are long-standing arguments in the social sciences—exemplified, for example, by Michael Lipton's 'urban bias' theory (Lipton, 1977)—to the effect that people living in urban areas are, by and large, wealthier than people elsewhere, with better access to health facilities, more political clout, often more cultural and personal opportunities, thicker social networks, and so on. And yet since at least the middle of the nineteenth century, evidence has shown that there are consistently higher rates of mental disorder in cities, as compared, not just to 'rural' or 'village' life, but also to smaller towns and settlements. There is a long history of dispute over the causes of this difference.[5] In its classic (and much oversimplified) formulation, debate has centered on whether those who are peculiarly susceptible to mental disorder 'drift' into cities, or whether there is something about urban experience itself that actually provokes mental distress.

Until recently, one might have presented this as a debate in the *history* of sociological thought. But it has come to the fore again, today, in the context of a period of renewed urbanization and the growing view that such urbanization is one of the key transformations of our own time. For the first time in human history, so it is routinely claimed, the majority of the world's population lives in cities, especially in big cities, driven in large part by migration from rural areas to emerging megacities, especially in Africa, Asia, and Latin America. Estimates suggest that in 2016, 1.7 billion people, or 23 percent of the world's population, lived in a city with at least 1 million inhabitants. Numbers like these confer a new urgency to the question of mental distress and city life. And yet it is surprising how little we know about the mental consequences of this contemporary movement of people from villages and small towns to such vast, sprawling urban environments. We do not know very much, at least with any certainty, about how these new

patterns of migration affect the mental lives of the individuals and families who migrate, or how it might relate to, or disrupt, existing logics of diagnosis and treatment of mental distress. Perhaps most pressingly: despite the fact that such migration is reshaping cities itself in many parts of the world today, we know virtually nothing about how the consequential transformations in mental life and mental distress might structure the actual experience of urban living for so many people throughout the twenty-first century.

The topic of urban mental health has certainly not been ignored by sociologists and anthropologists, or by those concerned with social policy. But it has been something of a specialist area, a concern of subdisciplines. Certainly, the issues raised have not been central to social theory, nor to the work in the social and human sciences that has focused on core issues of self and society, of power and inequality, of injustice and discrimination. And yet this relative absence of interest in urban mental health at the heart of contemporary social sciences has *not* been mirrored in the neurosciences. Researchers in the domain we will call the new brain sciences[6] have proposed new ways to think about the emergence of the problems of mental illness and mental disorder that stunt human lives, in many cases particularly focusing on the implications of urban living. In so doing, in thinking about what it is about the urban environment that might lead to such problems, they have come to recognize that human neurobiology cannot be understood by conceiving of brains as closed systems bound by the skull: thinking about the developmental trajectory of those conceived and born in cities, those whose earliest childhood experiences are in families living in urban dwellings, those whose life course is fully urban, researchers have had to come to terms with the fact that human brains are fashioned and refashioned across days, months, years, decades, by the body's internal and external environments. And not just by nutrition, exposures to pollution, or styles of parenting, however important these might be, but by social relations, by culture, by forms of life. To think of human neurobiology, today, requires us to think of a dynamic interplay in which human bodies and human environments constrain each other, mark each other, intermingle in an awkward, shuffling, embrace. The central gambit of this book is that focusing on that embrace, shuffling along with it, might offer new ways of engaging with the core questions of sociology, questions of inequality and social justice, of marginality, exclusion, and violence, of hope and solidarity and care, precisely by allowing us to understand them as *vital matters*, as matters of our emergent human capacities and human limits, as a collective of living, breathing, developing, sickening, and ultimately dying creatures.[7]

We hope it is becoming clear that this book is structured by two arguments—one general, and one specific. The general argument is about *vitality*. In using this term, we wish to raise the possibility of a critical social science in which the biological exigencies of life come to the center of analysis; an analysis in which thinking with and through those exigencies does not have to be a metaphysical reductionism or a naïve scientism; where it might in fact underpin a style of thought for which being a certain kind of *living* thing really matters—matters for how we conjure, think, contest and shape those parts of human existence we have come to hold together under the term 'social.' The more specific argument is about *inhabitation*. In using this term, we are committing in particular to the spatial consequences of the vitalist position just outlined, to think about what it means to make life as a certain kind of organism, affiliated and disaffiliated to other organisms, in a particular *place*—and specifically in the kind of place that today is rather inadequately termed 'the city.' Thinking about city life as a form of inhabitation is our attempt to mingle the corporeal, social, and ecological life of place—to think about space, justice, accumulation, and marginalization, and so on, not only as grand historical or political phenomena, but also as things that are made and experienced within localized webs of highly specific organic and biological contingencies.

