

GLOBAL DEVELOPMENT AND ENVIRONMENT

—
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Introduction

The Mappa Mundi, displayed in a darkened room within Hereford Cathedral in England's west Midlands, near the border with Wales, is a medieval European depiction of the world, thought to have been created around 1300 CE. As a classic Isidorian map, it shows the world roughly divided into thirds – Asia, Europe, and (North) Africa – with Jerusalem at its centre, and east pointing upwards. A beautiful object, intricately illustrated and illuminated and meticulously labelled on a single sheet of vellum, as well as remarkably preserved, the map is significant as an attempt to depict the world from a global perspective.

The worldview drawn into being by the Hereford Mappa Mundi is *global* not only in a geographical sense – as in describing all peoples, places, and environments on the Earth's surface known to its creators – but also in historical and futuristic, spiritual and mythological senses. It tells us much about the dominant ideas in Christian Europe at the time, and about how medieval Christians saw themselves in relation to the history and destiny of humankind. Reference is made to the decree from the Roman emperor Augustus that 'the world should be enrolled' (Luke 2:1–7), which in a biblical context explains the journey of Mary and Joseph to Bethlehem to participate in a census of Judaea but here takes on a new meaning of surveying, cataloguing, and representing 'the world'. We find inscribed the Anglo-Norman word *estori*, referring to a history, narrative, or story. It is a 'global' depiction in the sense that it attempts to capture and convey a 'whole'; the functions and positions of the parts take meaning in relation to this entirety. But this is a global narrative imagined and written from a particular and situated perspective.

Gazing at the Mappa Mundi, as these authors did on a hesitantly sunny April day in 2024, one is struck by its sheer difference from contemporary world cartographs, the latter typically showing north reigning 'on top of the world' and land surfaces decisively delineated by country borders or interrupted by jagged designations of relief. Instead, existing places blend seamlessly with the historical and mythical in this medieval geography: London and Paris

feature, as do Babylon, the Cretan labyrinth, the lighthouse at Alexandria, Noah's Ark, and the Pillars of Hercules. Strange and monstrous figures and races also appear – one-legged creatures who use their enormous foot as a sunshade, sharp-sighted Ethiopian sailors with four eyes, mandrakes, Himantopodes, cynocephali, unicorns, and mermaids.

The weird strangeness of the Mappa Mundi reminds one of Michel Foucault's (1994) laughter, described in the preface to *The Order of Things*, which was triggered when he for the first time read a Pythonesque passage of Jorge Luis Borges quoting an imaginary Chinese encyclopaedic taxonomy of the animal world, which seemed to Foucault absurdly comical.¹ One is reminded too of maps that attempt to upset the dominant geographic vision of the world, with Europe, North America, and Asia conventionally depicted 'on top', by flipping the perspective to show the gigantic landmasses of Africa, South America, and Australia presiding over all other regions, the last-mentioned pressed in frigid proximity to the Arctic. Viewing the Mappa Mundi therefore allows us to shed, for a moment, the categories that we take for granted in making sense of the world, to displace a conventional sense of the *global*. It is an indication of the contingency and partiality of any notion of the global.

Those viewing the Mappa Mundi, and its global illustration, have always been drawn to locate themselves within it – it is believed that the image and label for Hereford itself was rubbed off by hundreds if not thousands of pilgrims pointing to, and touching, their position on the map. Many modern tourists would not be able to do so, including those who have travelled from the Americas, sub-Saharan Africa, Greenland, Australia, Oceania, and much of Asia. It soon becomes clear just how piecemeal this mondial depiction is, just how many places and histories and futures are excluded, both by limitations in knowledge and by the impetus to make the constituent parts fit the whole of this telling of the Earth's story. Recent discussions of 'global development' may do something similar: they may override ideas, places, ecologies, and peoples to make the selected parts fit the hypothesized whole. The Mappa Mundi demonstrates how, just as it was over 700 years ago, our understanding of the global is always incomplete, reflecting our own priorities and perspectives, our partial knowledge, and our attitudes towards history and the future.

Given that any conceptualization of the global is unavoidably partial, we argue that our perspective on global development must be emergent – a world-in-progress – and inclusive of very different ways of constituting the whole: ways that, where appropriate, challenge the conventional categories of development thought. Any understanding of the contemporary landscape of development must regard the global as a contingent point of arrival rather than a conceptual starting point. That global understanding must emerge from the sum of its parts rather than dictate what is included within its purview, and how.

Shifting to global development and environment

In this book, our critical discussion focuses on what we recognize as the ‘global development shift’: a relatively recent, sometimes controversial, series of calls for what other scholars have termed a ‘new paradigm’ of development (Gore, 2015; Oldekop et al, 2020; Sims et al, 2022; Gillespie and Mitlin, 2023). Proponents – notably Rory Horner and David Hulme alongside colleagues at the University of Manchester’s Global Development Institute – argue that the dominant concepts and categories of development sourced from the 20th century, framed by conceptual–geographical oppositions such as Global North–South, developed–developing, or First–Third World, are no longer sufficient to capture the contemporary dynamics of development. The geographies of inequality and poverty are shifting, with a majority of the world’s ‘poor’ now living in ‘middle-income countries’ (Sumner, 2012). Horner and Hulme (2019a) attempt to capture such movements through the notion of ‘converging divergence’ – that is, simultaneous trends towards reductions in between-country inequality alongside growth in within-country inequalities. Boundary-crossing social and environmental challenges such as climate change, migration, health, and poverty are now seen to require a global perspective and response. These challenges intersect and cut across the binary spatio–conceptual divides mentioned earlier, applying to high-income as well as lower-income countries, albeit in different ways, thus necessitating a ‘global’ concept of development. This argument in favour of a global development perspective has proved controversial. Critics argue that claims about between-country convergence are overstated (see Sumner, 2019), that global concepts of development are unduly universalizing, that they underplay the continued importance of neocolonial relations in shaping worldwide inequalities, and that they are too broad and vague to offer real analytical or explanatory purchase.

Those calling for a new ‘paradigm’ of ‘global development’ see it as preferable to the inherited notions and approaches of ‘international development’, an era that began with the establishment of the United Nations (UN) in 1945.² Conventional histories of international development usually point to several key markers and characteristics of the international development agenda (see Rist, 2014). Here the 1949 inaugural address by Harry Truman – in which the elected US president highlighted the need for global cooperation to address poverty, disease, and underdevelopment – is recognized as having catalysed US leadership on development in the international arena. Increasingly, through the 1950s and the escalation of the Cold War, state-led development assistance was employed as a geopolitical tool to arrest the feared spread of communism in ‘underdeveloped’ regions of Latin America, sub-Saharan Africa, and Asia. Meanwhile, the collapse of the European empires in the 1950s and 1960s led to the emergence of new,

independent postcolonial states and of the ‘Third World’ as a geopolitical category (Solarz, 2012).

From the 1970s, a shift in international development to focusing on economic growth as the priority of development intervention mirrored the adoption of neoliberal economic policies in the West, elements of which were imposed on ‘developing countries’ through structural adjustment programmes associated with the World Bank and International Monetary Fund. At the same time, the emergence of powerful movements centred on social justice and human rights concerns began to shape debates around international development. New theories of development, like dependency theory, emerged from postcolonial contexts to challenge the Northern hegemony in the setting of development agendas (Fukuda-Parr and Muchhala, 2020). Through the 1990s, in the wake of the Cold War, there was an increasing recognition of the interconnectedness of development challenges, strengthening a movement in favour of setting international goals for development. The eight Millennium Development Goals, approved by the UN in September 2000, employed the terminology of ‘global’ yet envisaged development as a set of activities pertaining only to the Global South.

The project of international development – often termed ‘big D’ Development (Hart, 2001; Mawdsley and Taggart, 2022) – has largely failed in achieving its core aim of eliminating poverty. Nearly half a century ago, J.K. Galbraith (1979) critiqued Western-centric approaches to development for being more concerned with using the guise of development to short-circuit the spread of communism than with addressing the root causes of mass poverty. In this sense, post-Second World War development was more about advancing Western agendas than reversing the depredations of colonial conquest and extraction. Similarly, although landscapes of inequality and poverty have shifted in the intervening years, Franklin Obeng-Odoom (2023b) argues that current mainstream notions of sustainable development risk reinforcing neocolonial relations by prioritizing the protection of nature in the Global South in the context of persistent poverty.

The arguments for a ‘conceptual shift’ (Horner and Hulme, 2019a) from international to global development gained traction with the rise of the 2030 Agenda for Sustainable Development – best, but not exclusively, represented by the adoption of the Sustainable Development Goals (or SDGs) by UN member states in 2015. If the SDGs signalled a willingness to centre environmental concerns and aspirations within the coordinates of ‘big D’ Development, it is remarkable that ecological and environmental themes have featured only peripherally in many of the major publications on the global development shift. By this we mean that, although authors writing about global development have discussed how issues like climate change exemplify the acute challenges that transcend boundaries between

North and South, debates often skirt around the intensifying fusion or co-constitution of environmental and developmental problems. That co-constitution is now unfolding in ways that are not captured adequately by mainstream discourses of sustainable development. For us, the scale and severity of global environmental challenges, and the emergence of a raft of concepts such as the ‘Anthropocene’, the ‘Panarchy’, and ‘planetary boundaries’, mean that any sharp conceptual or ontological distinction between human development and environment is increasingly meaningless. Development is inescapably *ecological*.

Approaching critique

We write this book as geographers – and ones with different intellectual and empirical genealogies, inspirations, and starting points – rather than as scholars of development studies as a discipline. This gives us something of an outsider status when commenting on the global development shift, even if this shift has involved contributions from a range of disciplinary and sectoral perspectives. We are aware that traditions of ‘thinking globally’ are by no means new to those interested in the theory or practice of development. One can think, for instance, of the insights of world systems or dependency theory as concerted efforts to foreground the interconnections between developmental processes unfolding at a global scale. We are also aware that the term ‘global development’ has been in use for far longer than its most recent articulations, over the course of the 2010s, in the form of the global development shift. It is not our aim to engage with these longer traditions and genealogies of thinking globally about development, to which in any case we are unlikely to do justice. Rather, as geographers of developmental and environmental issues, whose research interests have spanned the so-called North and South, the historical and contemporary, we are interested in critically engaging with recent calls for us to think differently about our own work. We do not presume to write a comprehensive account of global development and environmental themes, and the reader will note that we have not addressed, in a focused manner, traditionally core topics of development inquiry, including gender, agriculture, or food security.

One way to illustrate the specific aims and objectives of this book is to contrast it with other recent publications, including the *Advanced Introduction to Critical Global Development* by Uma Kothari and Elise Klein (2023) and *Global Development: The Basics* by Daniel Hammett (2024). Kothari and Klein take ‘a critical approach that challenges the dominant, modernist, and ahistorical narratives often rehearsed in development discourse, policies, and practices’ (2023: 2). Similarly, Hammett invites us to ‘consider the complexities and challenges of the concept of development, including its historical roots in colonialism, and the geopolitical power relations which

continue to set much of the agenda'. While these titles may appear similar to what we have in mind for this book, it soon becomes clear that the authors' main objectives are to provide introductory summaries of *critical development studies*, as a specific subfield of development studies (in the case of Kothari and Klein) and development geography (in the case of Hammett). This subfield encompasses perspectives on development and development studies that foreground their colonial genealogies; how they tend to override and erase the perspectives and knowledges of subaltern groups and places; and how they reproduce modernist notions of borders, geographies, and movement. Both books conclude with calls for scholars of the field to 'decolonize' development, with [Kothari and Klein \(2023\)](#) arguing for a research praxis expressing an ethics of solidarity rooted in a 'pluriversal' ontology.

The style of critique expressed by [Kothari and Klein \(2023\)](#) and [Hammett \(2024\)](#) is one closely tied to the fields of development studies and development geography; the aim is to introduce us to existing and emerging critical perspectives and arguments within these fields. The intention is not to *critique* or articulate a new perspective on *global development*. We find no reflection on the notion of the 'global' and the difference made by its use as a modifier of 'development'.³ Furthermore, the co-constitution of environment and development is foregrounded in neither book. If [Hammett \(2024\)](#) discusses environmental challenges, these are presented as a subset of development challenges more broadly.

These kinds of introductory accounts are undoubtedly useful, particularly for students and researchers learning and working within fields focused on development. However, in this book our intentions and approach are somewhat different. We are less interested in gathering key critical disciplinary perspectives on development and more in offering initial provocations – some drawn from fields unrelated to development studies per se – that, we hope, will push the global development shift beyond its current frames and produce new interdisciplinary ways of thinking about development and environment from a global, or more accurately a *planetary*, perspective.

Our approach to the critique of the global development shift has two main inspirations. On the one hand, we wish for our critique to be *bold* and *productive*. Here we are reminded of Karl [Marx's \(1843\)](#) commitment to finding 'a new world through criticism of the old one', and his call for a 'ruthless criticism of all that exists' – 'ruthless both in the sense of not being afraid of the results it arrives at and in the sense of being just as little afraid of conflict with the powers that be'. In this sense, we want our ideas and provocations to be part of a broader process of bringing a different and hopefully better world into being – something we can scarcely avoid given the current state of environmental, social, and economic realities across the world.

On the other hand, we have sought to engage with the global development shift in a spirit of care for the subject, and to use our critique in search of

its *elaboration* rather than outright rejection. We are reminded of Graham Harman's meditations on the kind of intellectual activity he saw suited to his engagement with the philosophy of Bruno Latour:

Instead of tripping and beating a philosophy for its supposed faults only to end up with the same range of mediocre biases with which we began, we ought to find a more vigorous means of engagement with philosophers. The method I propose is to replace the piously overvalued critical thinking with a seldom-used hyperbolic thinking. For me at least, it is only books of the most stunning weakness that draw attention to non sequiturs and other logical fallacies. The books that stir us most are not those containing the fewest errors, but those that throw most light on unknown portions of the map. In the case of any author who interests us, we should not ask where are the mistakes here?, as if we hoped for nothing more than to avoid being fooled. We should ask instead: what if this book, this thinker, were the most important of the century? How would things need to change? And in what ways would we feel both liberated and imprisoned? (Harman, 2009: 120)

Consequently, we do not see our task as one of 'critiquing' the global development shift, in the sense of pinpointing its faults and hoping for its failure, reversal, or destruction. Doing so would only contribute to the reproduction of, or reversion to, the status quo. The kind of rock-kicking objections sometimes directed at the global development shift along the lines of 'we have known and been doing this all along' are some of the most tiresome and incorrigible of all. Instead, we will take calls for the global development shift, at one level, at face value: we will assume that some kind of shift is necessary and desirable, and that in some form it should succeed. Given that agenda, how would things need to change? What else might we need to think about to take this shift further?

Our approach, then, fits within a broader suspicion of the critical routines of much contemporary social science and social theory that have been so adeptly articulated by thinkers like Latour (2004). In these routines, the critic presents as the sole being with insight into the true state of affairs, the only one who can rid us many 'naive believers' of our fetishes (why take science/pop music/sport seriously? – it is only a social construction, and its power is simply a projection of your mind, after all). The critic's role is one of scholastic revelation and debunking (Barnett and Bridge, 2016), to show that things are merely invented, historically contingent, interpreted, and flexible. We prefer a different approach:

The critic is not the one who debunks, but the one who assembles.
The critic is not the one who lifts the rugs from under the feet of

the naïve believers, but the one who offers the participants arenas in which to gather. The critic is ... the one for whom, if something is constructed, then it means it is fragile and thus in great need of care and caution. (Latour, 2004: 246)

For these reasons, in this book we seek to critique the global development shift in more *productive* and *generative*, rather than *subtractive*, terms (McFarlane, 2011). We aim to provide opportunities for the gathering of more insights, perspectives, and meanings. In short, we seek to catalyse an assemblage to question, extend, and enhance the global development shift and throw light on ‘unknown portions of the map’.

Navigating the scalar tensions of global development

One of our starting points is the recognition that we often face a ‘scalar tension’, in theory and research, between ‘the global’ or ‘planetary’, on one hand, and ‘the local’ or ‘situated’, on the other. We often read of things that take place, or need to happen, ‘from the local to the global’, or that ‘the local’ and ‘the global’ are intertwined in mutually productive ways. This is understandable (as geographers we ourselves are ‘guilty’ of such offences); trying to convey the scalability or reach of processes is inevitably difficult without recourse to such categories. Indeed, while recognizing the importance of attending to the situated and everyday cacophonies of life is undoubtedly valuable for an adequate understanding of developmental and environmental changes, we also appreciate the argument that there are good reasons to employ a global or planetary register. Capitalism and, to an extent, colonialism remain powerful globalizing forces. Therefore, our critiques of such forces should arguably be articulated at the same scale. Fredric Jameson (2011) makes a similar point, arguing that although it is impossible to grasp and represent the shifting and ever-expanding nature of global capitalism in its entirety, attempting to do so is nevertheless a necessary part of understanding and resisting it.

However, we argue that the global development shift must aspire to accommodate multiple perspectives on scale and refrain from being drawn into dichotomous oppositions that feed and reproduce stagnant debates, like that which has pitted the ‘situated’ emphases of postcolonial and Southern urban scholars against advocates of universal theoretical accounts of urban change. Postcolonial scholars tend to prioritize the highly context-specific meanings and subjectivities that emerge through the emplaced practices of everyday urbanisms. More universalizing accounts often look to the spatially extensive drivers and effects of global urban change, with their implications for the production of geographic unevenness and difference (see Chapter 4).

In seeking to avoid a local–global scalar impasse, we recall the longstanding debates on scale within human geography, and in particular arguments centring on the ‘politics of scale’. Authors aligned with this perspective reject the notion that scale is an ontological category that is pre-given and instead point to the processes by which various scales are socially produced and politically contested (Smith, 1992; Swyngedouw, 1997; Marston, 2000). From a research standpoint, what matters here is following the practices and conflicts through which new scalar configurations are brought into being, and how the scales at which various phenomena are understood and addressed shift over time. The discipline of geography has hosted concerted efforts to think beyond a situated–planetary binary. Contributions to the development of mid-range theory by the likes of Henry Yeung (2024), Jamie Peck (2023), and Helga Leitner and Eric Sheppard (2020) have sought to find a middle path between grand theoretical abstractions and idiographic ‘thick descriptions’ that fail to adequately situate specific phenomena within broader processes and chains of causality. From such a perspective, it is possible to make generalized claims about processes on a planetary scale, provided those claims are rooted in reflexive, socially engaged, and contextualized inquiry that refrains from deductive and deterministic uses of theory.

We are particularly inspired by Gillian Hart’s (2018) approach to ‘relational comparison’. Hart argues that global processes may take various manifestations in different contexts – for example, neoliberal market reform in housing sectors looks decidedly different in Mumbai, Shanghai, San Francisco, and Cape Town. But such processes are nevertheless related, so it is necessary to consider how the ‘situated’ and ‘messy’ realities of these geographical contexts are linked across scales. Methodologically, relational comparison aims to sit in-between the strengths and drawbacks of approaches that, on one hand, examine cities as ‘bounded pre-given units’ and, on the other hand, assert the analytical primacy of ‘overarching general processes’. The aim here is to unpack ‘*how* key processes are constituted in relation to one another through power-laden practices in the multiple, interconnected arenas of everyday life’ (Hart, 2018: 374–5, emphasis in original).

While recognizing the emergent and socially produced qualities of scale is valuable, there remains, however, a question of how to account for scalar understandings and practices that already exist in the world and shape (indeed, haunt) our thought and action. As much as scholars may dislike resorts to ‘global’ analytical or policy framings – one can think of critiques of the SDGs and many other international accords – or reject regional scalar constructs like ‘Africa’ as being ‘essentialist’, the fact is that these scalar categories exist both as common sense notions and as categories of practice pursued by various actors and institutions in the course of confronting problems of concerted public interest. In response to this problem, we can look to Joe Blakey’s (2021) ‘aesthetic’ approach to the politics of scale, which is indebted to the thought

of Jacques Rancière. It is an approach that recognizes how we inherit ways of conceiving scale – including the local, the global, and the planetary – which have real effects on how we think about and act in the world, even if a scale itself is not ontologically pre-given. Such an approach allows us to consider global–local framings of development and environmental issues as the outcomes of both historical precedent and ongoing contestations.

Building on the previous discussion, we agree with Alex Loftus (2018) that scalar configurations like the global or planetary should be seen as ‘one moment in a process of abstraction’ (88). Rather than a *starting point* for analysis, the global or planetary is better thought of as a place of *arrival*. Rather than a pre-given scale, it exists as an ‘ensemble’ that must be ‘built up’ through dogged engagement with all the various messy, random, mundane, spectral, fluid, spectacular stuff of ‘everyday life’. Here the global or planetary comes into relief as a *bricolage* of cases and as a constant movement between ‘the abstract’ and ‘the concrete’ (89).

The core point made by scholars like Loftus is that while it is necessary to think about processes and interconnections spanning multiple scales, it remains important to do so carefully and reflexively, avoiding ascribing explanatory power or agential capacity to an abstract category like the ‘global’. Acting on this kind of perspective, and rejecting a global–local dichotomy, implies a relational project of inquiry, where the aim is to understand processes through various interconnections between places, actors, scales, and events. It may also imply a mode of working characteristic of ‘minor theory’: a mode focusing on the in-between, the interstitial, as a way of unsettling and decomposing the often broadbrush ‘structural’ claims of ‘major theory’ (Katz, 2017) and, with it, the temptation to think in dichotomous scalar terms of the global–local. Here, ‘minor’ does not refer to the quotidian or small, but to the relational value an idea holds. From this perspective, the global or planetary emerges not as a stable category of analysis or practice but rather as a shifting, contestable, and emergent assemblage. It is a perspective that aligns with our objective to articulate not a theory of global development but rather a non-exhaustive set of ‘lines of escape’ that open our discussions of the global development shift in new and open-ended ways.

The global and the planetary

So far, we have used the terms ‘global’ and ‘planetary’ as almost interchangeable scalar registers. However, they are not identical. They have different genealogies, and, consequently, each signals particular things, actors, ideas, and perspectives. Indeed, distinguishing between the meanings of the global and planetary underpins a core argument of this book.