Of course, the argument that the social sciences need to forge a new relationship with the life sciences, while it remains contested, is no longer novel. Each of the present authors, with their different collaborators, has made this argument in different ways for some years, and indeed this was the basis on which our original urban brain project was established.[8] In our own previous work we argued that this relationship should not only be at the level of theory or philosophy, but that a genuine conversation between researchers was required. That is to say, what was needed was the rather dull but necessary work of forging the interdisciplinary concepts and methods required to shape specific problems, and to grasp and intervene in those problems. With such work in mind, this book does not attempt to build a grand conceptual edifice and will not make any large philosophical claims. While we often deploy concepts such as inhabitation, and while we often unceremoniously sidestep hallowed philosophical disputes on issues such as dualism, our goal in what follows is not to make a case *for* our arguments, as if we were presenting them in a court of law, but rather to follow them along, as if they were fibers, strands, filaments within diffuse webs, trying to comprehend what it could mean to experience mental distress in the contemporary city.

In this sense, examining debates over the boundaries and explanations of mental distress, in the city and elsewhere, as well as understanding the multiplicity of forces, processes, and pathways that shape human mental life, is more a question of cartography than of philosophy. If what policymakers sometimes call 'the burden of mental illness' is now a major concern in many regions of the world, then we need to not just understand how to create conditions of care for people who experience mental distress, but to explain how particular conditions produce so much distress, so often, for so many. And we need to tease out the relations between the cerebral, the corporeal, the sociocultural, and the biographical, in the unfolding of these individual and collective stories. In the rest of this introduction, we start to follow some of those relations—between mental health and the city, between biology and sociology, between vitality and embodiment. And we do so by saying more about the two objects that comprise the idea of the 'urban brain' which sits at the very center of our argument—the new brain sciences, on the one hand, and our increasingly urban habitat, on the other.

Embodied Brains

At least since Montesquieu published his *Persian Letters* (Montesquieu, 1773), it has been commonplace, within a certain Euro-centric intellectual tradition, to acknowledge that human beliefs, values, and mores are not universal, but shaped by language, history, and culture. For many in the century that followed, this knotting of intellectual, environmental, and cultural conditions was the justification for creating a racialized hierarchy of peoples and civilizations. It was also—indeed often in the same breath—a space from which anthropologists, sociologists, and historians began to produce descriptions of some of ways in which human experiences and understandings are shaped by the descriptions, categorizations, and forms of judgment available at a specific place and time. What might the neurosciences, whose focus since the 1960s has mainly been on the description of neuronal processes at the molecular level, often based on laboratory experiments with small rodents bred in cages, contribute to this troubled intellectual history? It is certainly true that much research in the life sciences has been reductionist, not only in its experimental approaches—where reductionism is a powerful strategy for maintaining a focus on a specific biological process—but also on its overall style of thought (Woese, 2004). And yet, most strands of the heterogenous fields of biology have acknowledged the centrality of the 'interaction' between the organism and its environment. While some maintained that the

development and activities of many organisms were merely the unfolding of an inherited and inbuilt genetic program, and some still hold to this position in relation to non-human organisms, contemporary biologists recognize that human organisms are intrinsically 'social'—that at all stages of development, from the fertilized egg onward, humans are shaped by constant transactions between biological processes and their overlapping environments, within the cell, within the organ, and within the organism itself, as it in turn develops within a physical, cultural, material, and symbolic environment.[9]

Given the long history of research on rates of mental disorder in cities, and the growing awareness of the 'urban' character of much contemporary human life, it is perhaps not surprising that neurobiologists have built on these ideas in order to understand the relationship between urban life and mental distress. Much of this research does use laboratory-based methods, which have an almost inevitable focus on isolated brains, as well as a predictable reduction of the city to a number of quantitative indicators such as density, deprivation, or socioeconomic status. But not all of it. The protean concept of 'stress,' in particular, has been one important ally for researchers trying to get a better grasp on the realities of urban living, and the impacts of ecological features of urban social life. It is one of the central claims of this book that such developments in the life sciences offer real opportunities for interdisciplinary research on how spatial inequalities and injustices can work not only as social or economic phenomena, but also as collective wounds at the psychological and biological levels.

In the midst of large-scale migrations from the countryside to the city in the late nineteenth century, intellectuals, activists, and scholars—perhaps most famously, for sociologists at least, Georg Simmel (Simmel, [1903] 2002)—were struck by how novel physical environments, new urban architectural forms, new systems of transportation, new types of consumption, new practices of everyday life that were taking shape in expanding cities were reshaping urban citizens in body and in soul. Today, in another age of migration and urbanization, it is our argument that a revitalized urban sociology, in similar vein, might bring the neurological lives of urban citizens into the center of its research program. In that spirit, we take up the opportunities and challenges offered by an emerging, open, and social neurobiology, pursuing the potential it offers for a new moment of shared thinking between life scientists and social scientists. We use the figure of 'the urban brain' to hold together this way of thinking. The 'urban brain' functions as a kind of matrix—a point of intersection between neuroscientists and social scientists, between city planners and policymakers, between

architects, designers, activists, and many others. It emerges into thought as urban studies and the neurosciences have become intertwined with one another in quite concrete ways. And it underpins a style of empirical and conceptual thinking for which old dualistic notions are simply irrelevant, within which the human brain—itself not so much a single organ but a kind of assemblage—is molded not only by the long timescale of evolution, but also by the short timescale of an individual life, by changing ways of living, by novel sites and practices of human inhabitation, which often require a constant work of adaptation to very difficult circumstances of existence.[10]

Urban Inhabitations

Where do these vital matters of human life take place? It is becoming common to understand places where humans live as *habitats*—to make sense of people's physical environment through an ecological gaze, as we might do with any other animal or plant species. When news reports and documentaries visualize how humans manage in the face of drought, floods, and wildfires, how they face the tests of obtaining adequate nutrition and combatting diseases, how they, their families, and communities make their lives among the (other) animals and plants that surround them, they no longer automatically portray a world from which nature has been banished.[11] Rather it has become a media commonplace to show how the lives of human beings are adapted to, and made possible by, the ecologies of their particular environments; to show how changing ecologies introduce challenges that require them both to manage their material circumstances—as forests burn, crops fail, and water levels rise—and to adapt their modes of social life. No doubt this ecological sensibility is stimulated by the growing inescapability of what many scholars call the Anthropocene, a moment when events arising from climate change are palpably transforming human habitats, most pressingly in countries such as Bangladesh, Haiti, and the Philippines, presaging a future in which forms of inhabitation that have been taken for granted for centuries will be thrown into hazardous uncertainty.

But a habitat, for a human being, as for any living creature, is not just a material place, with its climate, its topography, its relations with other species, its habitations, its practices for obtaining food and so forth. It is rather the milieu that makes possible, and is made possible by, those daily practices of living. Most of the time—like other species—we humans carry out most of the tasks of living *habitually*, which is to say, without conscious thought. To make sense of the issues that concern us in this book, we therefore

need to recognize that humans are living organisms striving, sometimes instinctively, often habitually, sometimes consciously, to make a life in a particular place and time against much that would disrupt or threaten that life, transforming their 'environment' into a milieu for living. Such a vitalist perspective thus focuses our attention on how, through what processes and with what consequences, inhabitation gets *lived* in the bodies, brains, and minds of dwelling beings.