The term ‘global’ – in the sense of ‘relating to the whole world’ – has thoroughly modernist roots in the 19th century: a period of rapid expansion

in communications and logistical systems in concert with a second wave of imperial conquest and rule. Thinking and speaking in ‘global’ vocabularies intensified over the course of the 20th century with the further development of international markets, institutions of governance, and logistical and information systems. The term thus references a distinctive historical status and transformation of the world (as with discourses of ‘globalization’) or the elaboration of a discipline, sector, or field.⁴ When prefixed to issues such as health, economy, citizenship, and culture, ‘global’ is often used to highlight the interconnectedness of phenomena and processes taking place across geographical scales and nodes. Compared with more *national* or *international* ways of thinking, a *global* perspective places greater emphasis on cross-border connections and movements of capital, goods, and people. In political terms, it is often associated with the imperative to recognize and address the inequalities between peoples and places in different parts of the world.⁵

By contrast, the idea of the ‘planetary’ draws attention to the interconnections between social, ecological, and geophysical Earth systems – associated with discourses like ‘the Anthropocene’ and ‘planetary health’ – and signals the common fate of all human and natural life on Earth. In a philosophical and psychological register, the planetary may be enrolled with a call to see ourselves as contingent *planetary beings* or *species* – as one among countless other organisms and objects existing in a vast universe of planets and galaxies (Spivak, 2012; Osborne and Rose, 2024). It entails a mode of thought that stretches far outside a global geometric realm of borders and boundaries, well beyond the ‘extensive space’ that ostensibly exists under our (human) control (DeLanda, 2005). When read in a more political register, the planetary signals a ‘progressive’ orientation recognizing the existence of common challenges, common rights, common stewardship (Elias and Moraru, 2015), and common justice (Biermann and Kalfagianni, 2020).

In governance terms, the urgent challenges associated with (now imbalanced) social, ecological, and geophysical systemic relationships are often interpreted as demanding a universalized epistemic and political response based on ideas such as ‘Earth systems governance’, ‘planetary boundaries’, and ‘planetary stewardship’ (Biermann, 2014; M. Jackson, 2021). Many see that stewardship as necessitating more polycentric and multilevel governance mechanisms as opposed to the hierarchical and centralized modes of the past (Steffen et al, 2011). That, in turn, is seen to require the recognition and incorporation of diverse ways of knowing, different worldviews, and norms (Biermann, 2014). Ultimately, then, the term ‘planetary’ exists and is mobilized as both a concept-metaphor and to reference a set of systemic human-biophysical realities of the Earth.

In this book, we pursue the argument that, to provide the desired break from inherited understandings of ‘international development’, recent articulations of ‘global development’ may need to become more

planetary: foregrounding development as a process transforming of, and transformed by, socio-ecological and geophysical systems while drawing attention to different kinds of politics, ideas, and experiences that collectively constitute the emerging context for ‘big D’ Development.

Noting terminology: the Global South

We wish to pause for a brief reflection on terminology. Throughout this book, we use the terms ‘Global North’ and ‘Global South’. These are contested and messy categories, but broadly speaking they denote a global political geography dividing Europe, North America, and Australasia (the Global North) from the regions of Latin America, Africa, South Asia, and East Asia, most countries of which were previously colonized and which still experience legacies of exploitation (the Global South). On one level, this terminology can be seen as a continuation of the binary spatial categories that dominated international development thinking in the 20th century: dichotomies like First–Third World, which emerged from the context of the Cold War and is no longer useful (Solarz, 2012); developed–developing, which has fallen out of use because of the wildly divergent socio-economic trajectories of countries within either category; and Annex-1–non-Annex-1, which dominated international climate change debate. There is a risk, in using the terminologies of North and South, that we reinforce the kinds of hierarchies, binary thinking, and deterministic categories that scholars of the global development shift have challenged.

However, authors such as Nikita Sud and Diego Sánchez-Ancochea (2022) have commented that the ‘stickiness’ of Southern terminology points to its continued relevance. They argue that, as a historically constructed category describing uneven distributions of power, it remains a useful term to conceptualize historical and contemporary relations of economic, political, and cultural dominance (also Wiegatz et al, 2023). Moreover, they point to the use of this terminology by institutions, leaders, and commentators from the South as a way of underscoring persistent neocolonial relations, framing common challenges, and fostering solidarity. Sud and Sánchez-Ancochea (2022) conclude that the ‘Global South’ can be mobilized in ways that reinforce unequal power relations or in ways that challenge those arrangements.

All of this considered, we agree that North–South terminologies retain some intellectual and political purchase, provided we are careful to acknowledge that we are always haunted by pre-existing linguistic and disciplinary conventions, and that these are imperfect and non-deterministic categories that by no means imply homogeneity. While we are conscious of avoiding North–South as a ‘crude spatial demarcation’ (U. Kothari and Klein, 2023: 8), our use of this terminology in the book betrays a tension between

our acknowledgement that these categories remain relevant to the processes and discourses of development, and our desire to challenge the conceits of such schemata, both politically and conceptually. It is a tension that demands an ethic of care and caution in our use of language and concepts.

From where we write

The idea for this book emerged when we were both employed in the School of Geographical Sciences at the University of Bristol in the United Kingdom (the first author has since moved on). The school was in the process of designing and gaining approval for a new postgraduate taught programme in global development and environment; both of us were hired to teach on courses that would eventually anchor this programme. The impetus behind this new offering was that geography graduates require a new kind of engagement with questions of international development if they are to adequately understand and respond to the challenges that animate so many of our students, such as climate change, biodiversity loss, poverty, and inequality. From the outset, there was a conviction that geography, as a discipline, has something unique to offer and contribute over and above traditional framings and educational offerings of international development.

Our book follows this line of argument. Discussions of development, where they do address ‘the environment’, often reduce the topic to a developmental externality – the environment features as a question of carbon emissions or changes in land use, biodiversity, sea level, surface temperatures, and so on. If there is a dialectic between development and environment, the emphasis is invariably and firmly on the former. It is our conviction that environmental questions should be front and centre of any ‘conceptual shift’ in development. Geography and geographers are well placed to follow through on this conviction. It is a field founded on the notion that ‘the environment’ – understood broadly to encompass not only the physical processes constituting the Earth, atmosphere, and all life but also the spatial worlds that humans imagine and inhabit (from the womb, to the neighbourhood, to the fantastical) – is core to the questions of politics, economics, and culture that underpin ‘development’ as both an immanent process and an intentional activity. We pursue this line of thought in the following chapters. We see the geospatial distributions and materiality of ‘resources’ like water, for example, as *shaping* questions of finance and politics rather than as passive inputs or products of human intentions and interventions (see [Chapter 7](#)).

We write as two White men – the first British, the other South African – from privileged institutions in a former imperial heartland of the Global North. Our research focuses on contexts like Kenya and

South Africa yet within a wider geographical purview cutting across traditional developed–developing and North–South boundaries. We are drawn to the notion of the ‘global’ precisely because of our ambivalence towards those binary framings: at once useful and useless when studying and explaining contemporary phenomena. Our theoretical and empirical biases are likely to be clear to those who write and think and speak from elsewhere and from other positionalities. This makes the task of critical care and caution even more urgent. Moreover, we have grown up in different intellectual and political cultures and traditions, whether more inspired by Marxist political economy, science and technology studies, political ecology, Foucauldian analytics, or postcolonial history. Rather than attempting to write with a common voice and perspective in pursuit of theoretical coherence, we see our differences as a strength in the task of gathering and assembling initial critical insights to extend and enhance the global development shift.

Outline of the book

The book is structured in two parts. Part I is primarily theoretical. Our aim is to engage with the global development shift in more detail and build a case for how this shift can be extended and enhanced. In [Chapter 2](#), we critically consider the case for a new ‘paradigm’ of global development, locating this call within a broader planetary shift unfolding across multiple disciplines and arguing that we require a more *planetary* perspective on development. We discuss different concepts of the global and planetary, making a case for the application of mid-range theories within a global development frame. In [Chapter 3](#), we argue that the environmental sciences and ecology provide a rich tradition of thinking at a planetary scale, a tradition that has been central in shaping current debates on environment and development and sustainable development. Here we provide an account of how environment and development have *become planetary*.

Part II comprises several chapters that bring our argument into conversation with a range of key developmental and environmental themes. These chapters address planetary-scale processes that illustrate the key arguments of the book: urbanization ([Chapter 4](#)), demographic change ([Chapter 5](#)), health and wellbeing ([Chapter 6](#)), the financialization of development ([Chapter 7](#)), and development through infrastructure connectivities ([Chapter 8](#)). The topics discussed in these chapters are not intended to provide a comprehensive and complete view of contemporary global development processes and challenges. Rather, they are intended to be provocations, or departure points, that cut across and disrupt traditional categories of development, creating spaces and insights in pursuit of a more planetary perspective. The focus of these chapters is on *processes* of change and transformation. Partly, this

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builds on a long tradition within our own discipline and on epistemological traditions of studying process rather than things or resultant formation. Partly, it reinforces our central argument for a concept of global development in which the planetary is not a pre-given scale of analysis but is always in the *process* of being made, remade, imagined, and reimagined.

Thinking Through the Global and Planetary

Introduction

How do we think about the emerging problems, processes, and practices of development? Do they collectively represent a marked break from a past era of ‘international development’, demanding new perspectives and reference points? Scholars like [Rory Horner and David Hulme \(2019a\)](#) have argued that we require a ‘conceptual shift’ from international to global development. Proponents of this shift see it as necessary by virtue of key macro-trends in political economy of the past three-plus decades, by the nature of contemporary environmental and sustainability challenges, and by the effects and insights born of recent crises such as the COVID-19 pandemic.

These arguments have been articulated within a broader ‘turn’ towards a more global perspective on development. That turn is demonstrated by the establishment, since the start of the 21st century, of institutions like the Center for Global Development (a non-profit think tank based in Washington, DC), the Global Development Policy Center at Boston University, and the Global Development Institute at the University of Manchester. It is reflected, too, in the offering of new programmes of higher education specifically framed around the notion of global development. Publishers now group their journal titles within global development portfolios and release new titles, like the *Global Social Challenges Journal* inaugurated in 2022 by the present book’s publisher, while donors and public bodies launch major funding initiatives within a global frame – one example being the United Kingdom’s £1.5 billion Global Challenges Research Fund.¹

The editors of a recent handbook of global development have gone so far as to describe global development as a ‘paradigm shift’ ([Sims et al, 2022](#)). Indeed, references to global development as constituting a new ‘paradigm’ are fairly common ([Gore, 2015](#); [Horner, 2020](#); [Oldekop et al, 2020](#); [Gillespie and Mitlin, 2023](#)). However, arguably these scholarly expositions of global

development have stopped short of a ‘paradigm shift’ envisaged by Thomas Kuhn (1962) as a fundamental change in the concepts and practices of a scientific field. Development studies scholars like British Behuria (2021) have seen little new in the invitation for them to think ‘globally’; others have taken issue with the fundamental theses of global convergence and the elision of history and politics from the analysis. As a result, more needs to be done to articulate an adequate theoretical and conceptual foundation to drive a global or (as we shall argue) a *planetary turn* in how we think about and practise development. In this book, we seek to articulate various critical provocations or ‘lines of flight’ that may help to question and, hopefully, decode, unsettle, and transform the assumptions that continue to pervade discussions of global development (Deleuze and Guatarri, 1987).

We see the *global development shift* as being one instance of a broader *planetary turn* that is being pursued in multiple disciplines and domains of practice. We prefer to think of the recent articulations of global development as a *conceptual shift* because many of these discussions, despite their critical intent, have tended to retain and deploy concepts and categories characteristic of the post-Second World War system of international development. The figure of the ‘globe’, the ‘global’, and the ‘globalizing’ are often presented in ways that reproduce a modern Western understanding of space, place, and time. The impression is that global development comprises processes, peoples, and objects extending in three dimensions through Euclidean space such that they can be mapped geometrically, partitioned into nations, races, and genders, and ontologically divided between ‘nature’ and ‘culture’ (M. Jackson, 2014; Sidaway et al, 2014). The modifier ‘global’ therefore applies to ‘extensive space’ comprising zones extending up to a limit marked by a natural or artificial boundary or frontier (DeLanda, 2005). Events occur within this global space, in linear or cyclical movements and at different speeds, against the backdrop of a homogeneous, objective time – ‘something belonging to “nature” itself’ – that flows continuously and sequentially (Chakrabarty, 2000: 73). Arguably, then, an ‘imperial’ aura and ontology continue to pervade writings on global development just as they are reproduced in postcolonial efforts to engage with the planetary and Anthropocenic (M. Jackson, 2014).

We argue for a perspective on global development and environment that leaves room for *the planetary* as a domain of ‘alterity’ (Spivak, 2012) – a perspective encompassing that which does not necessarily trace its genealogy from Western scientific rationality, imperialism, or colonialism; one that includes a plurality of perspectives. In ‘building up’ and mobilizing that perspective, however, we should be careful to attend to the dangers of universalizing planetary abstractions without regard to the power relations, differences, and inequalities that continue to structure the execution and impacts of activities undertaken in the name of development.

In this chapter, we first outline the key arguments for, and characteristics of, the ‘new’ global conception of development. We then present several critical perspectives on existing writings on global development, arguing that this work has stopped short of engaging adequately with environmental, epistemological, and theoretical factors. We end with a reflection on our own approach to understanding global development and environment from a *planetary* perspective.

Unpacking the global development shift

The scholars best associated with the global development shift, Horner and Hulme, see that shift as being necessitated by three main sets of macro-scale realities and trends (Horner and Hulme, 2019a; Horner, 2020). The first set encompasses the increasing global interconnectedness of contemporary capitalism. Here the continuation and acceleration of long-run processes of global economic integration, particularly since the 1990s, arguably mean that the drivers of development challenges and solutions are no longer contained by the territorial figures of the nation or so-called Global North and South. Rather, they cut across country and regional divisions in complex ways. Second, and similarly, for these scholars a global shift in development thought is demanded by the extensive and enduring challenges of climate change and environmental sustainability. And, third, increasingly diverse forms and patterns of global inequality are seen to transcend the traditional boundaries and concepts of the 20th-century system of international development.

Kearrin Sims and colleagues (2022) add to this triad of transformations. They note that a more global perspective is made pertinent by trends towards growing populist authoritarianism, ‘democratic rollback’, and/or right-wing political ascendancy in all regions of the world, including advanced economies and what were previously seen as stable liberal democracies (L. Diamond, 2008; Rakner, 2019). The growing global interconnectedness of social movements is another factor, demonstrated by the emergence of new forms and mechanisms of socio-political solidarity – the widespread protests in response to racism and police violence in the wake of the murder in May 2020 of George Floyd in Minneapolis (United States [US]) being only one recent example. Major transformations in global debt and associated relations are a further marker of contemporary development configurations, with global debt levels having increased massively in the wake of the 2008 Global Financial Crisis, often under the oversight of large banks and their state supporters. Finally, we can add the ongoing and open-ended globally transformative effects of new technologies related to artificial intelligence and big data, which will deliver analytical and governance resources and capabilities far exceeding those afforded by traditional systems of national and international statistics (Sims et al, 2022).

By contrast with these large-scale, often multi-decadal trends, the more sudden crisis of the COVID-19 pandemic offers an example of how specific events or situations enjoin a shift to global development thought and practice (Oldekop et al, 2020; Sims et al, 2022). The network-like spread of coronavirus SARS-CoV-2 showed little respect for border checks and immigration regulations. Moreover, a collective global effort was widely seen as a necessary condition for an effective pandemic response and recovery (Sims et al, 2022). But a focus on the COVID-19 crisis as an example of the ‘deeply interconnected’ nature of the contemporary world perhaps misses a key lesson – that movements towards global interconnectedness are by no means inevitable; they can in fact suffer sudden and severe stalls or reversals. More than that, the world is always characterized by multiple trajectories and confluences of transformation, powered by centrifugal and centripetal forces, that disrupt teleological assumptions in our global imaginary. We elaborate on this point later in the chapter.

Key gestures of the global development shift

Some initial efforts to flesh out the conceptual and operational imperatives of a more global approach to development have focused on four key ‘vectors’ (Sims et al, 2022). The first entails a geographic shift in the developmental gaze away from the territorial figure of the Global South (read: poor populations and countries) towards problems that cut across and suture diverse contexts, implying a need to ‘do development’ wherever it may be required. The second defines the need for a shift in ‘spatial nomenclature’ (Horner and Hulme, 2019a) away from a traditional developmental vocabulary of First/Second/Third Worlds, developed/developing countries, or Global North/South towards a lexicon comprising terms of convergence, divergence, and (sub)national difference. The third implies a conceptual shift away from ‘technocratic and econocentric’ thought – often viewing development within the narrow objectives of alleviating poverty and ameliorating suffering – towards a greater focus on more complex and wide-reaching agendas such as sustainability, justice, and equity. The final vector moves away from traditional understandings of development as an activity requiring unidirectional transfers of charity and aid from Global North to South and towards a recognition of the more complex array of actors now involved in what Hart (2001) terms ‘big D’ Development.

The notion of ‘vectors’ is useful as it implies directional yet unfinished and ongoing movement; accordingly, the term invites a dynamic perspective on the task of writing global development into being. However, it is possible that the terminology of vectors may imply a kind of physical and conceptual inexorability and predestination – that the articulation of global development will inevitably proceed along the specific bearings and inertias identified by its

key progenitors. There is much to be gained by recognizing and pursuing the four gestures outlined earlier and we agree that they are important conceptual and analytical starting points. Yet we would prefer to avoid a vision of the global development shift that is energized by movements along a limited number of pre-laid tracks. A truly global shift must encompass and enliven a far broader and more pluralistic assemblage of theoretical and epistemological gestures. Doing so might help us to see the *global* development shift in a more *planetary* light.

Critiquing the global development shift

Expanding the conceptual and linguistic repertoire of the global development shift is possible by thinking critically – in the sense of ‘hyperbolically’ – about what its key proponents have to say about its imperatives and gestures. As indicated in the [previous chapter](#), we do not see this critical task as one of debunking or identifying ‘mistakes’ and, in so doing, inhibiting any kind of exploration beyond established frames. Another way of thinking critically would be to ask: how would things need to change? Are there ‘unknown portions of the map’ that we can bring into relief?

Many of the initial criticisms of Horner and Hulme’s proposed ‘conceptual shift’ focused on two themes, which dominated a lively forum issue published in 2019 by the journal *Development and Change* ([Gillespie and Mitlin, 2023](#)). One seam of critique concerned the empirical reality of processes of North–South ‘convergence’ – whether we have seen, and continue to see, large-scale economic, environmental, and social convergence between countries. Several scholars have doubted the existence of such a meta-trend, instead highlighting significant inequalities in development trajectories within the South that ensure the continued relevance of the North–South distinction ([Bangura, 2019](#); [Ghosh, 2019](#); [Sumner, 2019](#)). A similar pessimism (or realism?) can be found in [David Oks and Henry Williams’ \(2022\)](#) rumination on ‘the long, slow death of global development’, or in [Jason Hickel’s \(2016, 2019a, 2019b\)](#) counters to an optimistic assessment of poverty trends. For these commentators, such optimism is more the outcome of woefully low poverty thresholds and statistical manipulations than a reflection of any substantial progress in the ‘real world’. The vaunted ‘rise of the South’ has been driven by growth in a few countries (principally China), whereas most poorer countries have experienced economic change primarily as ‘simultaneous deagrarianization and deindustrialization’ ([Oks and Williams, 2022](#)).

Another set of critiques has been more concerned with the ‘political-theoretical’ foundations of the global development concept ([Gillespie and Mitlin, 2023](#)). [Bram Büscher \(2019\)](#) sees the global development argument as neglecting the analysis of the (capitalist) causal processes and structures giving rise to the empirical trends described (also [Fischer, 2019](#); [Ghosh,](#)

2019). In the process, it overlooked diverse critical perspectives and left Horner and Hulme (2019a) open to accusations of complicity in the reproduction of durable inequalities of race, class, and gender.² Moreover, by reducing the analysis of convergence to contested measures like the Human Development Index and carbon emissions, we were distracted from the picture of divergence that might emerge from a focus on, say, income inequality and biodiversity loss. Commentators noted the absence of a definition of development (Fischer, 2019; Ziai, 2019) and suggested the value of critical frameworks flying under the flags of neoliberalism (Fischer, 2019), neocolonialism (Ziai, 2019), imperialism (Ghosh, 2019), uneven development (Büscher, 2019; Ghosh, 2019), world systems theory (Bangura, 2019), and dependency theory (Sumner, 2019) for analysis of the causal processes underpinning the empirical trends described as ‘converging divergence’. What these critiques express is an underlying set of assumptions that the global development concept must be further ‘theorized’ to be useful, that to theorize is to mobilize consistently a coherent framework that explains fundamental generative processes and causal relationships, and that to be critical is to apply such a framework to account for the ongoing (re)production of inequalities across scales.

Acknowledging but leaving aside these concerns for the time being, here we orient our critical discussion of the global development shift around six themes: knowledge, territorialization, coloniality, reversals, temporality, and planetarity. Our aim is not to debunk existing ideas and understandings but rather to identify ‘lines of flight’ that could unsettle, yet enliven, the ongoing discussions of global development.

Knowledge

First, there is a notable silence in the initial discussions of the global development shift about the focus on the scientific and knowledge agenda surrounding development. This silence is somewhat surprising given the long history of critiques that have targeted the epistemologies of development studies from feminist, postcolonial, Southern, and, more recently, decolonial perspectives. Moreover, there is a growing scholarly recognition of the ways in which ‘non-Western’ contexts are increasingly producers – rather than passive recipients – of ideas that are reshaping the international order and contemporary practices of development, governance, and security (Acharya, 2016; Benabdallah, 2019).

It is thus imperative that the global development shift should engage with critiques of the power relations and hierarchies immanent in the geopolitics of knowledge production surrounding development. That would include a critical recognition of the systems of research finance, education, publication, language, and dissemination that structure and delimit global

flows of development ideas and practices and define what is deemed universal and legitimate, or parochial and illegitimate (Duminy and Watson, 2023). If patterns of wealth creation and inequality are shifting fundamentally from their 20th-century geographical forms, it is untenable that centres of authoritative knowledge production remain within a small number of wealthy contexts and institutions that are relatively disconnected from emerging global centres of developmental and environmental change.

Territorialization

Second, the global development shift, despite the stated objectives and intentions of its proponents, has arguably struggled to move beyond a territorialized understanding of development and has often largely retained a spatial vocabulary characteristic of international development. For all the recognition of the inadequacy of categories like ‘Global South’, or the need to move beyond the nation-state as the core object of developmental inquiry and explanation, expositions of global development are replete with references to such terms. Discussions of global convergence or within-country and subnational differences are, after all, still framed with reference to the country or nation. They depict distributions of development change across a two-dimensional surface that lacks a sense of volumetric dynamism or depth (Elden, 2013; Graham, 2015). That contemporary development is often interested in flows in and from the deep Earth, the oceans, the atmosphere, or near or outer space is not captured by this flattened topographical perspective.