Our starting point, then, is not just the embeddedness of the brain in the whole organism, but also the embeddedness of the organism, the human being, in its whole habitat. How should we think of this embeddedness? From a traditionally ecological point of view, each organism is embedded in its specific habitat because organism and habitat are co-evolved: different species of animals and plants have evolved characteristics in line with the affordances of their ecological niches, whether forests, river edges, salt marshes, or frozen tundra. What does it mean to think of a city, or a city neighborhood, as a habitat in this sense? At first glance there does not seem to be much about modern urban life that is grounded in our evolutionary inheritances—for humans at least (a lively literature on evolutionary changes in non-human urban animals persists). Indeed, of all the habitats that humans have created for themselves, cities would strike many as being the most obviously 'artificial.'[12]

This idea that one might look at the city as a space of inhabitation—that we may usefully take the relationship between city and citizen as an *ecological* relationship, in which 'natural' and 'social' environments are inseparably intertwined with the vital capacities and characteristics of human beings—is both new and not new. As recently as the mid-1990s, the distinguished environmental and urban historian, Martin Melosi, was able to lament that "historians interested primarily in nature—and the place of humans in it—have often shunned the city or marginalized it in their studies" (Melosi, 1993: 3). But such a turning away from the intertwining of nature and society in the city is (was) itself relatively recent, as Melosi went on to point out: in fact, the idea of the city as a kind of natural system or a set of organic relations was "the dominant paradigm among the first generation of middle-class urban investigators" in the late nineteenth century and well into the twentieth (ibid.: 5). The qualifier 'middle class' is revealing here: by the turn of the millennium, pretty much all self-identified 'critical' urban theorists were scathing in their critiques of the apparently amateurish belief of these authors that one could understand the human, cultural, and political life of cities in terms of their ecological features.

Despite such criticisms of the first wave of urban social science, we argue that at least three important issues come into view when we approach the experience of living in the city as inhabitation of a socio-material ecosystem.[13] First is the substantive and empirical question of how such urban inhabitations shape the physical, mental, and sociocultural lives of people who are born in cities, who live in their ambit, or who migrate to them. In using a word like habitat, our hope is that we can get some purchase on the simultaneously neurological, psychological, and sociological experience of living in a city, including an idea of what happens when that experience is manifested in physical illness or mental distress. Second, there is the methodological and epistemological question of modes of inquiry, of how we make *sense* of the inhabitation of urban space. Here, thinking through habitats motivates us to ask how or whether the standard tools of social science—ethnography, interviews, survey data, network analysis—still work for grasping the realities of vital urban life. The idea of inhabitation thus compels us to think more carefully and critically about the trajectories of social knowledge that have formed our own ways of thinking, and hence the ones we can leave behind and the others that might be worth revisiting. And third, there is the theoretical and normative question of what kind of intellectual practice we think the sociology of the city *should* be, ideally—and perhaps even about what 'sociology' itself should be. Here, a focus on habitat directs our attention to what the organized discipline of sociology has long worked hard to render invisible—that social life, whatever else it is, is also bound by the latitudes of biology and its enactment within organic and material constraints.

Of course, there is no such thing as 'urban life' in general, not least because there is no such place as 'the city.' London is not Cardiff; Cardiff is not Shanghai; Shanghai is not São Paulo; São Paulo is not Toronto; and Toronto is not even Hamilton, or London, Ontario—still less is it Detroit or Chicago. Even more troublingly, it is completely misleading to refer to each of these in the singular.[14] Cities are not entities, they are more like accidents or events; the proper name imposes a deceptive coherence upon multiplicity and diversity (Osborne and Rose, 1999).[15] Indeed, even the cliché that ours is now a planet of cities is itself misleading. As Neil Brenner and Christian Schmid have argued, while claims about imminent and inevitable urbanization have become almost unquestioned clichés in discussions of urbanists, politicians, and journalists alike (Brenner and Schmid, 2014; Brenner and Schmid, 2015), such claims over-rely on the boundary-making practices of administrators: city boundaries on a map do not necessarily enclose a shared material, social,

psychological, or experiential space. Even the notion of an urban 'periphery'—as Abdoumaliq Simone points out (Simone, 2010)—needs to be re-cast in a world where a major city like Shenzhen in the southeast of China is even now constituting and re-constituting itself through a complex series of annexations, where place and space once 'outside' the city—once a separate village or town—is rapidly incorporated into an ever expanding metropolis (on Shenzhen, see Keith, Lash, et al., 2013). The question of who or what is and isn't in 'the city' remains unresolved and likely irresolvable.