These points are made not to suggest that scholars who have argued in favour of the global development shift have been lax or naive in reproducing the territorial and Euclidean vocabularies of the past. Rather, our emphasis is on the enduring tension affecting all self-described efforts to articulate a ‘shift’ or ‘turn’ – that it may be necessary to think and discuss ‘the new’ with reference to pre-existing sets of concepts and categories. The work of developing a new spatial lexicon for contemporary development realities is far from complete. Indeed, completion should possibly not be the aim; rather we might write for a global development ‘yet to come’ (Simone, 2004a). In Chapter 4, we think about how a spatial syntax for development could evolve with reference to what has been termed the ‘new urban science’ and associated techniques of data analytics.

Reflecting the incomplete and emergent nature of the global development shift, in an important intervention Tom Gillespie and Diana Mitlin (2023) have proposed three ‘tactics’, emerging from recent debates in urban studies, to challenge the North–South binaries that continue to pervade development thought. Here they draw on postcolonial urban scholarship and recent arguments for more explicitly comparative approaches to urban

research. The first tactic, indebted to the work of postcolonial and Southern authors, invokes a desire to ‘see from the South’ (V. Watson, 2009), a desire to understand the realities of the Global North from a situated Southern perspective. Here the South comes into view as both a relational project and an empirical reality (Bhan, 2019; Duminy and Watson, 2023). The second tactic is to mobilize comparative methods and approaches that affirm difference, that lend us the confidence to let very different places ‘ask questions of one another’ (Roy, 2003; K. Ward, 2010; Robinson, 2011). The third is to focus on ‘transnational flows, circuits, and relationships’, emphasizing the interconnected trajectories of cities everywhere – an approach also reflected in the emerging field of global urban history (Gillespie and Mitlin, 2023). In principle, such tactics enable scholars of development to think across a North–South distinction without needing to affirm the empirical reality of international convergence while at the same time introducing more critical tools to rectify Horner and Hulme’s (2019a) ostensibly apolitical approach.

We agree that these are important analytical tools to move past the inherited geographies of development. Yet how far should we push in seeking to displace the territorial figures of international development? Some caution may be required when pursuing a strategy of deterritorialization – for instance, one focusing on the financial or migratory flows underpinning globalization without reference to nation–states as the bounded containers of economic or labour processes. Anyone from a less privileged context who has experienced the misfortune of engaging with the visa procedures of Schengen Area countries will find it hard to say that borders – whether official or psychological – are of declining significance. That is so even if the borders of countries like the United States (US) are increasingly distributed well beyond the boundaries of their national territories, instead entailing complex spatial arrangements of practices of security, surveillance, and militarization (Miller, 2019). The complexity and immanence of processes of *deterritorialization* and *reterritorialization* – whether of capital, labour, or matter – underpinning global development and environmental change demand a critical perspective that can take in their expansive range (Deleuze and Guattari, 1987). That perspective should, in principle, recognize the oft-hidden spatial practices and disruptions taking place in stores lining the streets of New Delhi as much as the muscular ‘structural narratives’ surrounding financialization and inequality centred on Wall Street or the City of London (Jellis and Gerlach, 2021).

Coloniality

Third, expositors of the global development shift have generally failed to adequately diagnose the historical and ongoing effects of colonialism and neocolonialism for contemporary patterns of inequality and for the

ideas framing development as an intentional project. This is all the more surprising given that historians have laid bare the colonial genealogies of development ideas and practices (Tilley, 2011; Hodge et al, 2014; Duminy, 2022). Critical development scholars, for their part, have long interpreted the development industry as a neocolonial apparatus of power and persistent exploitation (Dingo and Scott, 2012; Bendix, 2018; Langan, 2018). Some articulated their arguments with reference to Kwame Nkrumah's (1965) analysis of neocolonialism as 'the last stage of imperialism', with his emphasis on the role of financial capital in reproducing the domination of postcolonial countries and the seduction of their elites. While theories of neocolonialism were central to Marxist accounts of imperialism in the 1960s, they subsequently fell out of favour but enjoyed a strong comeback animated by the 'counterrevolution in development thinking' that appeared in response to neoliberal hegemony from the late 1970s (Watts, 2020). Neocolonial accounts of development have found support in critiques of structural adjustment programmes and the vision of economic globalization propounded by multinational corporations and institutions like the World Trade Organization, World Bank, and International Monetary Fund.

In terms of analytical content, some scholars of the global development shift have retained Nkrumah's interest in finance systems as the key neocolonial mechanism underpinning persistent exploitation. In this vein, Éric Toussaint's (2022) discussion of global debt relations locates contemporary dynamics within a longer history of the use of debt as an instrument to impose neocolonial relations on 'peripheral' nations. This echoes Kris Manjappa's (2020) emphasis on debt and finance as one of the 'elementary aspects' or mechanisms enabling the reproduction of colonial power. Meanwhile, Warwick Murray and John Overton's (2022) elaboration of 'retoliberalism' – a term designed to capture how development has evolved beyond the tenets of 'neoliberalism' – explicitly sees retoliberal logics as echoing deeper colonial histories and 'aspirations to maintain the economic and political dominance of the Global North' (39).

However, many contributors to the global development shift have arguably underplayed (at least in analytical terms) the significance of the (neo)colonial effect; in the process, they tend to portray this effect in monolithic terms. An influential paper outlining the ambitions and theses of the global development shift mentions colonialism only once. There, with unironic understatement, the authors note that 'colonialism' had a 'very significant influence' on rising between-country income inequalities in the 19th and 20th centuries (Horner and Hulme, 2019a). Other work has sought to describe a range of contemporary development practices in neocolonial terms, albeit in ways that are analytically thin (Bilous et al, 2022; Jolly, 2022; Kotra and Nakamura, 2022; Toussaint, 2022; Wright, 2022). Here the scholarly gesture is to acknowledge that, on some level,

history and imperialism–colonialism matter for contemporary development without always being clear as to what is specifically ‘neo’ or ‘colonial’ about this relationship. Granted, the analytical content of the concept may here be less important than its moral force (Watts, 2020). But there is a risk that, in retaining a monolithic view of coloniality, scholars contributing to the global development shift will continue to underemphasize the diversity of (de)colonial-type practices and ideologies that have been performed in different places and times, with specific effects. This matters, as it undermines our capacity to understand specifically how current logics and practices differ from their antecedents, or how such logics and practices might have emerged through very different genealogies. That, in turn, potentially inhibits our capacity to diagnose accurately the nature of the problems that we face in the present, and to identify appropriate and just ways of escaping those morasses. After all, the decolonization of development depends on a thorough historical understanding of *colonization*.

The global development shift must retain a keen critical awareness of how various spatially and temporally distributed (neo)colonialisms have provided the specific conditions of possibility for contemporary developmental and environmental processes, as well as the ideas and practices underpinning their governance. As part of this agenda, we invite scholars of global development to expand their repertoires of vocabularies and citations in ways that take seriously previously excluded and marginalized voices while expanding and unsettling our received understanding of development and its aspirations (U. Kothari, 2005).

Reversals

Fourth, scholars have on occasion failed to account adequately for forces or situations that slacken, inhibit, or reverse the transformations seen as demanding the shift from international to global development. Statements about macro-scale trends towards global political and economic interconnectedness, for example, seem optimistic or presumptuous when considered in the light of crises like the COVID-19 pandemic, the Russian invasion of Ukraine, and the Israeli military assaults on Gaza and Lebanon. The pandemic reinforced and deepened many patterns of socio-economic inequality and revealed how emerging health risks belie an older vision of international health spliced by categories like Global North–South, or rich and poor (Sims et al, 2022). The crisis also triggered an unprecedented international scientific and logistical cooperative effort to develop and distribute vaccines.

Yet we should also recall the countervailing forces that during the pandemic served to reinforce old nationalistic attachments to self-sufficiency, isolation, restrictions on migration, and prejudices of many kinds. For Behuria (2021),

the international ‘vaccine apartheid’ that arose through the response to COVID-19 meant that the basic thesis of global convergence simply did and does not concur with reality. Indeed, when one views the pandemic’s effects on international connectivity from a context like South Africa – where scientists’ well-meaning efforts to contribute to a global knowledge base on the emergence of new and infectious coronavirus variants were rewarded by foreign officials placing draconian restrictions on the South African population’s ability to travel to other countries, while public discourse on what quickly became known as the ‘South African variant’ evoked negative perceptions of the country and its people (Abdool Karim et al, 2021) – the trend appears more as one of *disconnection*.

The pandemic may in principle have provided an intellectual argument in favour of the need for a ‘paradigm shift’ towards global development (Oldekop et al, 2020). But we should recall that it also surfaced significant barriers and reversals to the material, political, and economic transformations that are seen to drive and necessitate that shift. Accordingly, our discussions and understandings of contemporary development must take account of the multivalent forces energizing processes of global connection and disconnection, convergence and divergence, cooperation and non-cooperation. Put differently, a properly global perspective on development should also encompass that which is neither *global* nor *globalizing*.

Temporality

Fifth, this critique of the assumed trend towards global interconnection is related to a concern with how notions of temporality, history, and the future are mobilized within writings on global development. Even when recognizing forces of deceleration and reversal – or convergence and divergence – in our conceptual models of demographic, epidemiological, or other ‘transitions’, these are seen to act on and against a unilinear axis of historical change that is characteristic of the ‘narrative and ethos’ of Western modernity and historicism (Garuba, 2012). Seeing time as an objective, homogeneous stage set, against which events unfold in a regular rhythm (but which is never affected by those events), overlooks the fact that, from a planetary perspective, the passage of time is relative – leaving Einstein aside for now, we can note that the passage of Coordinated Universal Time must periodically be adjusted to account for variations in the rotation rate of the Earth, variations in part driven by climate change (Agnew, 2024). We are, then, in a literal sense, changing time. Moreover, it refuses to see perspectives of time as always mediated by cultural systems of representation and broader socio-political relations.

Postcolonial historians like Dipesh Chakrabarty (2000), in seeking to ‘provincialize’ the historical narratives produced by privileged parts of the

world – displacing them as the ‘sovereign theoretical subject of all histories’ – have long critiqued the resort to universalism and teleology in our conceptual models of world change. As we will argue, global development discourse may open up in new and interesting ways by following the postcolonial invitation to stay alert to the multivalences of change and temporality that move the world, recognizing emerging forms of ‘chronopolitics’ (Wallis, 1970) and the ‘complex embeddedness of different temporalities’ in any event or process (Garuba, 2012). Such a perspective would benefit from an engagement with work on ‘spectrality’ and ‘hauntology’. This work signals how the past, and memory, are inescapably revenant and reveals the inadequacy of a view of history and temporality as a linear chronology of ‘presents’ (Wylie, 2007).

If these points emphasize that history and notions of temporality are always political, and influence our actions in something called ‘the present’, we should likewise be attuned to the ways in which an obsession with anticipated futures – and investing in sites that might help us to prepare for difficult futures or realize optimal futures – bears upon our thought and actions in development (V. Adams et al, 2009). Conjuring the possibility of new and better futures has always been central to the project and ideology of development, but arguably acts of ‘futuring’ are starting to take on intensified importance, in part enabled by new methods and modes of prediction and projection. And, if all ‘regimes of anticipation’ always involve a ‘tacking back and forth between the past, present, and future’ – in which historical data are used to produce ‘probabilistic anticipations of the future’ that, in turn, inform action in the present – then how does this actually happen in contemporary development (V. Adams et al, 2009: 255)? In Chapter 5, we consider how the issues and debates surrounding demographic change raise a series of questions about temporality and change that are not easily captured by the traditional linear temporalities of development discourse. In Chapter 6, we discuss health as one area in which an emerging politics of anticipated possible futures is being brought to bear on the evolving practices of development.

Planetarity

Finally, we argue that, to date, the discourse on global development as a new concept, approach, or ‘paradigm’ has failed to offer or develop an adequate theorization of ‘the planetary’. One effect of this failure is the relative neglect or side-lining of environmental factors and processes within global development. The environment, where it does feature, may be reduced to simple indicators of consumption and carbon emissions (Horner and Hulme, 2019a). Yet statements about global environmental convergence framed only in terms of emissions are inadequate to capture the dynamic transformations attending developmental and environmental interactions.

A perspective highlighting differentiated global geographic patterns of biodiversity decline, for instance, tells a story that is fundamentally about *divergence* (Büscher, 2019). Reducing a consideration of the environment and environmental change to the outcome of development, or to an indirect determinant of development through the climatic effects of consumption and emission, fails to acknowledge the fundamental significance of space, place, and environmental realities in shaping global development challenges and responses.

One further effect of the lack of engagement with notions of ‘planetary’ is a tendency to narrow down the politics of global development and environment. Gayatri Chakravorty Spivak (2003: 73) argues that an ecumenical politics animated by ‘planet-thought’ should encompass a broad range of knowledges, worldviews, and norms, ranging from ‘aboriginal animism’ to the ‘spectral white mythology of postcolonial science’ (cited in Sidaway et al, 2014: 10). If we understand politics, as Rancière (2004) would have us do, as the partition or distribution of ‘the sensible’, then a true ‘paradigm shift’ in development should be alive to the dynamics and inequalities of who can speak, and who can be heard or seen. Moreover, we should take heed of Mark Jackson’s (2014) critique of postcolonial scholars’ calls for planetary as reproducing a fundamentally Western ontological separation of human–nature and subject–object. For Jackson, we might think about and through planetary in a language of process, dynamism, plasticity, force, change, and movement – key tenets of relationalist, posthumanist, and postconstructivist thought. How could a politics of global development come into view if approached from these perspectives?

Our suggestion is not that there is, nor should there necessarily be, a single refined theoretical conceptualization of the planetary within discussions of global development – one that is the ‘special preserve of a cadre of intellectuals ... with access to the properly theoretical apprehension of spatial concepts’ (Barnett and Bridge, 2016: 16). In making these critical points, what we have in mind is the need for scholars of the global development shift to recognize the diversity of emerging theoretical perspectives on the planetary, and the need to foster ongoing efforts to mobilize the theoretical value of a planetary perspective while remaining vigilant to its potential drawbacks and oversights. Consequently, in the following section we outline several key sites and movements of a theoretical elaboration of the planetary.

Theorizing the global and planetary

The debate on the global development shift has so far proceeded without full consideration of precisely what is meant by the ‘global’. Indeed, in many cases – even within critical development studies – the modifier ‘global’ is simply added to reflect a zeitgeist, almost as an empty signifier.

For geographers, this is problematic because scale is a core disciplinary concept and is not understood simply as a set of predetermined categories or spatial relationships. Indeed, the established debate on the politics of scale understands concepts like ‘local’, ‘national’, and ‘global’ as processual, constructed, and contested (see [Smith, 1992](#); [Swyngedouw, 1997](#)). Within the field of global development, there is a plurality of ways in which the global or planetary might be invoked – some that reinforce existing uneven power relations, some that disrupt them. Our aim is not to argue for one coherent interpretation, although there certainly are ways of invoking the ‘global’ to which we are opposed, but rather to demonstrate that we need to be careful about the claims to universality or ‘wholes’ that such terms imply.

Concepts of ‘the global’ and ‘the planetary’ have emerged across multiple disciplines and perspectives. Indeed, some argue that we are now witnessing a ‘planetary turn’ in social theory ([Elias and Moraru, 2015](#)). There is huge variation in how the planetary has been conceptualized in different fields and theoretical traditions. Nevertheless, they all share the common sense that traditional theoretical configurations, which tend to focus methodologically and conceptually on the nation (and the inter-/intra-/sub-nation), are insufficient to grasp the pace and scale of contemporary change, and that critical theory has outgrown its national gaze and needs to expand simultaneously to understand such change. The inconceivable volume of contemporary changes, alongside the imminence of environmental crisis, calls for what [Nigel Clark and Bronislaw Szerszynski \(2021\)](#) term ‘planetary social thought’. We argue that the multiple and diverse concepts of the planetary could be productively understood as an assemblage. We use ‘assemblage’ in the sense that [Gilles Deleuze and Félix Guattari \(1987\)](#) originally intended – as a collection of connected ideas and politics that, although inconsistent, diverse, and sometimes contradictory, push in broadly the same direction. In the paragraphs that follow, we outline some of the major ideas and thinkers in this *assemblage of the planetary*.

Marxist perspectives

Marxist theory and politics have always had a strong international – or arguably global – perspective and agenda. One thinks, for example, of the call to arms, ‘Workers of the world unite’, which became the slogan of the communist movement in the mid-19th century ([Marx and Engels, 1992](#)). It is also easy to forget, in the era of neoliberal market governance and the suppression of trade unions, that the international labour movement was once a powerful force, with close international links of financial and political solidarity – for example, between mining unions in north-east England and Black miners and anti-apartheid campaigners in South Africa. In volume 3 of *Capital*, Marx developed his concept of the world market to understand

how capital continuously seeks to expand in search of new markets and opportunities for accumulation (Marx, 1959; D. Harvey, 1982). Although at the time capitalism as a mode of production and system of governance was still relatively contained within some European countries and parts of their empires and North America, Marx recognized a powerful force towards global expansion.

Neil Smith (1984) developed Marxist thinking on the planetary through the related concepts of the production of scale and uneven development. Smith argued that different scales – local, urban, regional, subnational, national, and global – are produced by the contradictory logics and processes of capitalism. That is, these scales, which we tend to take for granted, are not pre-given or immutable but are constructed and maintained by economic, political, and governance processes. The global scale, according to Smith, is produced by capital's incessant desire to expand its frontier of accumulation and is imagined as a 'profit surface'. This profit surface is characterized by a constant churn between development and underdevelopment as capital continually seeks to take advantage of different conditions of profit-production (for example, wages, labour laws, taxes, and availability of natural resources such as energy). Production will tend to switch from areas of high wages and strong labour laws to areas of low wages and weak labour laws, and consumption will simultaneously concentrate in areas of wealth and high wages. Cores may become peripheral, and peripheries may in turn become core, but spatial differentiation is continually produced and reproduced. This is a conception, then, of a global dialectic between production and consumption that creates unevenness, and where the possibility of convergence or equilibrium is constantly forestalled. While we have perhaps now moved beyond this nested concept of scale to more nuanced perspectives, Smith's work provides a powerful basis for understanding why and how unevenness and inequality persist in the world economy (J.P. Jones III et al, 2017). More recent Marxist concepts of the planetary and uneven development include Neil Brenner's work on planetary urbanization (discussed in Chapter 4). Brenner (2014) understands urbanization as a process that extends beyond the geographical limits of cities to encompass planetary scales of resource extraction, movement, and consumption. This results in a dialectical relationship between implosion (the concentration of activities in cities) and explosion (the geographical expansion of social and material networks that underpin urbanization) which characterizes the spatial restructuring of global capitalism.

There is also a well-established branch of Marxist thought that understands capitalism not just as a set of economic and social relations but as an ecological system that shapes human relations with and within nature (see Foster, 2000; Moore, 2015). In this view, global environmental challenges, such as

climate change, pollution, or biodiversity loss, are driven by the dynamics of capitalist development towards constant expansion:

Capital always tries to overcome its limitations through the development of productive forces, new technologies, and international commerce, but, precisely as a result of such continuous attempts to expand its scale, it reinforces its tendency to exploit natural forces (including human labour power) in search of cheaper raw and auxiliary materials, foods, and energies on a global scale. This process deepens its own contradictions [for example, in expanding environmental catastrophe]. ... Despite various creative innovations and rapid technological progress, capital brings about more and more disturbances in the metabolic interaction between humans and nature and inevitably impedes the free and sustainable development of human individuality. (Saito, 2017: 96–7)

Building on these ideas, Jason Moore (2015) develops the notion of capitalism as a ‘world ecology’. Moore argues that the historical development of capitalism should be understood as a process of co-production between human agency and natural dynamics. In this sense, material nature is not a passive backdrop or source of resources on which capitalism (dys)functions, but an active force. Thus, what traditional Marxists call the social relations of capitalism are more accurately understood as socio-ecological relations. Moreover, the contradictions of capitalism that produce crises are deeply connected to emerging global ecological crises.

Development

The field of development studies, too, has produced its own theories of the global and planetary. Writing in the 1970s, Immanuel Wallerstein (2011 [1974]) developed what he termed ‘world systems analysis’. This was an attempt to create a new language to understand the capitalist world system that transcended disciplinary distinctions between society, culture, politics, and economics. In Wallerstein’s schema, world capitalism was a single interconnected system divided into three spheres: (1) the core, which includes the wealthy and industrialized nations; (2) the periphery, which is typically poor and underdeveloped, dependent on the core for manufactured goods and in turn supplying the core with raw materials; and (3) the semi-periphery, which occupies a position somewhere in-between. In this theory, the world system is characterized by uneven development and unequal power, in which the core exploits the periphery and semi-periphery for its own enrichment.

Such ideas were similar to the key tenets of dependency theory, which became popular among heterodox development economists in the 1950s

through the 1970s, being particularly shaped by the work of Hans [Singer](#) (1949), Raul [Prebisch](#) (1962), Samir [Amin](#) (1974), and Walter [Rodney](#) (2018), and proved influential among Latin American scholars. Dependency theory, which draws on Marxist, Keynesian, and postcolonial perspectives, sees the world as divided into core and periphery. Core and periphery are locked into a mutually reinforcing relationship of development and underdevelopment, such that the wealth of the core is dependent on the poverty of the periphery. Development and underdevelopment are two sides of the same coin. Unlike mainstream development thinking in the 20th century, such as modernization theory, world systems analysis and dependency theory conceptualized development more in terms of global interconnections, uneven power relations, and planetary interdependencies.

Geography and mid-range theory

As a field concerned with the Earth – *geo* – and people, geography has a long tradition of thinking along planetary and global lines, some of which is connected to the discipline’s darker history and its relationship to colonialism. Here we highlight mid-range theory in economic geography as one particular line of debate that offers important insights for this discussion of global development. Much of this debate has its roots in studies of globalization from the 1990s and early 2000s and global production networks ([Dicken, 2014](#)) and critical studies of neoliberalism and ‘glocalization’ ([Swyngedouw, 1997](#)). Mid-range theory has emerged as a response to the kind of polarization we have seen in, for example, the field of urban studies: an impasse between universalizing theories of the fundamental generative processes of urban change, and those emphasizing and building upon the situated and contingent realities of urban difference (see [Chapter 4](#)). On the one hand, mid-range theory is critical of grand and universal theories, and of the types of over-abstractation that lead to obscurity and vagueness, and is based on the principles that theory should be grounded in real phenomena and that multiple theories are needed to explain multiple and complex phenomena. On the other hand, it is also a rejection of epistemological relativism and radical contingency, because some phenomena clearly deserve more attention than others, and different contexts are indeed connected by common threads of causality, even if in complex ways ([Yeung, 2024](#)). In this sense, mid-range theory offers a middle path between the abstract and the concrete, in which theory is built up from particular contexts but is nevertheless able to create more general insights.