How, then, can we approach our explorations of the neurological, psychological, and sociological experience of living in a city, and the pathways through which that experience transforms the mental lives of people who inhabit urban spaces, and identify what it is that sometimes leads some of them to mental distress? We argue that, first, we need to find a way to stop thinking about 'the city' in general, and to adopt a broadly ecological style of thought, to differentiate the variety of habitats that are too often agglomerated, conceptually and methodologically, in studies of the psychological and neurobiological consequences of 'city living.' Second, we need to focus on a specific empirical domain, and what better than to choose the experience of those people who are moving in their millions from villages and small towns to the places that are now termed 'megacities'—to São Paulo, to Mumbai, to Lagos, and perhaps most famously, to the city that we will discuss in some detail in what follows: to Shanghai.

Moving People

The phenomenon usually termed 'rural-to-urban migration' creates modes of urban vitality that intensify and make visible some of the most potent consequences of urban inhabitation. While migration across international borders has become the focus of fierce—often highly toxic and racist—political agitation, less attention has been paid to the migration of millions of individuals and families from the countryside, village, or provincial town, into cities.[16] But there is more at stake than simply numbers of moving people: the question of who, in fact, is a migrant, in law, in surveys, and statistical data, in public debate, in perception by self and others, remains unsettled. As Bridget Anderson has often asked (for example in Anderson, 2019), given that everyone moves, whose movement counts as migration—where, to whom, and why?[17]

Perhaps a better approach, then, is to set aside the bare fact of rural to urban migration and focus on the experience itself: what does it actually feel like to move from a small country town or a rural farming community to a

vast, sprawling megacity? How does this experience differ for those whose migrant journey ends in Mumbai, Istanbul, Kinshasa, Dhaka, or Birmingham? How does it differ for those who find work—sometimes quasi legal; often not governed by formal contracts—in light industry, on building sites, in offices, in restaurants, in households, or on the streets? Is there anything like a shared or overlapping experience across such diversity? If so, how does an urban experience of crowds and noise, of interactions with strangers, trailing transport networks, often contingent and haphazard housing—how does all of this affect the life, the social, political, physiological, and *mental* life, of the migrant city dweller?

At the cusp of the nineteenth and twentieth centuries, the figure of the migrant from the countryside became a particular focus of attention within the human sciences. Major figures like W.E.B. Du Bois, Georg Simmel, Walter Benjamin, Florence Bell, and Octavia Hill speculated on the consequences of urban environments for the 'nerves' of those who migrated there. In the 1930s and 1940s, another generation of social scientists—including those from the 'Chicago School' of sociology—notably Robert Park and Ernest Burgess—tried to chart and theorize what it was about urban experience that sometimes undoes city dwellers. The movement of people to cities, whether from the countryside or from other nations, also became a focus within the thriving subdiscipline of psychiatric epidemiology, where growing evidence seemed to suggest that migration was one of the strongest predictors of significant mental health problems.[18] As the thought-style of psychiatric epidemiology began to dominate research on these questions, the experience of migration became reframed in terms of correlations of rates of psychiatric diagnoses with different population groups, with different patterns of migration, with first- and second-generation migrants, and so on. The vital concern at the heart of earlier studies—a concern with how different groups of urban citizens lived their lives, the material and social constraints that shaped those lives, and their mental consequences—split apart. Some social psychologists, notably Stanley Milgram, and some urbanists, notably William H. Whyte, continued to explore the everyday interactions of citizens in different kinds of urban space, unpacking the psychic implications of particular urban spaces. But these were unusual forays. Most sociologists and urban theorists, seeing that neither their methods, their findings, nor their concepts had much purchase on this research, did not pursue interdisciplinary collaborations on the connections between the politics of urban life, the actual experience of cities, and the biological and cerebral life of those cities' inhabitants.

In what follows, we will return to that earlier tradition and see what, if anything, can be gained from reviving some aspects of it. We do not do this in a nostalgic or uncritical way. We will discuss, especially in the next chapter, how much of the work of the Chicago School is grimly reproductive of the racism of its own time, how much it incorporates the banal and bourgeois common sense that is the hallmark of much American sociology even today. But still we want to think across the gap between a figure like W.E.B. Du Bois—tramping the streets, sketching living conditions, annotating charts of sickness, gathering the vital statistics of Philadelphia's seventh ward—and the highly abstract and often rather provincial theoretical debates that concern so many of today's urban scholars in what is often loosely termed 'the Global North.'