This careful ‘building up’ of theory from the particular to the general is the core principle of conjunctural analysis ([Leitner and Sheppard, 2020](#); [Peck, 2023](#)). This approach relies on detailed, extended case study analysis, from which broader claims about the world are made. ‘Conjunctural analysis has

prioritized understanding the dialectical relationship between the general and the particular, but requires spatialization before its historical inclinations can be extended to spatial (inter-urban/regional) comparison' (Leitner and Sheppard, 2020: 492).

Hart's (2018) work in the field of development geography on 'relational comparison' takes a similar perspective. Hart argues that comparison between detailed research in very different contexts can show how places are connected by common processes and events, even if the outcomes are significantly different. Theory, therefore, is emergent, but there is also an inescapable contradiction in that conjunctural analysis and relational comparison rely on the researcher prioritizing which relations and phenomena out of the complex milieu to foreground in their research and outputs. This is, however, arguably a challenge that all researchers from all theoretical backgrounds face. The way conjunctural analysis addresses this challenge is to tread a careful path between the abstract and concrete, to remain open to multiple causalities and explanations, to synthesize, and to select case studies for their strategic capacity to contribute to theoretical insight rather than their generalizability.

Postcolonial perspectives

Postcolonial scholarship has often been critical of concepts of the global or planetary, preferring to foreground difference and diversity and seeking to capture the experiences and practices of subaltern groups as a means of provincializing the hegemonic status of the Global North. This is illustrated in the debates surrounding the field of Southern urbanism, in which scholars have been vocal in their critiques of the universalizing pretensions of urban theory derived from Northern cities, instead advocating theories of the urban that are built 'from below'. These debates foreground the deeply situated and context-specific forms of urbanism in the Global South and reject grand theoretical or universalizing explanations. Nonetheless, there is a tradition in postcolonial thinking of conceptualizing the planetary. Indeed, because the forces of colonialism operate overtly on the global scale, postcolonial critiques must necessarily engage at the same level. As James Sidaway and colleagues (2014: 5) argue, 'a global perspective of one kind or another has always been central to the postcolonial project, responding as it must to the conditions that brought it into being'. So, there is a tension within postcolonial theory between resisting the universalizing forces of the 'global', challenging capitalism and colonialism on the scales at which they operate, and building solidarity against oppressive forces across planetary space. This is encapsulated in Chakrabarty's (2012) concept of the 'double figure' of the human: humans as differentiated (by socio-economic inequality, race, colonization, and so on), and humans as one (with shared

humanity, shared environmental challenges, and common but differentiated responsibility). Thus, '[a]ny effort to contemplate the human condition today – after colonialism, globalization, and global warming – on political and ethical registers encounters the necessity of thinking disjunctively about the human, through moves that in their simultaneity appear contradictory' (Chakrabarty, 2012: 2).

This contradictory figure has been explored in the emerging literature and debate on race and the Anthropocene (Yusoff, 2018; Baldwin and Erickson, 2020; Saldanha, 2020). There is now a well-established critique that the figure of humanity – *Anthropos* – becomes singular and homogenized as a geological agent, defining the current environmental epoch. Geologists and environmental scientists debate how this will be recorded in geological time – from the deposits of billions of chicken carcasses and other domesticated livestock, to evidence of the sudden loss of biodiversity and extinction of species, industrial pollution, the spread of radioactive material, and the physical remnants of infrastructure, cables spanning oceans and continents, or cities sprawling across vast areas. But we should recall that the types of environmental changes captured by the idea of the Anthropocene are being, and have always been, driven by a relatively small proportion of total humanity. Moreover, as Kathryn Yusoff (2018) argues, the Anthropocene is an inherently racialized category because it has been driven by racialized capitalism and colonialism; therefore, racial capitalism should form part of our understanding of what the Anthropocene is and will become.

Cultural perspectives

Scholars of cultural studies, mainly writing from fields in the humanities, have sought to understand the aesthetic, linguistic, and artistic dimensions of the global and planetary. Earlier work in this area was largely concerned with the effects of globalization on culture. In his work on the phenomenology of modernity, Anthony Giddens (1991) argued that globalization was changing the relationship between local and distant places, and therefore the experience of local and distant events. 'Globalization', Giddens (1991: 21) argues, 'concerns the intersection of presence and absence, the interlacing of social events and social relationships "at distance" with local contextualities.' Building on these ideas, as well as Ulrich Beck's (1999) work on 'world risk society', Ursula Heise (2008) analysed the literary and philosophical foundations of North American environmentalism from the 1960s. She argued that environmentalism emerged from, on the one hand, different forms of localism and 'sense of place' and, on the other hand, imaginations of shared responsibility and connection that are called a 'sense of planet' (which we explore in more detail in Chapter 3). This planetary aesthetic – or shared imaginary of a global environment – Heise (2008: 210) claims,

emerges as an attempt to convey a ‘dual vision of the Earth as a whole and of the different earths that are shaped by varying cultural contexts’.

Debates in the field of cultural economy see globalization, understood as inseparably cultural and economic, as a hegemonic force imposing Western, and particularly anglophone, cultural norms and forms on the rest of the world (Jameson and Miyoshi, 1998; Anheier and Isar, 2008). These include the global reach of Western artistic forms (music, film, television, and so on), language, fashion, and consumer brands (see, for example, Klein, 2000), but also the dominance of Western ideas, ideologies, and economic principles such as free market radicalism. For these scholars, it is essential to resist the totalizing vision of globalization and assert the presence and vitality of the local.

This is perhaps why Amy Elias and Christian Moraru (2015) are so clear in their distinction between the global and the planetary. The global, they argue, refers to economic and technological homogenization, while the planetary, by contrast, relates to a shared aesthetic (or geo-aesthetic) and ethics, or ‘world commons’. For these authors, the planetary is a cultural base, a new way of seeing the world and its interconnectivities, rooted in an ethics of care and shared stewardship. This is not a deterministic, totalizing, or homogenizing vision, they contend, but rather:

The planetary remains shifty, cannot help turning, literally and linguistically, and so it is neither an ontological nor a hermeneutic given, let alone a completed project. ... To us, the planet is not only a new cultural landscape throughout which people and their sustaining projections wander, connect, and reproduce, but also a ‘wondering’ domain of twists and turns, perplexities, inquiries, and flashes of insight. (Elias and Moraru, 2015: xxvi)

Conclusion: Towards a ‘planetary turn’ in development

We see the concept of global development as one moment or instance in the ongoing, open-ended, and wide-ranging process of abstraction that is the ‘planetary turn’ occurring across disciplines and debates. Another way of thinking about this movement is as an interdisciplinary ‘sea change’. Jon Anderson (2025) prefers this fluid metaphor to the monolithic idea of a disciplinary ‘turn’, arguing that a ‘sea change’ better captures a ‘widespread influence of a new fluid, relational ontology’ within or across disciplines, made up of multiple ‘currents’ that together capture a ‘change of emphasis in conceptual and methodological activity that this sea change has set in motion’. Whether we use the term ‘turn’, ‘sea change’, or ‘shift’ to describe the global development debate, we must necessarily reckon with critiques of the universalizing tendencies – and the elisions of ‘unevenness

and difference' – that are at stake when mobilizing the planetary scale (Loftus, 2018). Our approach is to consider global or planetary notions of development as always emergent, stitched together, or built up through the responses that are posed by diverse actors to problematic situations that trigger new directions and options for thought and action (Barnett and Bridge, 2016). A situational and problematic view of global development and environment, seen from a planetary perspective, avoids the pitfalls of seeing such concepts as being handed down by scholars or powerful institutions and recognizes rather that there may be diverse kinds of knowledges, practices, and vocabularies – emanating from very different kinds of disciplinary, sectoral, or professional backgrounds – that are of value in thinking about development in new and relevant ways. If the global is envisaged as an extensive space associated with a linear and objective time, then the planetary should be thought of as a space of alterity entraining a critique of the limits of modernist assumptions about space and temporality.

Making Planetary Environments

If this vision of unity – which is not a vision only but a hard and inescapable scientific fact – can become part of the common insight of all the inhabitants of Planet Earth, then we may find that, beyond all our inevitable pluralisms, we can achieve just enough unity of purpose to build a human world.

Ward and Dubos, *Only One Earth: The Care and Maintenance of a Small Planet*, 1972

Introduction

The planetary environment is both material and discursive. It is *material* in the sense that ecological and geophysical systems are connected by processes and relations that span the entire subsurface, surface, and atmospheres of Earth. Moreover, the accelerating transformation of environments and ecologies, driven by human actions, has expanded to encompass and shape the global physical environment. There is no ecosystem, region, or place that has not, in some way, been changed by human activity. This necessitates that we think about human–environment interconnections and flows at a global scale. It further compels us to think about the planetary environment in historical materialist terms: to understand human-driven transformations of the environment as historical processes of change, as contingent and specific to different forms of society and their relationships with the physical world (Malm, 2018).

The planetary environment is *discursive* in the sense that the idea of a global environment has been written and spoken into being, and only recently so – particularly with the founding of international environmental and conservation organizations following the Second World War (Heise, 2008). The planetary is not a pre-given scale of environmental thought. While the real-world environment has always been global – there have always been complex feedback loops between biological and geophysical systems; atmospheric gases have always enjoyed worldly circulations; water

has always moved through Earth's surface, subsurface, and atmosphere; and living organisms have always shifted and migrated – but it is only recently that humans have thought about the environment in these terms. Before the mid-20th century, people often conceptualized the environment in the register of their local surroundings. In the words of Sarah Praskievicz (2021: 1), the environment 'is a term with no inherent spatial scale'. The environment as a global or planetary construct has been actively produced, both through the scientific study of Earth systems and through concerted public debate and action. Moreover, it is constantly being reproduced, reinforced, co-opted, morphed, and reimagined through the contest between various social, political, and economic interests. In the process, this global configuration has become a powerful concept unevenly shaping our institutions, practices, and politics. Indeed, in writing of global climate change, the cultural geographer Mike Hulme argues that ideas about the planetary environment are powerful and emotive, shaping not only our everyday thoughts but also our political processes, cultural contours, and actions: 'The idea ... that humans are altering the physical climate of the planet through their collective actions, an idea captured in the simple linguistic compound "climate change", is an idea as ubiquitous and powerful in today's social discourses as are the ideas of democracy, terrorism, or nationalism' (Hulme, 2009: 322).

Similarly, in the era of the 2030 Agenda for Sustainable Development we may take for granted that environmental and development challenges are interconnected and interdependent, but this recognition has not always been ubiquitous. Indeed, the confluence of these two realms has an important political and social history. In this chapter, we provide an account of how environment and development have emerged as *planetary* problems. We argue that ecology and the environment provide a rich intellectual terrain of debates, concepts, and methodologies for thinking about planetary processes and their relationships to smaller-scale or situated phenomena. Concepts from ecology and the environmental sciences – including cycles of change, feedbacks, tipping points, resilience, networks, and ecosystems – can and should inform the shift to global notions of development.

Planetary environmental worldviews

Gaia and planetary interconnections

James Lovelock and colleagues articulated the Gaia hypothesis in the 1970s to explore the ways in which biological life regulates conditions on the Earth's surface (Lovelock, 1972; Lovelock and Margulis, 1974; Lovelock, 1979). They noted how, throughout the 3.7 billion years that living organisms have existed on Earth, physical conditions have niched a narrow window allowing for such life despite massive fluctuations in radiation levels and the chemical environment (Lovelock and Margulis, 1974). Their explanation

was that life itself created the most favourable conditions for its own survival and reproduction. This was made possible through various feedback loops, including those constituting the greenhouse effect, that combine to create a condition of planetary homeostasis, or self-regulation. Here the Earth was understood to comprise closely coupled systems, where biotas shape, and are shaped by, geophysical and geochemical processes. Lovelock (1972, 1979) invoked the figure of Gaia, the ancestral mother of all life in Greek mythology, to symbolize a single, self-regulating, planetary organism.

Andrew Watson and Lovelock (1983) later developed a computer model, Daisyworld, to demonstrate theoretically that life could indeed stabilize geophysical conditions at a planetary scale. Daisyworld is a fictional planet with a simple biosphere, hosting only two species – black and white daisies. The two types of daisy compete with each other for space, and in doing so, alter the albedo (or reflectivity) of the planet's surface. Black daisies flourish at lower temperatures because they absorb more radiation than their white counterparts, but, when dominant, they lower the albedo of the planet's surface and increase global temperatures. Rising temperatures favour the spread of white daisies as they absorb less solar energy, yet as they compete for space more successfully, the albedo effect is increased, lowering the global temperature. Watson and Lovelock then added the variables of evapotranspiration and cloud cover, which also affect the reflection of light, changing the dose of radiation reaching the planet's surface. Despite fluctuations in the radiation levels experienced by Daisyworld over time, the interaction of its biological and geophysical systems had the effect of regulating planetary temperature and of keeping conditions optimal for the continuation of life. Although Daisyworld expressed a highly simplified model, intended merely as a secular parable, Watson and Lovelock (1983: 289) speculated that similar mechanisms existed on Earth and 'may have played a part in regulating the temperature and other environmental variables over the long history of the Earth'.

In 2006, Lovelock updated his theory in *The Revenge of Gaia*, which engaged with progressions in climate change science and debate since the initial proposal of the Gaia hypothesis. Here he argued that humans are drastically altering the climatic feedbacks that regulate Earth's temperature and biogeophysical systems, potentially irreversibly shifting global climatic systems to a new and different state. While the book attracted controversy, not least for Lovelock's support of nuclear energy as the only feasible remedy to avoid such a threat, it nonetheless evinced a growing scientific and public recognition of, and concern over, the realities of human-induced climate change.

Over the decades, the Gaia hypothesis has proved divisive and has attracted critiques on various grounds (see Kirchner, 2002). David Moody (2012) argued that this criticism emerged because, although the general principle is intuitively compelling, its proponents have been unsuccessful in defining the specific mechanisms by which life regulates planetary conditions. In

other words, Lovelock gave us ‘a profound and revolutionary fact with no satisfactory corresponding mechanism’ (2012: 278). Consequently, Gaia is often invoked as a metaphor or symbolic figure to communicate the dangers of human interference with complex feedback systems on a planetary scale that we do not always fully understand.

Perhaps because of this intuitive appeal, Lovelock’s ideas have proved remarkably resilient in the face of their critics. The philosopher Bruno Latour (2018), in a series of eight lectures entitled *Facing Gaia*, reinvigorated Gaia as a still-relevant critique of modernity’s ontological separation of culture from nature, and its ideology of continuous progress. Latour used the concept to foreground the liveliness and untameability of the material world, arguing that the modernist urge to taxonomize and control worldly processes is doomed to fail. Here Gaia stands for the messy totality of ungovernable non-human actors. Gaia is, ultimately, a disruptive rather than stabilizing force.

Latour, however, exemplifies some of the conceptual difficulties of mobilizing the theoretical figure of Gaia, and planetary concepts of nature more broadly. Latour spent much of his career critically interrogating how scientific knowledge is constructed, communicated, and used in society (without abnegating the scientific project altogether), and eschewing structuralist and deterministic forms of theory, including – and perhaps especially – those foregrounding the forces of capitalism as the principal drivers of global change. As a result, this late-career leap from anthropological and empirical inquiry to a theoretical rumination on planetary unruliness, symbolized through the anthropomorphic figure of Gaia, feels incongruous. We would argue that insights articulated at a planetary scale, if they are to be mobilized in a thoughtful and egalitarian manner, should be built from the ground up; we warn against using the planetary as an abstract theoretical starting point (Loftus, 2018). Despite this appraisal, Latour’s revival of the conceptual figure of Gaia nonetheless demonstrates how influential it has been in shaping environmental discourses in both public and (social) scientific domains – including the fields of climate science and Earth system science, to which we now turn.

Planetary boundaries and Earth system science

Earth system science, which contributes to and draws from the ideas articulated by Lovelock and colleagues, is a relatively new field of interdisciplinary study that applies systems thinking to the planet as a whole – that is, it sees the world as a system of systems comprising interconnected cycles or spheres. A core emphasis of Earth system science is understanding how interactions between different cycles can cause non-linear and cascading system changes amplified by feedback loops and knock-on effects. Feedbacks within the climate system include the albedo effect, in which loss of ice coverage at the Earth’s poles reduces the reflectiveness of the planet’s surface, leading

to the absorption of more energy and further warming. Another example is the rainforest deforestation loop, in which forest destruction reduces evapotranspiration, leading to reduced precipitation, further ecological loss, and hence even drier conditions.

Earth system science is thus concerned with how the interaction between feedbacks and cascading effects can lead to major and irreversible *changes of state* in an entire system. This notion underpinned the warning, made by a group of scientists linked to the Stockholm Resilience Centre (Rockström et al, 2009), that unchecked human activities could trigger abrupt and irremediable global environmental change. The group argued that the normative objective of sustainability should be to keep human actions and impacts within certain limits that would avoid pushing Earth systems beyond various thresholds of rapid change, or *planetary boundaries*. As Will Steffen and colleagues (2015b: 737) explain, the planetary boundaries approach ‘aims to define a safe operating space for human societies to develop and thrive’. Trajectories of change transcending this safe operating space ‘could lead, with an uncomfortably high probability, to a very different state of the Earth system, one that is likely to be much less hospitable to the development of human societies’. Nine planetary boundaries, across different although interacting environmental cycles, were identified. For each, the limits demarcating a safe operating space for humanity were defined, albeit with a significant degree of uncertainty. These are summarized in Table 3.1.

To alleviate the cascading and non-linear dynamics of global environmental change, some branches of Earth system science draw on Lance Gunderson and Crawford Holling’s (2003) integrative theory of the Panarchy – again drawing from Greek mythology. The term ‘Panarchy’ traces its etymology from the god Pan, and the concept is intended to ‘capture an image of unpredictable change’, applying it to the complex dynamics of permanence and change manifesting between different scales of the Earth system and human society (Holling et al, 2003: 5). In the Panarchy, small-scale and fast cycles of change interact with larger-scale and slower cycles. The latter set the conditions for smaller-scale cycles, but although they may give the impression of permanence, they can collapse or undergo sudden changes in state as the effects of smaller cyclical processes accumulate and cascade.

The planetary boundaries framework is global in scale; consequently, it potentially struggles to apprehend and incorporate processes unfolding at other scales. Yet, many scholars working in this area do recognize the profound importance of regional processes and effects, as well as the complex and non-linear interactions between global and regional systems. That recognition partly accounts for the fact that the definitions of planetary boundaries are heavily caveated and open to revision and reinterpretation. One of the practical limitations of this indeterminacy is that, while proponents of the planetary boundaries framework argue that it should be adopted as

Table 3.1: Nine planetary boundaries identified by the Stockholm Resilience Centre

Planetary boundary	Explanation	Quantification	Boundary exceeded?
Climate change	Crossing certain thresholds will trigger possibly irreversible changes in climate system states, accelerated by positive feedback cycles.	Suggested boundaries of (1) 350 ppm (parts per million) atmospheric concentration of CO ₂ ; and (2) 1 Wm ⁻² (Watts per square metre) radiative forcing (or change in the amount of energy entering or leaving Earth) compared with pre-industrial levels.	Yes
Biosphere integrity	Biodiversity is important for sustaining ecosystem function. Projections for global biodiversity loss constitute the sixth major extinction event in Earth history.	No clear indicator, but it is suggested that a 'safe' extinction rate would be within an order of magnitude of the background rate.	Yes
Land-system change	Land-use change, mainly from the conversion of forest and other ecosystems to agriculture, drives biodiversity loss and undermines the functioning of Earth systems.	Suggested boundary of loss of 25 per cent of original forest cover (global average of various biomes).	No
Freshwater use	Humans are the major driver of change in the hydrological cycle, on which all terrestrial ecosystems rely. Authors distinguish between blue water (the human consumption of freshwater) and green water (changes to terrestrial precipitation, evaporation, and soil moisture – that is, freshwater available to ecosystems).	Suggested boundaries of (1) exceeding 4,000 km ³ yr ⁻¹ of blue water consumption; and (2) for green water – the percentage of ice-free land area on which the soil moisture deviates from Holocene variability in any month of the year.	Yes
Biogeochemical flows	Altered phosphorus (P) and nitrogen (N) cycles resulting in eutrophication can push freshwater and marine ecosystems across thresholds. Crossing crucial P thresholds could result in global-scale anoxic events in the oceans, triggering mass extinctions.	Suggested boundaries of (1) human fixation of N ₂ from the atmosphere of 62 Tgyr ⁻¹ (Teragram per year); and (2) Anthropogenic P inflow to oceans of 11 Tgyr ⁻¹ .	Yes

Table 3.1: Nine planetary boundaries identified by the Stockholm Resilience Centre (continued)

Planetary boundary	Explanation	Quantification	Boundary exceeded?
Ocean acidification	Increased absorption of CO ₂ by oceans increases acidity, particularly at the surface. Many marine organisms (particularly corals and molluscs) are extremely sensitive to changes in ocean pH. The impacts of passing certain boundaries are highly uncertain.	Measured by a calcium carbonate saturation state, below which the secretions from corals and shells are soluble. Proposed boundary of average aragonite saturation state below 80 per cent of pre-industrial level.	No
Atmospheric aerosol loading	Increased aerosol emissions change the reflectivity of the atmosphere, altering the dose of solar radiation reaching the Earth's surface, and can influence cloud formation, thereby influencing the hydrological cycle and regional processes such as monsoon cycles.	No specific measure suggested.	Uncertain
Stratospheric ozone depletion	Although global regulation on ozone-depleting substances has reversed the Antarctic ozone hole, there is a possibility that climate change may drive future depletion, particularly at the Arctic.	Five per cent decrease in column ozone levels at any latitude.	No
Novel entities	Novel in a geological sense, referring to pollution of the environment with dangerous chemicals.	Dependent on the type of chemical pollution. The weight of evidence suggests that planetary boundaries are being crossed across a range of variables. Pollution is increasing faster than the capacities for assessment and monitoring.	Yes

Note: Originally proposed in 2009, the boundaries and metrics have been updated and revised several times. The suggested quantification of boundaries is, the authors say, tentative and open to revision.