Vital Sociology

This book is not only about mental life in cities. It also aims to be an intervention into contemporary social theory. We have mentioned the recent excitement in anthropology, sociology, human geography, urban studies, and the humanities about the emergence of a new, less 'reductionist' biology. While some see this as a sort of passage point to a future in which their disciplines could gain in status and recognition through providing a necessary social dimension to the 'hard sciences,' others respond with the familiar, and still somewhat compelling, argument about explanatory accounts drawing on biology: that they are inherently fatalistic, deterministic, and individualistic; that they root the trouble firmly inside the individual or their immediate family; that they neglect the social, structural, cultural, and political forces that reproduce inequity; that they ignore the economic and political system that exploits and oppresses the majority to enrich the few; that they reproduce the racism that marginalizes and stunts the life chances of people of color, of migrants, of Indigenous people, of LGBTQ+ and trans people, and of anyone else who stands outside the grinding logic of capitalist heteropatriarchy. References to the biological, such critics further remind us, usually continue to underpin technocratic strategies that blame 'dysfunctional' families and 'poor mothering' for the reproduction of disadvantage while failing to recognize what it is about our societies that forces so many into precarious and unstable forms of life.

It is no surprise—nor is it a bad thing—that there are those in the social and human sciences who are trenchantly committed to such critiques. They

may believe that the lines of argument we are following in this book could re-open a path to the 'biologization' of inequality and to the individualization of the causes of disadvantage, perhaps now in the service of 'late capitalism' or 'neoliberalism.' Our argument in this book is not that this diagnosis is wrong, but to point to other biologies—other ways of recognizing that social subjects are nonetheless living creatures—that point precisely *away* from biologization, *away* from individualization, *away* from normalization, fatalization, and legitimation of the status quo. Indeed, a growing number of social scientists argue, with equal passion, that a genuine mutation is under way in the biosciences, which goes beyond mere lip service to the idea that humans, like other organisms, are constituted in and through their relations with their 'environment' (e.g., Meloni, 2014). We can see such arguments emerging with particular force in the new relations between feminist and biological theories (e.g., Roy, 2018). Social theorists have pointed to the emergence of a range of approaches—whether in neuroscience (Lederbogen, Kirsch, et al., 2011), epigenetics (Youdell, 2017), or microbiomics (Lorimer, 2016)—that are beginning to tease out the precise biosocial *mechanisms* through which the bodies and brains of the human organism are developmentally shaped from conception, if not before, by their dynamic transactions with their environments. Like us, they argue that as we come to understand these mechanisms, we will also come to a better understanding of how sociopolitical inequality, disadvantage, and injustice torque and blight the lives of so many, bringing them to ill health, disability, and early death.[19] Indeed, it is precisely *because* we care about the political economy of urban life, and all the violence that it entails, that we care about the city's vital, biological consequences.

With that said, we also have two cautions. First, the image of a century-long standoff between the social sciences and biology is simply not borne out by history. It is not the case that there have previously been two cultures, proceeding in mutual indifference if not open hostility. This story of a fundamental historical divide often begins in the closing decades of the nineteenth century, with Weismann's hereditary barrier, which suggested that information moves from genes to cells, organs, and organisms, but never the reverse, and ends some one hundred years later with Michael Meaney's experiments with rat pups which seemed to show, on the contrary, the crucial role of epigenetics, that is to say the ways that specific experiences of the developing animal shape and program the expression of DNA sequences, apparently with lifelong consequences (Weaver, Cervoni, et al., 2004). But,

in fact, as we will show in much more detail below, multiple interactions have occurred between the biological and social sciences across that century, interactions that are especially well exemplified in research on the problems of urban living.[20]

Second, the picture emerging from the contemporary life sciences is not always as congenial to 'the social' as is sometimes imagined. Epigenetics means many different things, and much of the research has been done with animal models: extrapolation to humans remains fraught with conceptual difficulties. Further, it may be true that, unlike many other living creatures, 'environment' or 'culture' shapes key aspects of human life, but biologists insist that it does so on the basis of the evolved characteristics of our bodies and brains: our upright posture, our binocular vision, our ability to sense light and sound within certain specified wavelengths, our patterns of physical and neural development across the life course, and so on. It is still the case that many of the basic characteristics of organisms, including human organisms, remain largely constant despite highly variable external environments. And we need to be aware that much contemporary biological research on health is the victim of premature claims and hype: for example the implications of the microbiome for human well-being, while celebrated in popular books on health and diet that advise us to care for our gut by ingesting commercial probiotics, are only just being explored in empirical research.