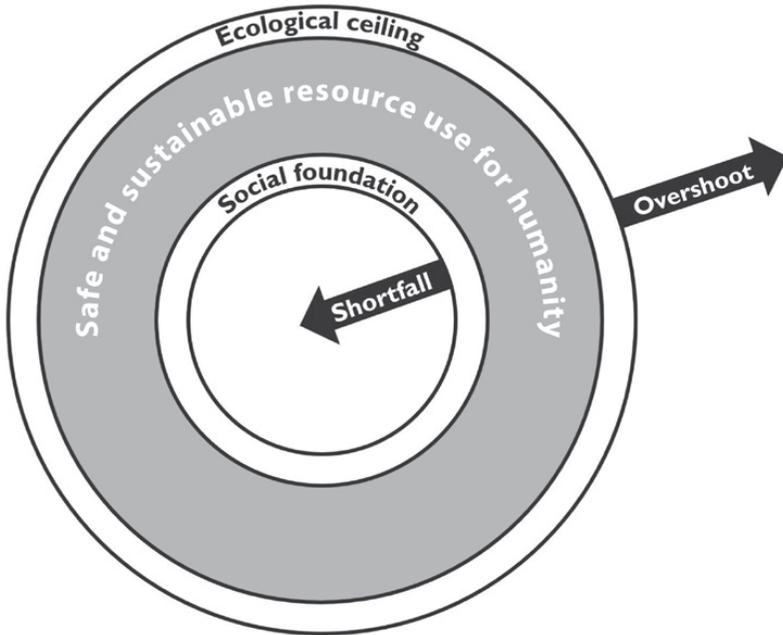
Sources: [Rockström et al \(2009\)](#), [Steffen et al \(2015b\)](#), [Persson et al \(2022\)](#), and [Wang-Erlandsson et al \(2022\)](#)

a global decision-making tool, it is difficult to translate its indicators and thresholds into policy and practical actions at smaller geographic scales, for example through national commitments or targets. The challenges the framework presents to pragmatic questions of governance raise a series of questions. How can planetary targets be translated into manageable policies for countries, regions, and cities, especially in the context of polycentric structures and modes of governance? How can we best foster cooperation around these targets? And should the planetary boundaries framework be mobilized through the creation of new institutions of governance, or through the adaptation of existing institutions (Galaz et al, 2012)?

The economist Kate Raworth (2017) has used the idea of planetary boundaries to argue for a new economic model termed ‘doughnut economics’. Here the premise is that the global economic system has produced, on the one hand, chronic and severe poverty with hundreds of millions of people unable to meet their basic material needs (such as access to safe water, adequate housing, and a healthy diet), while, on the other hand, overconsumption and constant growth in production are setting us on course to exceed critical thresholds across many Earth systems. Whereas the 19th and 20th centuries were characterized by near-ubiquitous enthusiasm for an economic model based on promoting growth in gross domestic product (GDP), Raworth argues that an economic model fit for the 21st century must prioritize meeting the basic needs of all people while remaining safely within our planetary boundaries. Guaranteeing a minimum foundation of welfare for all, without exceeding critical ecological and geophysical ceilings, would secure a ‘safe and just space for humanity’ (Raworth, 2017: 16). This ecologically safe and socially just operating space can be depicted in the shape of a doughnut (see Figure 3.1). While the doughnut economic model has been widely debated (Wahlund and Hansen, 2022), it has been incorporated into policy and practice in various contexts, particularly in urban governance circles.¹ Yet it remains a controversial topic, principally due to the argument that we should discard the prioritization of economic growth as the primary marker and objective of societal progress. Instead, we are enjoined to respect that such growth must, to some extent, be kept within defined limits.

Planetary limits to growth

There is a longer tradition of thought urging recognition of natural or ecological limits to economic growth. Part of this notion’s appeal is its political adaptability, with variations of the limits-to-growth idea being adopted across the political spectrum at various points in history. Some positions have aligned with left-wing socialist politics,² some with more centrist progressive thinkers (see the subsequent discussion of Barbara Ward),

Figure 3.1: Illustration of the concept of doughnut economics

Source: Based on Raworth (2017)

and others with more conservative or right-wing ideologies. Many trace the notion that there exist limits to growth to Thomas Malthus and his 1798 publication of *An Essay on the Principle of Population*. Malthus's ideas have since been ceaselessly debated, enjoying cycles of sympathetic interest and critical derision. His basic argument was that human populations tend to grow geometrically – or exponentially – when resources are abundant, while food production is limited to arithmetic – or linear – increases. Consequently, unless birth rates were lowered through moral restraint and delayed marriage, human population increase would inevitably outstrip the capacity of agricultural industries and natural resource stocks to support human wellbeing, thereby producing the ‘misery and vice’ that arise from intensified competition for scarce resources in the absence of ‘checks’, such as famine, war, or epidemics (Malthus, 1998: 5).

Malthusian ideas proved highly influential among 19th-century classical political economists, although they received vehement criticism from thinkers including Marx, who accused Malthus of plagiarizing earlier commentators on population, of overlooking the potential for advancements in agricultural production, and of ignoring the historically specific organizational structures (that is, those characteristic of capitalism) that distributed resources and wealth unequally within societies (Marx, 1976). Meanwhile, Henry

George argued that Malthusian doctrine had gained popularity precisely because it provided a natural, rather than a social, explanation for the existence of poverty in industrialized societies. Thus, ‘instead of menacing any vested right or antagonizing powerful interest’, Malthusianism proved ‘eminently soothing and reassuring to the classes who, wielding the power of wealth, largely dominate thought’ (George, 1884: 74). The Malthusian star rose because it appeared to naturalize the imbalanced class structure of society: poverty and inequality existed because poor people bred to excess.

Despite the centuries-old series of critiques directed at Malthus’s core argument, his ideas still circulate in scholarly and public circles, influencing popular and political imaginaries of pressing contemporary problems (see Mayhew, 2016; Neurath, 2016). As we discuss in Chapter 5, they arguably remain the discursive backdrop against which multiple debates about problems of economic development and sustainability are performed. Catastrophic perspectives on the relationship between population growth and the environment have waxed and waned, at times providing intellectual resources for racist and xenophobic politics (deployed to justify anti-immigration policies³), state-led projects of population control, eugenicist agendas of social engineering, and recently the ‘populist ecologies’ of political movements like Matteo Salvini’s Lega Nord (Northern League) in Italy (Atkins and Menga, 2022). Fears of population increase can be located in the arguably naive conservationism of organizations like Population Matters – one that counts David Attenborough and Jane Goodall as patrons – which emphasizes a reductionist relationship between population size and environmental impact, underplaying the fact that most harmful environmental change is driven by the overconsumption of the wealthiest groups and societies, not by those enjoying the highest birth rates (Dorling, 2022).

We pick up on this debate in Chapter 5, arguing that a globalized demographic perspective on development and environment must, at minimum, include the full complexity of shifts in population size, structural composition, and their geographic distributions. Demographic change should be included within developmental and environmental discourse, but only once the ghosts of a narrow Malthusianism have been exorcized.

The assertion of resource and environmental limits to growth – now defined at a world scale – gained traction in the second half of the 20th century through the works of a generation of ‘new Malthusians’ (Ehrlich, 1971; Mayhew, 2014) and through conceptual figures such as Spaceship Earth, popularized by the economist Barbara Ward (1966) and the architect and futurist Buckminster Fuller (1969). Ward was influential in combining a concern for environmental precaution with the need to promote human development and end poverty. One of the foundational thinkers of sustainable development, she played a key role in the 1972 United Nations (UN) Conference on the Human Environment in Stockholm, which is discussed

later in this chapter (Satterthwaite, 2006). Ward's imperative that we balance meeting the 'inner limits' of basic human needs and rights with an acknowledgement of the 'outer limits' of what the Earth can sustain linked the necessity for economic development with a sustainability agenda that would prevent irreversible and catastrophic environmental damage. While Ward's framework of inner and outer limits bears obvious similarities to the doughnut economics model described earlier, Raworth (2017) paid only lip service to these parallels.

Like Ward, the economist Kenneth Boulding used the analogy of a spaceship to bring home a point about developmental limits. Boulding argued that economic systems and ideologies were shaped by deeply ingrained notions of frontiers and of spaces 'beyond' that would accommodate human expansion and growth indefinitely into the future.⁴ Economies had developed on an assumption that the Earth is an open system of limitless resources, whereas in reality – with the exception of receiving solar energy – the planet exists as a closed system with finite resources. Boulding (1966: 10) coined the term 'cowboy economy': 'the cowboy being symbolic of the illimitable plains and also associated with reckless, exploitative, romantic, and violent behaviour, which is characteristic of open societies'. Humanity, according to Boulding, should shift to a 'spaceman economy', in which the Earth has become 'a single spaceship, without unlimited reservoirs of anything, either for extraction or for pollution, and in which, therefore, [humans] must find [their] place in a cyclical ecological system which is capable of continuous reproduction of material form'.

One of the best-known endorsements of the idea that economic growth faces environmental limits emerged from the 'Limits to growth' report (Meadows et al, 1972) commissioned by the Club of Rome, a think tank concerned with addressing the 'long-term future of humanity and the planet' (Club of Rome, 2023). The authors – leading a team of researchers based at the Massachusetts Institute of Technology – used the outputs of a computerized simulation model to argue that trajectories of exponential growth in industrial production, pollution, food production, resource depletion, and population would, within a century, lead us to exceed the capacity of Earth's resources to sustain human society, likely generating 'sudden and uncontrollable decline in both population and industrial capacity' (23). Much of the report is devoted to demonstrating the dangers of the positive feedback loops underpinning exponential or compound growth (see Box 3.1) of various physical quantities.

For proponents of the Spaceship Earth worldview and the limits to growth hypothesis, the physical laws of thermodynamics would prevent unchecked economic growth at some future point, even taking into account possible technological innovations enabling more efficient use of resources. The global economy would inevitably run up hard against the material limits of nature.

Boulding once quipped that ‘anyone who believes exponential growth can go on forever in a finite world is either a madman or an economist’ (as quoted in [Steinhart, 1973: 248](#)). This remark was made famous when it was repeated by a professor of geology and environmental studies, John Steinhart, when addressing the US House of Representatives in 1973, a year after the publication of *Limits to Growth*, amid the global oil crisis and growing shortages in energy supply. The broader context was fear over an approaching point of ‘peak oil’ production and concern that the US, which at the time was doubling its energy consumption every 15–20 years, would at some stage exceed its energy supply.

Box 3.1: The power of compound growth

Put simply, compound, or exponential, growth refers to a growth rate that increases proportionally to previous growth (or growth on growth on growth). So, if something grows at a rate of 3 per cent per year, the following year it will increase by 3 per cent on 103 per cent, and then on 106 per cent the year after, and so on. While we may understand this theoretically, not many people fully realize the enormous power and insatiable hunger of compound growth. This is well illustrated in the famous fable about the man who invented the boardgame chess, who took his invention to show to the emperor. The emperor was impressed with this new game, thanked the man, and told him that he could name his reward. The man replied that he wanted no gold, jewels, or other riches, but that he only desired some rice. So, the man asked that the emperor give him one grain of rice for the first square on the chess board, followed by two grains of rice for the second square, four grains for the third square, eight grains for the fourth square, and so on. The emperor readily agreed, thinking that this would be a very cheap gift indeed. But because he did not understand compound growth, the emperor failed to realize that by the 64th square on the chessboard he would owe the man 18,000,000,000,000,000,000 grains – or the equivalent of 210 billion tons of rice.

The doubling time for 3 per cent compound growth is 23.5 years. This means that, under capitalism, the global economy *must double in size* every quarter of a century in order to avoid crisis. In regions with higher growth rates, the time it takes for economies to double in size is correspondingly less. To illustrate further, between 1990 and 2010, China’s GDP grew at roughly 10 per cent annually, giving a doubling rate of the Chinese economy (now the second largest in the world, after the US) of just over seven years ([World Bank, 2022a](#)).

While panic over peak oil has receded since the 1970s, the basic ideas behind the limits to growth hypothesis have never disappeared. David [Harvey \(2014\)](#), noting that capitalist economies require, on average, 3 per cent growth annually, argued that if this level of growth is not sustained, economies

will fall into dysfunctional crisis. We saw this play out during the Global Financial Crisis of 2007–08, when many economies around the world entered states of recession – a crisis initiated within the financial sector that spilled over into the ‘real economy’; markets were only rescued from collapse by the largest corporate bailouts ever issued by governments across Europe and North America. What started as a bursting bubble in the financial sector became a global crisis of growth, leading many governments and major economic organizations to focus their efforts on returning national economies to growth – with dire consequences (as in Greece) for those that failed to do so.

Animated by concerns over a global ‘polycrisis’, a growing number of scholars from environmental studies, geography, and the more radical traditions of ecological economics argue that managed degrowth is the only way to address the severity and scale of current ecological breakdown (Hickel, 2020; Foster, 2023). While calls for degrowth are gaining volume, supported by an increasing evidence base, they are seen by many as fringe and dangerously radical. Mainstream debates on environmental change, including those performed in high-profile international conferences – such as the Rio+20 conference and the United Nations Framework Convention on Climate Change (UNFCCC) annual Conference of the Parties (COP) meetings – have reinforced a narrow economic agenda based on the promotion of GDP growth, be it rooted in neo-Keynesian or neoliberal economic ideologies (Kosoy et al, 2012). That is because a critique of growth is by implication a critique of capitalism, a system that requires growth to resolve its inherent crisis tendencies, just as the human body requires fuel and oxygen to survive. A future of degrowth would, therefore, require fundamental changes to how capitalist economies and societies function (Hickel, 2020).

As modernization theory eschews the idea of natural limits to economic activity, the idea has proved more influential in environmental studies than in traditional economics. The neoclassical economic argument holds that it is possible to sustain economic growth and address environmental challenges simultaneously. Here, ensuring properly functioning markets, providing incentives, boosting efficiency, and instituting growth-based policies are seen as the necessary solutions to such challenges – that we can and should grow our way out of ecological crises. The theoretical and ideological assumption is that, under the right conditions, markets will generate the technological innovation and corporate practices necessary to slow and reverse harmful environmental change: it is simply a case of markets internalizing negative environmental externalities, for example by pricing carbon emissions appropriately to reflect their true cost. Such ideas have come to dominate the fields of ecological and environmental economics and have been popularized by economists like the Nobel Prize-winner Paul Krugman (2010, 2014).

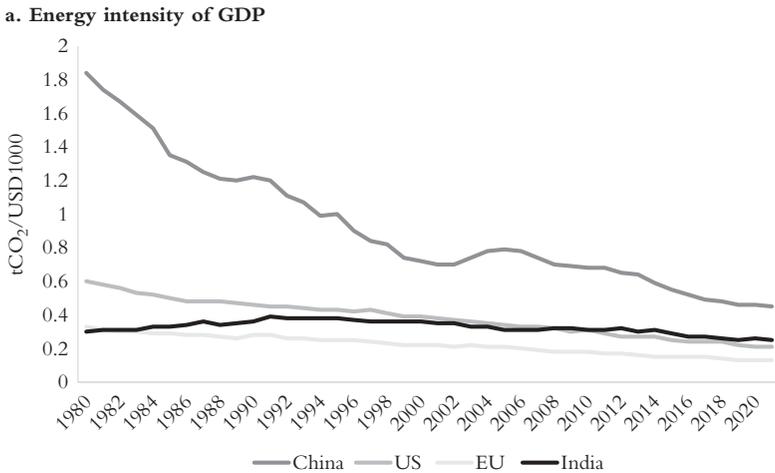
Similar ideas underlay the influential Stern Review, commissioned by the UK government in 2005. Nicholas Stern (2007) was one of the first

economists to make an *economic* case for ambitious action to tackle climate change. Stern argued that, on the one hand, if unchecked, climate change would cost economies dearly in damage and lost productivity, while, on the other hand, appropriate and timely action might transform climate change into an opportunity for future economic growth. One of the report's key recommendations was to create a carbon price in order to prevent economies from externalizing the negative effects of greenhouse gas (GHG) emissions and ensure that 'people are faced with the full social cost of their actions' (Stern, 2007: xviii). Stern was fairly non-prescriptive in how an international carbon price should be achieved, saying that different countries could pursue a range of strategies, including taxation, regulation, and trading. The use of market mechanisms to (in theory) correct market failures through carbon trading has since become the cornerstone of the UNFCCC, although the wheels of this had already been set firmly in motion in the late 1990s by the Kyoto Protocol and the subsequent establishment of the Clean Development Mechanism, which allows Annex-1 (that is, 'rich') countries to purchase offsets from non-Annex-1 (that is, 'poor') countries. More recently, appeals to 'green growth' regimes have been made in various countries through arguments in favour of a Green New Deal, notably in the US by politicians including senators Alexandria Ocasio-Cortez and Bernie Sanders. Although there is no universal prescription for a Green New Deal, the impetus is to revive a neo-Keynesian economic model in which states would lead investment in sustainable infrastructure, renewable energy, and green technologies as the basis of a new wave of 'green industrialization' (Dale et al, 2016). The ambition is that this would create new 'green jobs', boosting productivity and working-class employment, and thereby achieving the dual aim of addressing environmental crises while countering the adverse social effects of deindustrialization and economic stagnation (Custers, 2010).

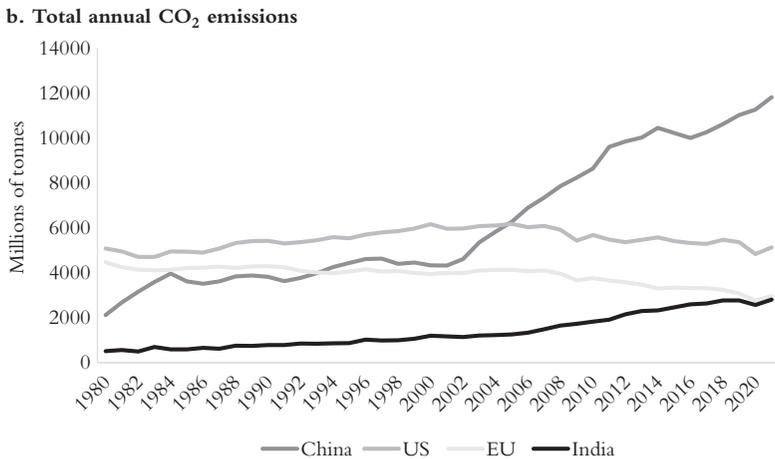
The crux of the position underlying the Stern Review and calls for a Green New Deal is that while, previously, economic growth and environmental change have been closely correlated, through innovation and technology it is possible to *decouple* these processes. Here Tim Jackson (2011) makes an important distinction between *relative decoupling* and *absolute decoupling*. Relative decoupling occurs when economies become materially more efficient – that is, more economic output is achieved with fewer resources, decreasing the resource intensity of economic production. In such a case, economic growth is attained while environmental change is slowed relative to that growth. By contrast, absolute decoupling occurs when the positive relationship between growth and environmental change is severed.

Jackson and Peter Victor (2019) argue that while there is evidence of relative decoupling taking place in many economies, there is little evidence of the absolute decoupling required to address the scale and severity of

Figure 3.2: A: Emissions intensity of GDP in tonnes of CO₂ equivalent per US\$ 1,000 for China, the US, the EU, and India. B: Total annual emissions in tonnes of CO₂ equivalent for the same countries.



Source: Data from [IEA \(2022a\)](#)



Source: Data from [OWID \(2022\)](#)

environmental crises in the context of sustained growth. Consider [Figure 3.2](#), which shows in the first graph the intensity of carbon emissions of the world’s four largest emitters: China, the US, the European Union, and India.⁵ We can see that emissions intensity has fallen in all four since 1980, particularly rapidly in China. The second graph shows total emissions per year. These two trends indicate relative rather than absolute decoupling – in other words, more economic output is being achieved per tonne of CO₂ even if a positive relationship between GDP and emissions remains.

The case for degrowth revolves around four central claims (Schneider et al, 2010; Kallis, 2011; D’Alisa et al, 2014; Hickel, 2020). First, economic activity is rooted in material and environmental transformations. This is the basic premise of a materialist worldview, influenced in particular by Marxist historical materialism. This perspective traces the source of value in capitalist economies to human labour, which is understood as a metabolic exchange between humans and the natural world (see Saito, 2017). No matter how large the financial economy grows, or how much of our lives we spend online or in virtual reality, the economy – and therefore GDP – is still fundamentally anchored in material relations and transformation. The second claim is that, as explained earlier, economic growth inevitably leads to accelerating environmental change. In other words, in a growth-dependent economic system it is impossible to achieve absolute decoupling. Increased efficiency of resource use through technological improvement will not lead to decreased resource consumption; on the contrary, it will promote increased levels of consumption because efficiency-enabling technologies create new opportunities for production. This is sometimes referred to as ‘Jevons’ paradox’ after the 19th century British economist William Jevons, who observed that technological improvements in the efficiency of coal use in industrial England did not reduce the amount of coal consumed (Polimeni and Polimeni, 2006).

The third claim underpinning degrowth advocacy is that economic growth does not benefit all. Beyond a certain threshold, growing GDP does not contribute significantly to improved human wellbeing. Furthermore, in societies affected by wealth inequality, the benefits of GDP growth are disproportionately allocated to the wealthiest groups. Finally, it is claimed that *managed* degrowth – as opposed to the unplanned shrinking of economies during periods of recession or crisis – is both desirable and achievable. The argument holds that some regions might need to see economic growth to fulfil their human development needs, but from a global outlook a movement towards degrowth is the only viable way to achieve a sustainable relationship between humans and the environment.

We have seen that the notion that demographic and economic growth have natural limits has underpinned multiple discourses surrounding the government of societies and resources, ranging from the need for population control to the imperative of managed economic degrowth. We now turn to another contested concept that has shaped thinking around sustainability and global futures – a concept affirming the centrality of human action to epochal change in Earth’s systems.

The Anthropocene

While the Gaia hypothesis understands life as a regulating agent on Earth, discourses surrounding the Anthropocene see humans as the principal agents

of change within Earth systems. Originally proposed by the chemist Paul Crutzen and the ecologist Eugene Stoermer in 2000, the concept signals the end of the Holocene and the start of a new epoch wherein humans have assumed the role of geological actors. That assertion has since attracted fierce debate. For example, in the fields of geology, physical geography, and Earth system science, there has been much disagreement over whether human activity constitutes a geological process and, if so, when this process began. Suggested starting points for the Anthropocene include (1) the start of the Industrial Revolution in the 18th century, marking the first exploitation of fossil fuels on a grand scale; (2) the so-called Great Acceleration from the mid-20th century, characterized by rapid urbanization and population growth, the development of synthetic fertilizers, a massive expansion of fossil fuel use, the construction of large-scale infrastructures, and corresponding accelerations in environmental change (see [Steffen et al, 2015a](#)); and (3) the 1945 advent of the atomic age.

The Anthropocene proposition has prompted a wide range of responses and engagements from social and political scientists. One line of critique is that combining all activity under a singular figure of humanity ('Anthropos') overlooks the profound differences within societies in the responsibility for, and exposure to, environmental change. In doing so, we effectively depoliticize the global environmental crisis. That responsibility for climatic change and biodiversity loss is unevenly distributed within society is hardly contestable. A study by [Oxfam International \(2023\)](#), for instance, found that the wealthiest 1 per cent of the world's population is responsible for more GHG emissions than the poorest 66 per cent. Even within this 1 per cent group, a small number of individuals have a disproportionately large environmental impact. Overall, then, within-country inequality has become one of the most important drivers of the unequal responsibility for emissions that cause climate change. Consequently, a politicized concept of the Anthropocene should highlight inequalities and apportion responsibility according to the ongoing violence entrained by colonialism ([Yusoff, 2018](#)) and capitalism ([Moore, 2017](#)).

Proponents have argued that the Anthropocene concept provides an important challenge to the social and political sciences, including fields concerned with development. The Anthropocene has rapidly become one of the few scientific environment-related terms to penetrate public discourse. It has become a keyword that will likely shape agendas of public policy, business, and civil society; therefore, it requires engagement by social scientists ([Castree, 2014](#)). In their book *Planetary Social Thought*, [Clark and Szerszynski \(2021\)](#) argue that the Anthropocene concept poses important questions for the social sciences concerning geological time, the history of human relationships with the environment, and, most importantly, how the future of humanity and the planet might appear. Far from depoliticizing

human relationships with earthly systems, the ‘Anthropocene offers incitements for thinking about our planet across a range of timescales, fields of vision, and trajectories’ (Clark and Szerszynski, 2021: 3). Aligned with this perspective, if development is fundamentally a way of thinking about time and temporality (the promise of a future that is better than the present and past), then the idea of the Anthropocene, which warns of a dire future and challenges us to shift our collective trajectories of change, should be a touchstone of development thought and action.

Environmentalism and sustainable development

The emergence of the global environment as a powerful popular and scientific imaginary has helped to drive the discursive fusing of environmentalist and economic development agendas into the notion of sustainable development.⁶ Mainstream accounts of the genealogy of sustainable development trace its emergence to the popularization of environmentalist, conservationist, and neo-Malthusian movements in the US in the 1960s and the publications of seminal texts such as Rachel Carson’s (1962) *Silent Spring*, which documented the ecological destruction driven by chemical pollution. That popularization, in turn, led to the establishment of influential environmentally focused non-governmental organizations, the passing of key environmental legislation, and the establishment of the US Environmental Protection Agency in 1970. These accounts then typically highlight the significance of the 1972 UN Conference on the Human Environment, held in Stockholm – the first major multilateral conference focusing on how to link the imperatives of human development and poverty reduction with concerns surrounding the environment. The conference brought together delegates from across the Global North and South to confront problems of resource scarcity (peak oil and dwindling fish stocks were major concerns at the time), pollution, and overpopulation. Its proceedings helped to embed respect for human rights – like the human right to water – as a core ambition of sustainable development. In its wake, the UN Environment Programme (UNEP) was established.

Further impetus for the sustainable development agenda was provided by the UN World Commission on Environment and Development, convened in 1983, which in 1987 published the report ‘Our common future’ (generally referred to as the Brundtland Report after the commission’s chairperson, Gro Harlem Brundtland). The report brought the term ‘sustainable development’ into widespread circulation, arguing that environmental sustainability and human development are inseparable concerns, and it provided the most cited definition of the term as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (UNWCED, 1987: 41). Framed around three pillars of

sustainable development – economic growth, social equity and justice, and ecological sustainability – the Brundtland Report laid the foundations for the 1992 UN Earth Summit, held in Rio de Janeiro. The purpose of the Rio Summit was to set a global agenda for action for sustainable development. Several important agreements were established at the meeting, including the Convention on Biological Diversity, which requires countries to take inventories of species diversity, and the UNFCCC. However, discussions were characterized by disputes between Northern countries, calling for action by all countries, and Southern nations, which resisted any attempt to stifle their economic development by the imposition of international environmental regulations. Taking place in the immediate wake of the Cold War, the Rio Summit helped to shape the way subsequent discussions and alliances were framed within the new ideology of sustainable development.

This brief history demonstrates how global environmental and developmental agendas have become discursively and institutionally reconciled, a fusion that has become entrenched since the turn of the century. That is most clearly demonstrated by the shift from the Millennium Development Goals (MDGs) to the 2015 adoption of the Sustainable Development Goals (SDGs) (Fukuda-Parr, 2016; Biermann et al, 2017). The MDGs, which set out international development priorities in the period 2000–15, focused on challenges present in the Global South. Environmental concerns were peripheral in the MDGs and were only mentioned in one of the eight goals. By contrast, the SDGs sought to combine environmental and developmental concerns across all 17 goals within a transformative *global* agenda for sustainable development.

Sustainable development from the South

It is often assumed that the core ideas, theories, and philosophical traditions that underpin the sustainable development agenda emerged from the Global North and a Western canon of environmentalist thought. Yet Sakiko Fukuda-Parr and Bhumika Muchhala (2020) show how the process of compiling and agreeing the SDGs was strongly influenced by ideas and actors from the South. There is now a growing body of literature examining how philosophies rooted in the South have shaped, and often challenged, mainstream discourses of sustainable development. The concept of *buen vivir* or *sumak kawsay*, drawn from the knowledge traditions of indigenous Andean peoples, has attracted considerable attention from social movements and heterodox development scholars (Chassagne, 2019). Loosely translated as ‘good living’, *buen vivir* emphasizes respect for the intrinsic value of nature, community and participation, cultural plurality, and social equality. Some see it as providing an intellectual counterpoint or alternative to growth-oriented sustainable development (A. Kothari et al, 2014), while others believe it

can be incorporated into mainstream sustainable development discourse and praxis (Vanhulst and Beling, 2014).

A further example of how concepts and ideas from the South have shaped sustainable development discourses can be found in the Green Belt Movement, initiated in Kenya in the 1970s. This was established by Wangari Maathai, an early activist for post-independence democracy and women's rights. She was the first African woman to earn a doctoral degree in East and Central Africa, the first woman to hold a chair at the University of Nairobi, and the first African woman to win the Nobel Peace Prize 'for her contribution to sustainable development, democracy, and peace'.⁷ Maathai was unusual for the way in which her work combined ecological concern and care for the environment with political imperatives of democratization and respect for human rights – particularly the empowerment of women (Muthuki, 2006). The Green Belt Movement consciously problematized these diverse yet interconnected issues within a single frame.

Maathai originally trained as a biologist, becoming involved in environmentalism through her concerns over deforestation in Kenya; a process, she observed, leading to desertification, declining soil fertility, loss of biodiversity, and the increased frequency and intensity of droughts. Centrally involved in the 1972 Stockholm Conference and the founding of UNEP, Maathai later joined the National Council of Women of Kenya (NCWK), an umbrella organization working mostly with rural development organizations. Through her involvement in the NCWK, Maathai began to draw connections between deforestation and development challenges, including the need for economic empowerment, education, and nutrition. Deforestation, Maathai realized, was contributing to declining agricultural yields due to the loss of topsoil and the lowering of water tables. Moreover, it was directly linked to fuel shortages, encouraging people to shift their diets to rely on foods requiring less cooking, and driving people – predominantly women – to spend more time and resources securing fuel. The net result was rising malnutrition and a disproportionate burden of labour placed on women, on top of ecological deterioration.

In 1977, Maathai established the Green Belt Movement to tackle these issues. At its heart, the movement was a tree-planting programme, in which local groups (mostly comprising women) self-organized to plant belts of trees, primarily on public land. Funded through charities and donations, the organization worked by issuing free seedlings to local groups, which received payments for every sapling that survived. The idea was that such tree-planting programmes would help rural communities in several ways. First, reforestation would help to establish a sustainable source of fuel, ensuring that two saplings were planted for every tree felled, thereby reducing malnutrition and the gendered burden of labour involved in fuel collection. Second, it would generate income for rural women, increasing their

financial independence and capabilities. Third, it would promote popular awareness of environmental challenges, aided by seminars and workshops. And, fourth, such programmes would foster local democratic governance and participation in decision making (Maathai, 2003). Thus, while it was centred on the practical activity of tree planting, the aims of the Green Belt Movement were far broader, including improving food and water security at the household level and promoting sustainable agriculture; strengthening civic engagement through education to build a strong civil society capable of challenging the Kenyan government on the links between corruption, poverty, and environmental decline; and building advocacy against violations of human and environmental rights (Hunt, 2014). In the late 1980s, the government of Kenya began to crack down on the Green Belt Movement, viewing it as a threat to the single-party regime of the time. Among other things, the government ruled that the NCWK's activities should focus solely on women's issues, and it was forbidden to engage in environmentalist or other kinds of activism, leading the Green Belt Movement to split from the NCWK.

Internationally, however, the Green Belt Movement gained significant recognition and support. In 1986, it received funding from UNEP to expand into 15 other countries, becoming a Pan-African Green Belt. By then, the movement had explicitly connected the issues of environmental sustainability, human development, gender equality, poverty reduction, and democratic empowerment under one framework – what we now call sustainable development – long before the Brundtland Commission or the Rio Summit.

Governing the global environment

The emergence of the global environment as a conceptual figure in the second half of the 20th century fostered the creation of governance arrangements quite distinct from other types of multilateral agreements. For instance, the UNFCCC process offers a unique, albeit cautionary, example of the imperatives and challenges of governing one aspect of the global environment: the carbon cycle. Since its establishment in 1992, the UNFCCC has gone through significant transformations, from the top-down and nationally oriented Kyoto Protocol, which entailed a single global emissions target and divided the world into Annex-1 and non-Annex-1 countries, to a more polycentric model that includes local governments and non-state actors, and in which countries, regions, and sectors can create their own targets within a global framework (Bulkeley and Newell, 2010; Hale, 2016). Despite these changes, the UNFCCC has been almost entirely unsuccessful in diverting countries from developmental pathways portending dangerous climate change.

Scholars like Frank Biermann have argued that given the scale and severity of environmental crises, it has become essential for societies to radically rethink political systems and established governance regimes. The accelerating threat of transgressing planetary boundaries, [Biermann and colleagues \(2012: 1306\)](#) argue, calls for ‘fundamental reorientation and restructuring of national and international institutions toward more effective Earth system governance and planetary stewardship’. That reorientation should take form through global governance institutions and the adoption of shared goals ([Biermann et al, 2017](#)). That is certainly easier said than done, particularly in the context of the rise of populist politics in many countries, often accompanied by declining trust in institutions like the UN and criticism of political globalism.

Moreover, how global governance of the environment might take shape in the future is an unavoidably political question. Harriet [Bulkeley \(2021\)](#) argues that despite the many transformations and debates in climate governance since the 1990s, the dominant hegemonic framing of climate change is as a global problem, giving insufficient attention to the uneven geographies of its drivers and consequences. One outcome of this globalized framing is that excessive faith is placed in the necessity for, and ability of, international institutions like the UNFCCC to manage the global commons:

We have witnessed the emergence of widespread political tensions and in some cases resistance towards proposed state-led action for climate action. Yet for the most part, the framing of the climate problem has remained unchanged as one of a matter of managing the global commons, underpinned by a continued belief in the main tenets of ecologically modernist thinking – that increasing scientific evidence will propel ever more action, that once the costs of climate change are internalized economies can be redirected to take this into account, that governing the global commons requires global institutions, and a faith in (technological) progress. ([Bulkeley, 2021: 266–7](#))

In line with such critical observations, [Joel Wainwright and Geoff Mann \(2013\)](#) argue for a different kind of climate politics. They outline a series of four future scenarios, applicable not only to climate change but also to planetary boundaries more broadly. The first is that climate governance could result in a movement towards planetary sovereignty and authoritarianism, either along capitalist lines (Scenario 1, which they term ‘Climate Leviathan’) or through a non-capitalist approach (Scenario 2, or ‘Climate Mao’). Alternatively, climate governance might prompt a rejection of planetary sovereignty and global institutions, again either in keeping with capitalist ideology, resulting in reactionary conservatism and nationalism (Scenario 3, or ‘Climate Behemoth’, exemplified in Donald

Trump's withdrawal of the US from the Paris Accord and the politics of Jair Bolsonaro in Brazil), or through non-capitalist organization (Scenario 4, or 'Climate X'). Wainwright and Mann contend that global climate governance has to date proceeded predominantly in the mode of Climate Leviathan. In this scenario, global elites recognize the seriousness of climate change and seek to manage its exigencies in ways that protect their relative position and elite status:

Climate Leviathan is defined by the dream of a planetary sovereign. It is a regulatory authority armed with popular legitimacy, a panopticon-like capacity to monitor and discipline carbon production, consumption, and exchange, and binding technical authority on scientific issues. ... Capitalism itself is not a question on the table, but rather treated as the solution to climate change. Indeed, filtered through the COP lens, climate change appears to capital as an opportunity. Trading in carbon-emissions permits ('cap-and-trade'), judicious market assessments of 'tradeoffs', nuclear power, corporate leadership, carbon capture and storage, green finance, and, ultimately, geoengineering: this is Leviathan's lifeblood. (Wainwright and Mann, 2013: 6)

In this sense, Climate Leviathan offers a mechanism perpetuating the hegemony of Northern neoliberal-style capitalism through a marketized global carbon regime. By contrast, their alternative vision of future climate politics, Climate X, would foster resistance against authoritarian global governance, instead focusing on addressing environmental justice and the underlying causes of the climate crisis linked to global capitalism. It is an aspirational vision with revolutionary implications for how we think and practise the intentional project of global development.

Conclusion

Prior to the 20th century, the figure of 'the environment' was rarely, if ever, considered in global terms. Ideas of a globally interconnected and interdependent ecological system, or planetary environment, emerged gradually over the course of the century through diverse influences and drivers. Increasingly, a planetary environmental worldview has taken hold in public consciousness. Of the various 'planetary turns' that have occurred across different scholarly disciplines, this shift has been particularly comprehensive and explicit in ecological and environmental fields.

It follows that debates surrounding the environment offer a rich intellectual tradition for thinking about pressing public problems on a planetary scale, and for understanding the interconnections between processes unfolding across multiple scales and contexts. Yet they also caution

us to recognize the inequalities, differences, and unevenness underpinning such problems and processes. A planetary perspective on development should not subsume and obfuscate difference within an assertion of shared human challenges and responsibilities. Rather, that perspective must emerge through the recognition and assemblage of diverse, often competing, perspectives and interests.

Urbanization

Introduction

‘Why does everyone think cities can save the planet?’, asked [Hillary Angelo and David Wachsmuth \(2020\)](#), some few years after the adoption of the 2030 Agenda for Sustainable Development. Their question reflects the difficulty in escaping references to cities or urbanization in any contemporary discussion about sustainability, development, and global futures. In both governance and academic discussions, the transition to a majority and increasingly urban world (understood in demographic terms) ‘has become one of the dominant metanarratives through which our current planetary situation is interpreted’ ([Brenner, 2019](#): 301).

Among the disparate communities of urban-facing scholarship and practice, many welcomed the 2030 Agenda as securing international acceptance of a *global urban agenda* for sustainable development. The Sustainable Development Goals and other international governance accords, like UN-Habitat’s New Urban Agenda ([United Nations, 2017](#)), institutionalized a view of cities not as mere *sites* of narrowly defined development problems and interventions – as they were seen previously – but rather as *vectors* of broader, potentially positive, transformative and sustainable change ([Barnett and Parnell, 2016](#); [Parnell, 2016](#); [Espey, 2023](#)).

Approaching cities as vectors of worldwide sustainability expresses a view of urbanization as a dynamic and transformative *process*.¹ It invites a more *processual* and *ecological* understanding of what happens in and through the distinctive territorial sites of towns and cities. In securing a vectorial and transformative view of the urban, international policy actors were able to draw on a growing theoretical and empirical literature on the complex systemic and processual natures of cities and urbanization ([Espey, 2023](#)). The process of urbanization has long been correlated with national economic development, with cities often considered ‘engines of economic growth’ ([World Bank, 2009](#)).² In the contemporary age of the information economy, large ‘global cities’ like New York, London, Tokyo, Shanghai, Singapore, and

Hong Kong have been conceptually recast as hyperconnected *hubs* through which liquid global flows of finance, people, products, and information are sorted and commanded (Sassen, 2001).³ As strategic *nodes* in global economic networks – boasting the headquarters and operations of major corporations, firms, and institutions involved in finance, service, and technological sectors – these urban territories are distinguished by their disproportionate capacity to influence and shape processes at far more extensive scales than their local or national borders.

In contrast to traditional economic perspectives, since the 2000s, cities and urban processes have frequently been framed in more environmental and ecological terms. From one angle, cities are drivers of resource consumption, emissions, and biodiversity loss, but they are also potential incubators of efficiencies and innovations in response to climate crises (Dodman, 2009). From another angle, urban political ecologists have studied cities as metabolic assemblages of sociomaterial flows always shaped by, and formative of, power relations and inequalities (Heynen, 2014; Kaika et al, 2023). An ecological grasp of the urban has been furthered by the growing scientific literatures on urban biodiversity and ecosystems (Elmqvist et al, 2013; Alberti, 2016), nature-based solutions (McPhearson et al, 2023), and resilience (Elmqvist et al, 2019). Collectively, this work has unsettled an inherited Western notion of the ‘city’ as ontologically distinct from ‘nature’ (Tzaninis et al, 2021). Rather, urban change has increasingly been framed in terms of complex, adaptive social-ecological-technological systems and systems of systems (Bai et al, 2016; MCPhearson et al, 2016; Parnell et al, 2018; Elmqvist et al, 2021).

However, despite these calls, and numerous interventions seeking to reform our conceptual and theoretical understanding of the urban, it remains challenging for those tasked with studying and governing cities to mobilize and express a more dynamic and relational view that avoids the uncritical reproduction of an urban–rural binary and a territorialized understanding of the urban. The geographic site of the ‘city’ retains an immanent presence as the primary object of urban analysis (Brenner, 2009; Brenner and Schmid, 2015). One consequence is that some urban scholars continue to express a ‘methodological cityism’ expressing ‘an overwhelming analytical and empirical focus on the traditional city’ – as a bounded territorial space and distinctive socionatural form – that excludes other processes and dynamics underpinning contemporary urbanization (Angelo and Wachsmuth, 2015). How we move beyond such problems is the focus of active debates within urban theory, which we will outline in this chapter.

In conjunction with shifts in our scientific understanding of cities and urbanization, some urban scholars have called for a more global or even planetary orientation to the analysis and theorization of urban processes.⁴ These calls, and their responses, have for the most part been raised in

parallel with the global development shift (see [Chapter 1](#)). Few scholars of global development have foregrounded urban processes, or analytical tactics emerging from urban scholarship, in making their case for a more global rather than international orientation, albeit with important exceptions ([Horner, 2020](#); [Gillespie and Mitlin, 2023](#)).⁵ For their part, urban-facing scholars have seldom engaged with the unfolding discussions surrounding the global development shift. An engagement is overdue; this chapter identifies opportunities for such exchanges.

Consequently, there are good empirical and intellectual reasons to discuss urbanization within the frame of global development and environment. First, such a focus is warranted by evidence of the scale and pace of global urbanization and urban development, particularly in settings of sub-Saharan Africa and Asia, and the centrality of urban systems to how we think about development problems and solutions as well as environmental transformations. And, second, urban inquiry has long hosted engagements with the problem of how to reconcile universality with difference, and of how to account for ‘the experience of particular places within wider economic, social, and political systems’ ([Horner, 2020](#): 429). Consequently, it can potentially offer instructive strategies and lessons for those in other domains seeking to undertake critical analysis across scales ([Cirolia and Scheba, 2019](#)). Moreover, recent urban theoretical debates warn against critical engagements with the global development shift becoming embroiled in diverging claims to, or debunking of, the coherence and universal validity of theoretical concepts and explanatory frameworks.

Concerning planetary urbanization

How can we think of urbanization as a dynamic, extensive, volumetric, and complex process with myriad environmental drivers and impacts, and with diverse and uneven manifestations in concrete urban forms? An obvious place to start would be the ‘planetary urbanization’ concept and approach advanced by scholars like Andy [Merrifield \(2013\)](#), Neil [Brenner and Christian Schmid \(2014, 2015\)](#), and subsequently taken up by others.⁶ Its proponents hold that the scale and nature of contemporary urbanization demand a ‘new epistemology’ that can capture the impacts of urbanization on planetary systems – including supposedly ‘wilderness’ areas like the oceans, polar zones, and alpine regions – in addition to the ongoing (re)production of uneven geographic development ([Brenner and Schmid, 2015](#)). In this view, few, if any, parts of the planet remain untouched by the capitalist production and consumption enabling of, and enabled by, urbanization. Accordingly, one can even talk (in a theoretical register, at least) in terms of the urbanization of ‘the atmosphere’, of near space, and of ‘the deepest underground’ ([Thrift, 2021](#): 21).

The planetary urbanization thesis and approach has been engaged with critically from a range of positions. Some have raised doubts over whether it can account adequately for the role of difference in how we know cities and the role of everyday life as a driver of urban change – roles long recognized by critical scholars working from feminist, postcolonial, Southern, race, and queer theoretical angles (Buckley and Strauss, 2016; Schindler, 2017; Hart, 2018; Ruddick et al, 2018; Angelo and Goh, 2021). Some have linked their critique to the observation that planetary urbanization’s progenitors were (initially, at least) predominantly male, Northern, and pale-skinned (Keil, 2018). In a different vein, Loftus (2018) queried whether we should see the abstraction of the ‘planetary’ as a ‘point of arrival’ rather than a ‘point of departure’, as inviting a diagnosis of the specific determinants of urban planetarity, where it exists, at any historical moment (see Chapter 1). Still others have taken planetary urbanization to task for – in the critics’ view – subsuming cities within ‘a sort of overarching global plasma’, reducing the city to the status of an ideological artefact, and undermining its analytical value (Storper and Scott, 2016: 1119).

We wish to acknowledge but bypass the debates surrounding the specific theoretical concept of ‘planetary urbanization’. It suffices to note a significant difference in how urban scholars like Brenner and Schmid deploy the modifier ‘planetary’ from our own framing of the term, discussed in Chapter 2. We have presented a ‘planetary’ approach as inviting not simply a scalar decentring (thinking beyond local–global or city–planetary scalar binaries) but also a decentring in ways of knowing, and in how theory, theorizing, and critique are practised. Accordingly, rather than locate this chapter within the debates surrounding planetary urbanization, we will focus our discussion on what these debates tell us about an enduring tension at the heart of urban analysis and, by extension, other fields examining processes unfolding at different scales. This is the tension, when accounting for urban processes, between the abstract and the concrete, the necessary and the contingent, the universal and the particular, the planetary and the situated (Loftus, 2018; Barnett, 2020b). It is a tension existing between two stylized positions (Derickson, 2015) that relate closely to different approaches to theorizing and differing conceptual and methodological treatments of the ‘case’ (Hart, 2018; Barnett, 2020b).