What, then, would a social science look like that could take seriously what we are learning about human beings, individually and collectively, as living creatures striving to maintain themselves in often hostile situations? To what extent could such a vitalized social science impel sociologists, anthropologists, human geographers, and others to become co-producers of the biopolitical worlds that they have become so adept at describing? Could it offer those scholars intellectual resources and empirical insights to participate in the development of a new politics of life—a new way of configuring knowledge, expertise and intervention to combat the injustices that are so ingrained in the fabric of contemporary urban existence? Could it challenge them—challenge *us*—to undertake such sociopolitical engagement without losing their, our, capacity to critically evaluate the truth claims of our collaborators and interlocutors, and without seeking to efface the diversity of forms that the politics of urban life has taken and will continue to take? Our argument for a vital sociology names a messily collaborative form of thought and action in and around these kinds of questions, one that entails not the denial of differences, but an active, agonistic, but still—we hope—generative form of interdisciplinary research.

We use the term *vital sociology* to emphasize the extent that our approach draws explicitly on an inheritance of vitalist thought. This book should be read as an argument for taking the individual and collective lives of human beings, of human *living*, as the central object for sociological, anthropological, and geographical attention to the city. It takes from vitalism not the metaphysics that asserts some 'élan vital' specific to living creatures, but a more mundane recognition that being alive means actively organizing one's capacities to continue to exist within the resources and the dangers afforded by a particular milieu.[21] It thus insists on understanding the urban as an array of lively ecologies, sometimes convivial, turbulent, and joyful, but sometimes solitary, unpleasant, and demanding. It asks us to take seriously the vitalist understanding of the biosocial dynamics of inhabitation not as a 'philosophical' gesture; not as a 'reduction' to biology; not as a 'turn' against some imaginary idea of what social science actually is—but as an empirical and conceptual mesh for holding together the multiple processes that shape human life as it is lived—and for holding together the specific questions of urban life and mental health that are the focus of this book.

Despite the traditions it draws upon, we do not intend this book to be an abstract theoretical intervention. Focusing on the vital relationship between urban citizens and the spaces in which they find themselves requires us to address very mundane empirical issues: how to live in a city, how to manage a city, how to design a city, how to make people safe in a city, how to shape a healthy city, how to design inclusive cities, how to imagine age-friendly and disability-friendly cities, and so on. These questions and many more are being explored by scholars in a whole range of adjacent domains. But for us, they remain, insistently, questions of *life*. In arguing for a vital sociology we are thus responding to a demand, which may be thought of as ethical, and which is certainly normative, that we orient our intellectual projects around the question of living—as it is inhabited, experienced, and so often suffered, by us and by our fellow citizens. Such a demand requires us to return to some very basic questions of everyday ethics—of the situated ethics of how we to live. Underpinning our investigations in this book are questions of how we might live differently, which requires us to think differently about urban life, and to think differently about how we can make and remake cities as engines of livable lives. And we hope, finally, that approaching the question of urban living from this perspective will have some surprising effects beyond urban studies—that urban social science may turn out to be an unexpectedly potent site for re-thinking the biological present.

The Plan of the Book

Our argument is set out in six chapters, which do not form a single narrative but which together go some way toward answering the questions we set out in this introduction. In the first chapter, 'Modern Cities, Migrant Cities,' as a prelude to our focus on mental health, we think our way through a number of different lines of thought that have, to a greater or lesser extent, approached the analysis of urban life in terms of the bodies and souls of those who inhabit cities. Drawing on the work of Georg Simmel, Seebohm Rowntree, Charles Booth, and especially W.E.B. Du Bois, the chapter sets the scene for what follows by reinvigorating a vitalist tradition that we find in these older, classical studies of urban living. It asks: what would it mean to put that tradition back at the center of urban studies today?