On one side of this tension, some urban scholars prioritize the need to generalize about common and regular ‘generative processes’ that drive and shape urbanization (Hart, 2018). Here their aim is often to develop ‘robust explanatory theory’ or coherent concepts of, and approaches to, urban analysis (Barnett, 2020b: 444). On the other side, there is the desire to attend to ‘spatio–historical specificities’ (Hart, 2018: 373), to reject any pretensions to ‘universalism’ in favour of an eclectic provincializing approach to theorizing that recognizes and foregrounds urban difference, contingency,

and the need for epistemic plurality (Leitner and Sheppard, 2016). That gulf between different modes and aims of urban theorization is related to another tension in defining the primary object of urban analysis: should we focus on the diffuse, spatially extensive, relational networks and connections that shape processes of urban transformation, or on the city as a distinctive social form, a place with a material and concrete presence (Scott and Storper, 2015; Storper and Scott, 2016; Scott, 2022)?

In this chapter, we discuss the emerging ‘urban science’ as an illustration of this tension, and of how some urban scholars are attempting to navigate its dilemmas and challenges. Urban science is of interest precisely because it has been hailed for having the potential to generate highly granular insights into urban processes, everywhere, and to aggregate these insights at unprecedented scales – thereby offering a way to transcend methodological cityism. Urban science is a field where commentators have explicitly called for a more global and indeed planetary orientation to overcome its perceived fragmentation and disparateness (Alberti, 2017; Acuto et al, 2018; Keith et al, 2020; Espey et al, 2024). It is also a field where researchers increasingly confront the problem of meeting demands for coherent ‘aggregate accounts’ of urban processes and their impacts while keeping the door open for methodological and conceptual pluralism, heterodoxy, and ‘adventurousness’ (Brenner, 2019; Duminy and Parnell, 2020; Karvonen et al, 2021).

Urban scholarship, and the field of urban science, can therefore be seen as a ‘case’ through which we can think productively about the challenges of implementing a global shift in development inquiry and practice. This discussion will be of broader theoretical and methodological interest to scholars of more-than-urban global development and environmental issues who wish to work across scales, to manage problems of generalization, and to tackle challenging normative questions.

Debating urban scholarship

Kate Derickson (2015) attempted to navigate recent and ongoing debates in urban scholarship by staking out two distinct ‘ways of theorizing the urban and its associated political possibilities’ (2), termed ‘Urbanization 1’ and ‘Urbanization 2’. ‘Encapsulating’ the first mode, scholars like Merrifield, Brenner, and Schmid are inspired by a Marxist political-economic tradition, basing their theoretical proposition of planetary urbanization on a reading of Henri Lefebvre’s (2003) *The Urban Revolution*. They position the contemporary global ‘urban age’, and cities and their political potentials, within a historical-materialist critique of longer-run capitalist development. Explanations for urban processes, and opportunities for progressive urban politics, can be deduced from a starting ‘non-placed’ theoretical framework and the ‘objective’ condition of global urbanization (Derickson, 2015).

For Hart (2018), contributors to Urbanization 1 include ‘non-Marxist’ urban economic geographers like Allen J. Scott and Michael Storper (2015). The latter insist that all cities can be understood in the general terms of the ‘dynamics of agglomeration/polarization’ and the spatial expression of these processes through an ‘urban land nexus’ comprising interacting sets of land uses (8). Scott and Storper thus foreground *agglomeration* as a ‘central feature’ of urbanization. Its centrality to urban history and analysis derives from the benefits accruing from the generation of efficiencies by means of proximity. Agglomerative benefits are not only economic but also political (for instance, enabling the spatial concentration of political-administrative functions, or demonstrating the centralization and monopoly of power), cultural, religious, symbolic, recreational, and otherwise. For Scott and Storper (2015), the city is not simply a ‘functionalist expression’ of capitalist relations, as processes of agglomeration are always ‘shaped by ideas, interests, and politics’ (9). From their perspective, planetary urbanists ‘devalue’ and ‘deform’ the meaning of ‘urbanization’ to underplay the forces of agglomeration, density, and nodality that give rise to distinctive city-scale processes (Storper and Scott, 2016). For Hart (2018), what theorists of planetary urbanization and the urban land nexus assert in common, and attempt to define, are the ‘common generative processes’ underpinning urban change – later in this chapter, we will see that they share this interest with key practitioners of ‘urban science’. Moreover, they both ‘deploy a form of encompassing comparison’ and appeal to authority ‘in terms of the generality of their analyses’ (Hart, 2018: 382). Both tend to view particular cases as mere empirical variations and functionalist expressions of common processes.

Urbanization 2, by contrast, comprises an eclectic and ‘messier set of interventions’ that, broadly speaking, attempt to grasp urban transformations ‘from below’ (Derickson, 2015). That set includes the work of scholars inspired by a variety of poststructuralist, postcolonial, Southern, feminist, neo-Marxist, and other traditions of self-defined critical theory. Reflecting this intellectual eclecticism, a core pursuit is that ‘difference matters’ in what we study, where, and in how we know and act (5). To come to terms with the priority of difference, some scholars prioritize the study of practices embedded in everyday urban life, particularly among subaltern or subordinated groups (Sheppard et al, 2013). That more quotidian focus may be positioned within a wider effort to ‘provincialize’ urban theory – that is, critiquing its Eurocentrism or Northern bias – by building theoretical concepts inductively from the analysis of emplaced realities and practices (Barnett, 2020b). Within some currents of Urbanization 2, then, the ‘case’ is valued as a ‘singularity’ (Robinson, 2016) rather than as a particular instance of general categories or processes. The case potentially plays a pre-eminent role in theory building through falsification (Flyvbjerg, 2006; Duminy et al, 2014), by way of analogical or case-by-case reasoning (Barnett, 2020b), or

by implicitly or explicitly pursuing comparison with other (sometimes very different) examples (Robinson, 2011).

Work associated with Urbanization 2 shares points in common with the rich vein of work on cities as ‘assemblages’, seeing the urban as both assembled and assembling (McFarlane, 2009; Fariás and Bender, 2010). Here the term ‘assemblage’ has been mobilized in different ways. Colin McFarlane (2011) recognizes at least two senses of usage. In the first, ‘assemblage’ describes sociomaterial transformations – the outcomes of processes of entanglement between labour and nature, body and machine – or it references an analytic ‘sensibility’ towards cities, which are seen as objects undergoing relentless (re)constitution via the relations between multiple processes, networks, and collectives. In the second sense, associated with the literature on urban policy mobilities (McCann, 2013; McCann et al, 2013), ‘assemblage’ describes the relationships between trans-scalar territory-less connections and flows of policy ideas and practices, on one hand, and the (re)composition of urban places, on the other. For McFarlane (2011), assemblage thinking brings a ‘descriptive orientation’ to the study of city processes, a more productive or ‘generative’ approach to critique, and an urban political imaginary expressed through images of ‘collage’, ‘composition’, and ‘gathering’. Like work inspired by postcolonialism, feminism, and other critical traditions, assemblage-inspired urban theorizing draws our attention to contingencies, differences, emergences, and the historical constitution of the present (Robinson, 2011).

While many urban scholars will struggle to locate themselves within Derickson’s (2015) binary scheme, or have critiqued its reductionism, it remains a useful working schema to map the broad contours of emerging work and extant debates in urban fields. From the perspective of scholars working in the realm of Urbanization 1, the ‘messier set of interventions’ constituting Urbanization 2 is limited by its lack of generality. Labelling a broad and diverse set of urban inquiries as ‘postcolonial’, Scott and Storper (2015) fault their ‘particularism’. They chide the analytic priority given to the contingent, the quotidian, and the provisional over the analysis of ‘systematic regularities’ of urban life that, in their view, can be subjected to ‘high levels of theoretical generalization’ (12). Likewise, theorists of assemblage urbanism are critiqued for their ‘indeterminacy and eclecticism’ and ‘naive objectivism’, for their interest in describing the activity of assembling rather than clarifying basic logics and forces of urban change, for failing to provide ‘useful explanatory ideas’, and for their perceived inability to distinguish between the significant and the insignificant (Storper and Scott, 2016: 1114, 1127). Storper and Scott’s implicit charge is that the normative value of urban theoretical ideas ultimately depends upon their claims to generality (Barnett, 2020b). Their assumption is that an idea or proposition is better or more useful if it (like the concept of agglomeration) involves a ‘high degree

of abstraction from the concrete features of things' (Barnett, 2020b: 443), thereby offering a 'shared vocabulary' for a wide range of urban scholars (Scott and Storper, 2015: 3).

In reply to the critique of particularism, Ananya Roy (2016) charged Scott and Storper with 'crude economism' (also Mould, 2016) and 'universalism' (also Robinson and Roy, 2016).⁷ These ripostes then attracted a rebuttal of their own (Storper and Scott, 2016), and the debate has lumbered on (Scott, 2022; Randolph and Storper, 2023). We wish to acknowledge but skirt around what has become a rather intractable academic velitation. Rather, we would refocus attention on *how* we might go about reconciling the counterposed positions of Urbanization 1 and 2. How can we attune these opposite tensions: demands for a coherent globally oriented analytical orientation and explanatory framework (Brenner, 2019), on one hand, and pleas for a recognition of difference, unevenness, and contingency, on the other? How should we do justice to a processual trans-scalar view of urbanization that accounts adequately for cities and urban territories as distinctive 'complex social units' with concrete manifestations (Storper and Scott, 2016: 1131)?

There have been various theoretical manoeuvres attempting to navigate these tensions, including forms of relational comparison influenced by Marxist and postcolonial analysis (see Chapter 2). However, in this chapter we approach the problem through a focus on the 'new urban science'. We critically consider this emerging instantiation of a scientific view of cities and its potential to deliver on the imaginary of an urbanizing planet. For our purposes, what is interesting about urban science is its illustration of how some urban scholars are engaging with heady debates around how, analytically, to reconcile 'broader' processes driving, shaping, and impacted by urbanization with the situated and concrete specificities of urbanism unfolding in many parts of the world.

We believe this discussion has much relevance for the global development shift. In a way, urban scholarship, and urban science specifically, presents a case study of the challenges involved in realizing a more process-based view of planetary transformations, and yet also of emerging opportunities to compute (and theorize from) unprecedented volumes of spatially disaggregated and up-to-date data on myriad systemic processes. Moreover, urban scholarship is one domain in which we can clearly recognize the potential value of a more problem-oriented, diagnostic, and pragmatic approach to critical inquiry and theorization. This should be of interest to other fields of developmental and environmental study that are equally animated by normative concerns.

The 'new' urban science

What is urban science? It is difficult to pin down a definitive answer because of its internal diversity, which reflects multiple intellectual informants and

methodological tactics. In historical perspective, what was until recently referred to as the ‘new urban sciences’ (Keith et al, 2020) or ‘new science of cities’ (Batty, 2013b) – many now drop the reference to newness – is really an iteration of a longstanding impetus to see cities scientifically and quantifiably (Duminy and Parnell, 2020). Yet it is the case that scholars and practitioners have identified urban science as something different from its forebears and, in so doing, have attempted to articulate its essential concerns and modalities. Moreover, there are ongoing discussions of how something called ‘urban science’ can be brought into closer communication with other urban-facing fields, such as health (Gatzweiler et al, 2023) and climate adaptation (Lobo et al, 2023). It may be a broad church, but urban science exists as a category of practice that is increasingly used to make sense of and guide the trajectories of urban inquiry.⁸

A characteristic feature of this most recent instantiation of a ‘science of cities’ is a view of cities as complex adaptive systems, or systems of systems, that evolve in open-ended and non-linear ways through the interactions of their people and parts, and through interactions between different cities (Batty, 2012; Kitchin, 2020; Bhan et al, 2024). This is not an entirely novel view, and it is one shared by the international policy agreements mentioned at the start of this chapter (Bettencourt, 2021). A second distinctive feature of urban science arises from the pool of technologies, data sources, and methods from which its practitioners can draw. Much of the contemporary enthusiasm for urban science is related to the increasing availability of ‘new and better data’ (including data from mobile phones and other devices and sensors) and to our growing technological capacity and methodological ability to analyse these data with the aid of machine learning, data mining, visual analytics, modelling, simulation, and so on (Kitchin, 2020; Bettencourt, 2021; Hong et al, 2023). The potential of such technologies, new data sources, and methods is impressive. In principle, they enable highly granular insights into urban processes as well as aggregation of these insights across vast temporal and geographic scales. By doing so, it is hoped they will provide a baseline for ‘smarter’ and more ‘scientific’ modes of urban planning and management.

In sum, urban science is valued as a pre-eminent means of realizing an intellectual view of cities as complex, adaptive social-ecological-technological systems, and of accounting for the complexity of urban *processes* across spatial scales and time frames. Part of its potential lies in providing summative evidence of the environmental and biophysical implications of cities and urban change at a planetary level (Bhan et al, 2024; Espey et al, 2024). And part relates to the capacity to examine and predict urban agglomerative changes (and thereby fine-tune interventions for, say, climate adaptation) at a neighbourhood or city scale (Lobo et al, 2023). One of the axes that spans these seemingly disparate agendas is a set of shared ambitions and commitments related to the construction of theory.

Theorizing in urban science

One way to define the aims of urban science is by comparing it with other closely related terms. What emerges from this comparison is an understanding that urban science is often associated with specific ambitions and modalities related to ‘theory’. On one hand, what may be termed ‘urban data analytics’ can describe a problem-oriented or dataset-led application of techniques – something close to what Geoff Boeing described as ‘the dilettante practice of doing things with software and data about living in cities’ (Kang et al, 2019: 1761). On the other hand, ‘urban science’ may be better seen as involving a search for quantifiably predictable generalities and regularities applicable to urban processes everywhere, over long-term historical time frames (Batty, 2019; Barnett, 2020b). As Boeing clarified, ‘for [urban data science] to be a *science*, it ... has to *build from theory* and *give back to theory*. Science is a theory-building operation’ (Kang et al, 2019: 1761, emphasis in original).

According to this distinction, urban science is essentially concerned with developing ‘a theory of the urban’ (Batty, 2012: 405). ‘Theory’ means different things to different people, but here a common interest lies in generating quantitative, predictive, and testable understandings of fundamental urban processes. Many believe that theoretical statements about such processes can be formalized and expressed as ‘laws’.⁹ An example is the proposition that ‘all settlements are shaped by universal laws of scaling’ (Barnett, 2020b: 450). Through such ‘scaling laws’ (Bettencourt and West, 2010; Bettencourt, 2021), analogous to allometric laws observed in biological and ecological systems (Bettencourt et al, 2007; Batty, 2013a; West, 2017), city dynamics and properties come into view as functional expressions of their scale – usually measured in terms of population size. Urban scientists claim that predictable and uniform empirical regularities link the ‘salient characteristics’ of cities, including those related to population size, area, density, and infrastructure (Lobo et al, 2023).

According to the proposed laws of urban scaling, then, a city’s population size can be used to predict its characteristics across a range of variables, including income and wealth, socio-economic output, connectivity, agglomeration, and sustainability (Bettencourt, 2013; Lobo et al, 2020). Those characteristics emerge through trade-offs between the benefits of larger city size (for instance, in generating economies of scale and efficiencies of infrastructure provision) and the greater costs associated with social interactions, like those linked to crime or disease incidence (Bettencourt et al, 2007). Those searching for laws of urban scaling may hold a specific interest in situations where cities perform better or worse than is predicted simply by their population size – situations referred to as superlinearity and sublinearity, respectively – which indicate effects arising from the interactions

of the parts constituting a system (Bettencourt, 2021). As a consequence of these empirical regularities, urban systems in some countries and regions have been found to exhibit common rank-size distributions of cities, a ‘power law’ distribution known as Zipf’s law (Dijkstra et al, 2021).

While the specific causal mechanisms giving rise to urban scaling effects are the subject of ongoing debate,¹⁰ claims of the existence of ‘scaling’ and ‘power’ laws nonetheless express a strong assertion of the spatial and temporal universality of agglomeration processes. In other words, the empirical regularities arising from these fundamental generative processes are claimed – by their discoverers – to hold true everywhere, for everyone, and always (Barnett, 2020b; Wolf, 2023).¹¹ It is this claim to universal validity that, for its proponents, privileges a theory of urban scaling as a normative framework for the evaluation of planning strategies (Batty, 2013a; Bettencourt, 2013).

The ambitions of some branches of urban science are thus associated with a traditional scientific understanding of theory and theorization. The task is to develop a systematic and coherent framework to understand, explain, and predict fundamental urban processes. Broadly drawing upon a positivist tradition, core to this activity is the objective collection of empirical data through standardized and replicable observation techniques and the production of theoretical ideas or hypotheses that can be tested and verified (Kitchin, 2020). Here causation is understood in terms of regular successions of events or behaviours, or repeated occurrences. The assumption is that these behavioural regularities can then be described by laws akin to those of natural science (Sayer, 2000).

But we can also understand more precisely the theoretical modalities of urban science in contrast to those of other branches of urban theorizing that share a common interest in clarifying the fundamental generative processes shared by all cities and urban systems. For proponents of ‘planetary urbanization’, for instance, urban inquiry starts with a theoretical critique of planetary capitalism and deduces explanations for urban phenomena from that systemic condition, allowing room for the ongoing capitalist production of geographical unevenness. Meanwhile, Storper and Scott (2016) deduce from the theoretical notion of the ‘urban land nexus’ sets of variables that interact to produce concrete and specific urban attributes in time and place. Urban scientists may follow this traditional kind of deductive scientific method, where the questions and research approach are informed by established theory, although data-driven scientific approaches are often more common (Kitchin, 2020). A data-driven approach seeks to generate hypotheses directly from the mining and analysis of data (using ‘guided knowledge discovery techniques’) rather than from theory. These hypotheses can then be tested for validity according to a traditional deductive approach (Kitchin, 2020: 45).¹²

In sum, urban science theorizes by identifying and formalizing universal laws of urban change through the analysis of large volumes of data, articulating the effects of such laws both at an aggregate level and in terms of their highly localized origins and influences (Bettencourt, 2021). Arguably, by retaining this conventional positivism-inflected understanding of what theorization entails, other ways of thinking about theory and generalization are overlooked. We explore this idea later.

Critiquing urban science

Any effort to articulate a ‘new’ approach to inquiry will attract critical responses, and urban science – much like global development – has proved no exception. Critiques of urban science have ranged from the political and ethical to the methodological, and they have emerged from both its practitioners and external observers. Some critiques mirror those raised in past decades in relation to the positivistic social sciences and geographic information sciences, which were accused of being too sure of their self-claimed value-free objectivity; too ignorant of the influence of political, economic, sociocultural, and structural factors on urban processes; and too reductionist, essentialist, and deterministic in outlook (Kitchin, 2020). Likewise, urban science is sometimes criticized for being overly simplistic and narrow in perspective, and for expressing an instrumental rationality and uncritical realist epistemology when ingenuously striving for solutions to urban problems that are often irreducibly ‘wicked’ (Kitchin, 2020). Here it is worried that urban science might encourage technocratic approaches to urban governance by promoting a ‘computational’ and ‘experimental’ view of city systems (Kitchin, 2016; Barnett, 2020b). A related critique is aimed at the ways that certain normative ethical and political assumptions may be built into algorithmic modes of urban analysis and governance without sufficient democratic engagement or transparency (Townsend, 2015).

Critical methodological questions facing urban science relate to issues including data availability, accessibility, type, and the scalar definition of the urban. For instance, Michael Batty (2019) notes the temporal mismatch between the long-term explanatory ambitions of urban science and the big data that, while increasingly available through sensors and social media and other means, are limited to the past few decades, if not years. In general, we often lack the longitudinal data needed to unpack the causal mechanisms of systemic urban change. Unevenness in the big data archive also manifests in spatial and demographic terms – scholars warn that urban inquiry guided by the availability of big datasets could skew analysis towards digitally visible, relatively privileged spaces and groups to the exclusion of others – challenging the study of urban phenomena in less wealthy or

digitally connected populations (Hong et al, 2023). In any case, many big data are privately collected and stored, without appropriate ‘methodological transparency’ or information to support their credibility, veracity, and so on (Kitchin, 2020). Other critics point to the limitations of retaining a quantitative bias and favourably consider how urban science might mobilize qualitative ‘thick data’ (alongside big data) and insights from ‘critical urban theory’ within its ambition to theorize the urban (Kang et al, 2019; Duminy and Parnell, 2020; Hong et al, 2023; Bhan et al, 2024). There is, moreover, an active debate concerning how technical choices regarding the spatial definition of a ‘city’ significantly affect results derived from urban scaling analyses (Cottineau, 2017).

While urban science is sometimes presented and critiqued as a homogeneous field expressing strong claims to universality (Barnett, 2020b), practitioners of urban science are often aware of problems of generalization and inappropriate claims to universality.¹³ Levi Wolf (2023), for instance, discussing the problems of generalizing about causal mechanisms, distinguishes between ‘regularity laws’ (theoretical statements that derive value from how often they are true), which describe empirical regularities, and ‘contextual laws’, which derive their value based on where they are true. Here, forms of counterfactual causal thinking have been proposed to permit the identification of causal mechanisms exhibiting ‘strong contextuality’. In principle, that would allow for forms of generalization that stop short of the universal pretensions of nomothetic ‘law causality’ while transcending an idiographic focus on contingency and particularism (Zhang and Wolf, 2024).

A recent, and somewhat different, critique aimed at urban science focuses on the need to overcome its perceived fragmentation to produce accurate, robust, globally summative accounts of urbanization and its impacts. From one perspective, the potential of such global aggregation lies in the capacity to ‘complicate’ traditional world-scale representations of urbanization characterized by an urban–rural dichotomy that is defined variably by national statistical offices (Brenner and Schmid, 2014). From another perspective, an understanding of the aggregate effects of urbanization on Earth systems is a necessary condition for developing a systematic and effective science–policy interface to drive forward an urban agenda within international governance and decision making (Acuto et al, 2018; Keith et al, 2020; Espey et al, 2024).¹⁴ What is targeted by this kind of critique is not urban scientists’ pretension to universalism in theory but rather the perception that they, as a community, are too diverse, fragmented, and disparate in practice. Such critics seek a summative empirical account of urbanization processes, and the identification of specific causal links between urban and planetary-scale processes (like land-use transformation or atmospheric emissions), rather than a theoretical account centred on laws of city scaling and rank-size distributions.