In chapter 2, 'Migration, the Metropolis, and Mental Disorder,' we explore how the city has been configured as a place of stress and tumult for migrants, and especially for migrants from the countryside. The chapter argues that while migration and mental health are two of the predominant themes of modern city analysis, they are rarely brought together in contemporary urban studies. Moving from degeneration theory in the nineteenth century to the epidemiology of migrant mental health today, the chapter shows how the migrant city is always simultaneously configured as a city of mental distress. It examines the ways that those who have addressed this issue have believed that the experience of migration gets into the flesh, into the bodies, and into the brains of those who migrate—and explores the ways that sociological methods have been used to address this phenomenon.

Chapter 3, 'The Metropolis and Mental Life Today—Shanghai 2018' takes these questions to the present. It draws on our own and our colleagues' empirical work in Shanghai, perhaps the most symbolic migrant city of China, a country that has been transformed by a sustained movement of millions of people from the countryside to the city. The chapter describes the particular stresses of being a migrant in contemporary Shanghai—the lack of access to local services, separation from immediate family, hostility from city authorities—but also the very real hopes and dreams that people carry to the city from their villages, and that sustain them there. The chapter asks: what would a research practice look like that was able to grasp this life, even to help ameliorate its stresses, while recognizing that there is much more to the mental and social life of migrants than mental health problems? Could we imagine a sociology that would create space for nuanced ethnographic attention to the everyday mental lives of those

who are considered migrants, and that would mesh with, and transform, the ways that the disciplines of public health and the psychological sciences have approached these questions.

The key question that remains is how—through what process and mechanisms—experiences of adversity in urban existence are inscribed in the body and the brain and with what consequences? In answering this question, much of the discussion has come to focus around one word: stress. In chapter 4, 'Everyone Knows What Stress Is and No One Knows What Stress Is,' we argue that the long debate on stress and the city demonstrates both the openness of particular experimental traditions in the life sciences to questions of sociality, *and* the relevance of such openness for contemporary studies of the city. From John Calhoun's rat utopias in the 1960s to Bruce McEwen's work on the neurobiology of stress today, the chapter explores the history and the present state of research on the stresses of city life—and on the stressful effects of migration in particular. The chapter asks: could stress be a meeting point for interdisciplinary research on the realities of migrant mental life in megacities today?

We continue this analysis in chapter 5, 'The Urban Brain,' where we bring together contemporary neurobiological research on stress with work on the neurobiosocial pathways that connect the vitality of the urban citizen to their place in the city. The chapter traces the emergence of 'the urban brain' as a new scientific object that makes city life amenable to the methods of the life sciences in general, and the sciences of the brain in particular. We argue that the thought space created by the idea of the urban brain enables conceptualization and intervention into the dynamic and transactional pathways that enmesh the human brain in its milieu—making space for productive collaborations across disciplinary boundaries in a quite new conception of the neurobiological and psychosocial city.

In chapter 6, 'Another Urban Biopolitics Is Possible,' we look up from the bodies and brains of urban inhabitants themselves and re-direct our neurobiological and vitalist arguments toward ethical and political questions of how we might then think about 'good life' in the vital city. In debate with different ethical accounts of city life—from Henri Lefebvre's 'right to the city' to Michel Foucault's 'heterotopias'—the chapter sets out our argument that a new urban biopolitics is possible. This would be a politics of everyday city life that foregrounds the relationship between the body and its environment, with particular attention to the neurobiology of that inhabitation. The chapter asks: what would be entailed by a sociological project that took caring for those relations as its central project?

In the Conclusion, 'Toward a Sociology of Inhabitation,' we channel the central arguments of the book into a final claim that the sociology of the city needs to be reconfigured around a renewed attention to *inhabitation*—the term that we have used to hold together the tendrils of vitalistic, ecological, and biopolitical concern that run through this book. Pointing to some recent attempts to put questions of inhabitation right at the heart of city life, from 'dementia-friendly' architecture to the 'Healthy New Towns' initiative of the UK's National Health Service, we close with an argument for replacing a philosophical language of justice with a biosocial language of *life*—not only in urban studies, but in urban policy and urban politics, and indeed in the wider human and social sciences as such.