In response to such critiques, scholars have attempted to synthesize coherent conceptual frameworks to underpin a global, transdisciplinary urban science (Zhou et al, 2021). More generally, the urban science community has hosted lively and reflexive debates about how it should be built as a science. There has been active recognition of the dangers of scientism and defining urban science through the fetishization of particular (quantitative) methods (Kang et al, 2019). There have been calls for big data to serve, rather than define, the questions animating urban inquiry (Bhan et al, 2024). For Luís Bettencourt (2021), an urban science should instead emerge through the open-ended integration of three ‘ingredients’: a resolutely and ecumenical interdisciplinary approach, a comprehensive and expanding empirical base that traverses multiple scales, and a recognition of the diversity of human experiences and knowledge of urban phenomena. Consequently, urban science may be better thought of as a ‘platform’ (7) rather than a coherent methodology or discipline.

The term ‘platform’ reflects a more emergent view of urban science and its ambitions: a notion that it should aspire to produce ‘novel synthesis’ by integrating but advancing beyond existing fields of urban knowledge; that it should be predictive and generative of how to act in entirely new circumstances. To develop this emergent capacity, Bettencourt (2021) invites urban scientists to engage in the co-production of knowledge with diverse actors, including those traditionally seen as ‘research subjects’ or ‘beneficiaries’, to co-create and integrate emplaced understandings of urban change (Duminy and Parnell, 2020; Bettencourt, 2021; Karvonen et al, 2021; Hong et al, 2023; Lobo et al, 2023). Yet missing from this vision of knowledge co-production is the deeper transdisciplinary challenge of how to transform the methodologies of urban science to include multiple constituencies not simply as sources of highly contextualized data but as co-generators of the entire research–practice process as a ‘deeply political’ and ‘locationally embedded’ *translational* endeavour (Parnell and Pieterse, 2016; Bhan et al, 2024).

In summary, urban science has been targeted by a range of critiques, and its practitioners have responded to those critiques within efforts to define their ambitions and modalities. The view presented here of urban science as an emergent and responsive platform concurs with Clive Barnett and Gary Bridge’s invitation to approach the concepts of urban inquiry ‘problematically’ (Barnett and Bridge, 2016). We now explore this approach, considering its implications for scholars of global development.

Thinking problematically and analogically

Why do urban scholars need a ‘a rigorously focused, logically consistent, globally oriented, and contextually grounded analytical orientation’ (Brenner,

2019: 331)? Why should they search for ‘refined conceptualizations of a coherent object of analysis’ that expresses a high degree of generality, in the sense of being valid for an extensive range of people and places (Barnett and Bridge, 2016)? In responding to these questions, an implicit assumption may be that the ‘normative force’ of an urban theoretical idea turns upon whether or not its claims to universality are legitimate (Barnett, 2020b). Put differently, it may be assumed that a concept is more useful or better when its claims about the nature or essence of a phenomenon are valid for a wider array of places, peoples, and times. In this mode of thought, ‘concepts of urban inquiry remain the special preserve of a cadre of intellectuals’, and the activity of critique usually takes the form of ‘debunking the naivety of taken-for-granted understandings of the city’, thereby expressing a form of ‘scholastic correction’ (Barnett and Bridge, 2016: 1201).

What if we instead approached urban concepts, in pragmatist terms, problematically – in the sense of diagnosing why and how urban processes have, in various situations, become objects of critical thought in response to various problematizations of sustainability and development (Barnett and Bridge, 2016)? Through this approach, urban concepts would be seen to ‘take on meaning in relation to the pragmatic purchase they have on the ongoing tasks of engaged problem-solving’ (Barnett, 2020b: 444–5). Accordingly, we might take seriously the various ‘vocabularies’ through which urban processes are expressed as ‘issues requiring concerted attention’ in a range of scholarly but also practical domains (Barnett and Bridge, 2016). Doing so would broaden our sources of insight and reflection for urban theoretical elaboration beyond the traditions of self-defined ‘critical’ urban thinking.

Following this approach to urban concepts as problematic, urban science comes into view as only one domain within a broader movement to think and communicate intensively about urban processes. We can see efforts to articulate a ‘new urban science’ as the symptom of a problematization of public affairs that prioritizes urban processes as drivers of, and solutions to, sustainability and development challenges of all kinds at a global and, indeed, planetary scale – a problematization involving thinking that ‘cities can save the planet’ (Angelo and Wachsmuth, 2020). Urban science could be critically approached as a concerted response to pressing problems of public concern – one drawing from a pool of available intellectual, technical, and financial resources as well as anticipated technological opportunities.¹⁵

Similarly, scholars working within the frame of the global development shift might see part of their task as diagnosing how and why development and environmental issues have been thought about in particular ways, and increasingly in a global register, across a range of intellectual and more practice-facing domains. Rather than faulting the empirical veracity and perceived political-theoretical shortcomings of the global development shift (see Chapter 2), critical engagements with this shift could take on a more

genealogical style – examining the conditions of possibility for phenomena to be thought about and addressed in the ways that they currently are (Koopman, 2013; Barnett, 2015a).

Thinking about development and environmental processes in this way opens to a related discussion of whether and how to treat the ‘case’ in more ‘problematic’ terms. Urban inquiry is one domain in which scholars have grappled concertedly with how to overcome limitations imposed by conventional social scientific approaches to the individual case study, to comparison, and to the systematic analysis of cases (Robinson, 2011; Barnett, 2020b; Horner, 2020; Gillespie and Mitlin, 2023). While traditionally seen as ungeneralizable, the case study has been valorized by urban-facing scholars for its capacity to falsify scientific propositions and to promote the building of theoretical ideas from particular emplaced situations (Flyvbjerg, 2006; Duminy et al, 2014; Bhan et al, 2018).

However, we may miss a trick when thinking about the value of cases only in terms of their formal logical generalizability. As Barnett (2020b) recognized, urban scholars have long appreciated the value of cases for facilitating analogical, case-by-case reasoning and learning. They share this view of cases as problematic in common with other fields in which casuistry is practised, such as planning, law, medicine, clinical psychology, social work, and management science. Here a case offers value by challenging and unsettling taken-for-granted ways of thinking and doing – a case is a situation that has ‘animated some kind of judgment’ (Berlant, 2007). We learn from cases, in part, by relating and comparing them to our own experiences, in the process developing our competence for situated judgement.

That cases can provide guidance for how to make judgements in difficult situations makes them particularly valued in a range of fields that deal with normative concerns. That should be borne in mind within the growing enthusiasm for the application of big data and data analytics to urban and development inquiry. How urban science can appreciate and productively channel the value of case analysis is something yet to be explored in detail, although there have been such discussions in the context of integrating ethnography-inspired methods with those of data analytics (Hong et al, 2023). There is also room for sustained discussion of how the counterfactual approach to causal analysis often implicit in single- and multi-case study research (J.I. Bakker, 2010) can be mobilized to help address the problem of contextuality and generalizability within urban science (Zhang and Wolf, 2024).

Scholars seeking to further the global development shift might consciously engage with this view of generalization as involving counterfactual thinking and case-by-case reasoning and learning and of the role of the critic as a diagnostician and genealogist of problematizations (Barnett, 2020b).

Conclusion

We have suggested that recent movements and debates in urban scholarship – including various efforts to grasp urban change from a planetary perspective – may be of interest to scholars of other developmental and environmental processes. In a salutary sense, various traditions of urban inquiry provide intellectual resources and analytical strategies to grapple with pressing challenges that arise when working across cases, scales, sectors, and disciplines. These include a range of tactics to think across and beyond a dualistic framing counterposing the Global North with the South (Gillespie and Mitlin, 2023) and to reconcile the universal with the particular (Horner, 2020).

We agree with this perspective on urban inquiry as an instructive case from which others can learn, but we have taken the discussion in a different direction. The ‘new’ and evolving urban science is an example of the opportunities (and optimism) afforded by new technologies, data sources, and methods to deliver spatially and temporally granular insights into urban and environmental processes – insights that can in turn be aggregated to a worldwide scale and even packaged as universal theoretical principles or ‘laws’. Yet urban scientists face challenges of socio-spatial and temporal unevenness in data availability – challenges that threaten to undermine their aspirations towards universal theoretical statements. Further, urban scientists will have to continue to reckon with (or ignore) the charges of Western/Northern/Eurocentric bias, and the erasure of difference, that will inevitably flow from this unevenness in the data record. How practitioners of urban science can best reconcile emerging technological and data opportunities with calls to broaden the geographical and intellectual reference points for theorization remains a problem – but it is precisely because it is an enduring problem that makes it a valuable source of learning.

The lively debates among urban scholars over what should be their fundamental theoretical object and approach (or, indeed, if any such thing is possible or desirable) are a sign of a healthy and fertile (even if fragmented) intellectual milieu. However, in a less positive sense they also warn of the danger of theoretical debates becoming preoccupied and encumbered by calls for conceptual coherence; by the assumption that the normative force of theoretical ideas depends on the validity of their claims to universality; and by the quest to overcome ‘philosophical puzzles’ centred on the relationship between the global and the local, the abstract and the concrete, the universal and the particular, the general and the specific (Barnett, 2020b). By dwelling on these challenges, urban theoretical debates have tended to privilege a mode of criticality characterized by debunking and revelation.

We have suggested that a planetary theoretical perspective on development – one that aspires to work beyond ontological framings of scale that assume the pre-giveness of the ‘global’ and the ‘local’ – might be concerned less

with defining coherent orientations and objects of analysis with strong claims to spatial and temporal generality, or identifying the essential features and causes of global meta-trends in development (Büscher, 2019; Fischer, 2019; Ghosh, 2019). Rather, it could be concerned more with a pragmatist-inspired critical diagnosis and clarification of the problematizations shaping the ways we think, prioritize, assign responsibility, and act in relation to development (Barnett and Bridge, 2016).

Our suggestions regarding a pragmatic and diagnostic perspective may encourage alternative modes of theorizing by appreciating the positive problematic quality of cases in promoting learning around situated judgement making, rather than subordinating the case to the problem of developing highly generalizable concepts. Here ‘theorizing’ would mean more than producing formal universal statements. It might include activities ‘shaped by forms of generalization that are guided by pragmatic concerns’; forms of generalization expressed through case-by-case learning and analogical reasoning performed ‘in the absence of shared theoretical frames’ (Barnett, 2020b: 451, 455). Such an approach would be particularly useful for fields of inquiry, like those connected to cities and development, that are animated by pressing normative concerns and ‘wicked problems’.

Recognizing the value of a pragmatic and problem-oriented approach to inquiry will help to ensure that the global development shift is hospitable to a range of perspectives on theory and the activities of theorization and critique. This impetus resonates with calls for global development thinking to transcend orthodox approaches in development theory (Ziai, 2019). It will further help to broaden the range of potential sources for theoretical inspiration and elaboration beyond fields of self-defined ‘critical’ scholarship. To be clear, a view of theoretical ideas as being driven and given meaning by problem responsiveness is only one vector along which the global development shift might proceed. It could be that scholars of development and environment find specific critical inspiration from postcolonialism, decolonialism, Southern theory, political-economic theories of uneven development, world systems theory, notions of imperialism, feminism, queer theory, or many other intellectual currents. All should be welcomed. But we should also remain vigilant lest theoretical debates stagnate within a narrow view of what counts as criticality and normative utility.

Demographic Change

Introduction

Vinice Mabansag was born shortly before 1.30 am on a Tuesday in Dr Jose Fabella Memorial Hospital, downtown Manila. The United Nations (UN) Population Fund decided to designate 15 November 2022 – Vinice’s birthday – as the ‘Day of 8 Billion’. The Philippines Commission on Population and Development chose Vinice to represent the world’s total population number crossing the 8 billion mark, although other national health agencies announced their own symbolic billion-babies.

The moments, predicted by demographers, at which the total number of the global population will exceed an imagined billion-strong threshold is now a well-worn opportunity for international agencies to launch programmes of action and advertise their work.¹ For the media, they provide a chance to reinvigorate a public debate over the relationship between population, development, and environment. For all the media fanfare and agency back-patting, transecting these events is a seam of popular anxiety about the future of human society and the planet. While for some a cause for celebrating developmental progress, for others these milestones invite sober – occasionally despairing – reflections on emerging planetary challenges and on the need for shared human responsibility for planetary stewardship. Many would struggle to see continued world population growth in anything other than a ‘catastrophic’ light (Dean, 2015).

The ambivalence of global population growth ensured that the Day of Eight Billion would restage a long-running public debate. One side proposes the deceleration (if not reversal) of population growth as a key, perhaps essential, condition of sustainable development, of an effective response to climate change, and of avoiding socio-ecological collapse (J.M. Diamond, 2005; Ehrlich and Ehrlich, 2013; Crist et al, 2022). Those opposing the motion might respond that the very discussion of population growth is a distraction from the core problem: consumption-intensive lifestyles and resource-intensive economic growth, and the massive economic inequalities

that exist within and across societies. They might fear the problematization of population growth as inviting the uncritical recycling of ideas with imperialist, racist, sexist, or eugenicist legacies (Connelly, 2008; Coole, 2013). They would argue that population growth is less of a concern than how we marshal and manage the resources and services to enhance the productivity and quality of life of the billions of people who exist now and in the future. From this perspective, the human species has always harnessed innovations in knowledge and technique to overcome the scarcity of food and other resources that might constrain the growth of populations. Indeed, population pressure on available means of subsistence is sometimes regarded as a potential driver of innovation and increased productivity (Boserup, 1965; Simon, 1977, 1981).

Those making the latter, more ‘optimistic’ argument would likely cite evidence that while the total number of people living in the world continues to grow, the rate at which it is growing is falling steadily – and has been since the 1960s. Data from the UN (United Nations, 2022b) show that in 2020 the annual rate of global population growth fell below 1 per cent for the first time since 1950. The world’s population size is expected to peak at around 10.4 billion at some time during the 2080s, remaining there until the turn of the next century. Specific predictions about the high point and time frame of turnaround vary, but all demographers would likely agree that world population growth is slowing. Indeed, it is possible that since 2020 we have been living through the sharpest deceleration phase of the third ‘great slowdown’ in the historical rise of the worldwide human population – the first such slowdown driven by our own volition rather than by surges in mortality linked to famine, war, epidemics, or other outcomes of conquest (Dorling, 2020). The explanation is that people, for various reasons, are having fewer children than their forebears: a ‘baby bust’.

Accordingly, recent incarnations of the population debate have found a new focus of alarm: not on population *growth*, but rather on *decrease* or *loss*. Unprecedentedly low birth rates – observed in contexts ranging from Russia, South Korea, Italy, the United Kingdom (UK), China, and Singapore to Brazil and Thailand – are now conceived as potential drivers of national economic decline, waning geopolitical influence, or even broader civilizational collapse. If demographic anxieties in the era of ‘international development’ were animated by ‘new Malthusian’ concerns that worldwide population growth would rub against the ‘limits to growth’ presented by finite stocks of natural resources (Meadows et al, 1972), then in the contemporary era of global development they are also animated by a view of *population loss* (and its companion, population ageing) as a new kind of *limit to growth*; one undermining public tax bases, government expenditures and functions, popular standards of living, and economic innovation (R. Lee et al, 2014). Those anxieties arise from the same basic Malthusian analysis of an ‘imbalance

between population and resources'; as Robert Mayhew (2014) has rightly observed: 'Malthus in reverse is still most assuredly Malthus' (217).

Exceeding population size

Trends in population size, whether increasing or decreasing, do not extend smoothly within country borders. Rachel Franklin (2020) has demonstrated that our understanding of population change can and must move beyond national- and world-level statistics and a myopic focus on growth. Mapping the geographical patterns of population increase and loss at local and regional scales, Franklin quilts an intricate patchwork. Yet even these efforts to highlight the geographic diversity and specificity of demographic trajectories view demographic change through a single metric: changes in population size.

Projecting global population change, designating 'days of billions', and the public and political debates that inevitably result, illustrate how environmental and developmental problems are often flattened, bifurcated, and rendered technical. First, they are *flattened* through the reduction of complex relationships and realities into a single issue and metric; in this case, changes in population size. Second, they are *bifurcated*, presented in a form that invites a choice between a limited number of political and ethical positions: one either believes that population change is a concerted – perhaps existential – problem calling for targeted interventions to lower fertility rates, or one is an 'anti-Malthusian', believing in the power of human ingenuity or capitalist hegemony.² Those in the first camp may be accused of alarmism and pessimism, those in the second of complacency or unrealistic radicalism (Gleditsch, 2021). Third, through their reduction to single metrics and by limiting the range of positions available, complex political and ethical problems are *rendered technical* (Li, 2007); they are defined as problems linked to specific mechanisms of redress and to specified parameters for evaluating progress – whether in the form of programmes for girls' education, family planning, or the like.

These three movements curtail our understanding of the dynamic interrelationships between demographic, developmental, and environmental processes. Given the strength of these reciprocal transformational effects, which we will outline, the absence of detailed engagements with the realities, concepts, and ideas surrounding demographic change inevitably restricts our understanding of the drivers of global challenges and hampers our responses.

Globalizing a demographic perspective

The core argument of this chapter is that discourses on global development must, at minimum, exceed a focus on population change (that is, increases

or decreases in population size) and a unilinear notion of the demographic transition. Rather, a *globalized* perspective on demographic change should encompass diverse trends in population size and structural composition, along with their complex geographic distributions and temporal characteristics (Duminy et al, 2023). We argue for an understanding of global demographic change as a *dynamic* and *transformative* process, interconnected with other planetary systems, that will produce new socio-economic and political realities in non-linear, emergent ways – with significant implications for the ideas and practices of development.

The relationship between demography and development has traditionally been understood through the theoretical concept of the ‘demographic transition’. This concept describes and explains changes in the size and characteristics of populations as they progress along an assumed development trajectory leading from an agricultural to an industrial society. It explains these changes with reference to two key variables: death rates and birth rates (depending on the scale of analysis, migration may also be a significant factor). Annual birth and death rates of a population are, in turn, determined by levels of mortality and fertility experienced by individuals within a population. Mortality is usually indicated by life expectancy at birth; fertility is indicated by the ‘total fertility rate’, or the average number of children expected to be born to a woman over her reproductive life. This rate, which (according to demographic transition theory) declines as a country develops and urbanizes, is affected by a range of factors. They include the availability and accessibility of modern family planning and reproductive health services, higher chances of children surviving into adulthood, and economic considerations such as the increased costs of raising a child or a perceived lower economic benefit from having more children. Put simply, processes of modernization and development are seen to induce desires for smaller family sizes, increasing demand for modern family planning methods and leading to lower fertility rates (Bongaarts, 2009).

In its classical formulation, the demographic transition comprises four phases. In the first, typical of pre-industrial agrarian societies, high mortality rates offset equally high birth rates, meaning that population size remains basically constant save for the effects of migration. In the second phase, populations grow rapidly as death rates fall, yet birth rates remain high. Populations in this phase will be relatively ‘youthful’: their median age will fall due to the high numbers of children being born and surviving into adulthood. In the third phase, the rate of population growth remains positive but eases as the birth rate declines. In the fourth and final phase, typical of industrialized ‘developed’ societies, the population ceases to grow as birth and death rates both reach and stabilize at a low level. This population ‘ages’ as the median age rises because of fewer children being born and individuals, on average, living for longer. The entire demographic transition is expected

to be completed over the course of 100 years, and the net result is a far larger population (Bongaarts, 2009).

Against this intellectual background, why should a ‘globalized’ perspective be valuable for a discussion of global development and environment? Here we present a non-exhaustive description of how changes in population size, structural composition, and distribution will affect our economic and environmental realities. Our focus falls on fertility change rather than mortality and migration, for several reasons. First, fertility is a significant determinant of changes in population age structures. Second, many governments are now encouraging increased fertility rates to counter the effects of population loss and ageing (R. Lee et al, 2014). And, third, in situations where populations are growing, voluntary programmes of family planning and reproductive health are relatively low-cost interventions that can target fertility change effectively, whereas few such tools are available to manage migration (Montgomery et al, 2022).

Economic implications of demographic change

One set of reasons to reassess the place of demographic questions within global development is economic in kind. During the first decades of the post-1945 era of international development, concerns over ‘explosive’ world population growth emerged as a concerted public issue through which development and environmental issues were problematized. The sense that high fertility rates in poorer societies and regions was a problem was expressed in various ways – not least as a potential threat to Western capitalist liberal democracy in the context of the Cold War. Yet a core concern was the relationship between population growth and economic development in less wealthy countries. Some simulations of economic growth under different demographic scenarios appeared to confirm a negative relationship, strengthening arguments for population policies and programmes of ‘birth control’ among international agencies and national governments (McNicoll, 1995).

Gradually a ‘revisionist’ position emerged among researchers who held population growth to be, on balance, a ‘fairly neutral’ variable in predicting national economic growth (McNicoll, 1995: 307). Politically, concerns over population growth became increasingly ‘toxified’ during the 1970s and 1980s with the rising influence of neoliberal economic ideology, allied with social-religious conservatism within the ‘New Right’, and joined by critical postcolonial and feminist voices that called out population policies as mechanisms for neocolonial domination and the patriarchal control of women’s bodies (Connelly, 2008; Coole, 2021).³ If ‘Malthusianism could make strange bedfellows’, so too could its opposition (Mayhew, 2014: 153).

Ultimately, the more neutral position on population and economic growth, in confluence with these critical and conservative currents,

alongside emerging evidence of slowing world population growth, fed into deliberations at the landmark 1994 International Conference on Population and Development, held in Cairo. The resulting programme of action decisively shifted emphasis in population policy making away from macro-level economic rationales to justifications based on individual rights, including the right to be free from coercion, bringing welcome attention to women's reproductive health (Duminy et al, 2023).

More recently, the demographic–economic debate has resurfaced, albeit in a form more nuanced by contrast with the limits-to-growth arguments of previous decades, the latter oscillating around the core problem of population growth. There is now considerable political and academic discussion of the potential for the shifting sizes, structures, distributions, and other characteristics of populations (such as educational attainment) to enhance or encumber national, regional, and global economic development (Lutz et al, 2019; Mason and Lee, 2022).

Paying dividends

Viewed in a positive sense, the economic potential arising from demographic changes is captured by discourses surrounding the 'demographic dividend'. Such discourses have proved influential in development policy debates, inspired by the astonishing economic growth (associated with rapid demographic transitions driven by declining fertility rates) achieved in East Asian economies such as South Korea and Thailand from the 1970s. Increasingly, the 'dividend' concept has been applied to highlight the potential for economic growth in the contexts of Latin America, South and South East Asia, and sub-Saharan Africa (Bloom and Canning, 2007; Bloom et al, 2017).

While 'dividend discourse' draws needed attention to demographic–economic interlinkages, it has not gone uncontested. Critical commentators rightly note that economic growth has many determinants: terms of trade, rule of law, security of property rights, and presence of institutions that encourage public and private investment, to name a few. Such conditions, while present in East Asia, were lacking in much of Latin America, where similar demographic changes were associated with weaker and less widespread economic growth (Bongaarts et al, 2012). Likewise, it has been argued that many of the non-demographic factors necessary to realize the economic potential of demographic transitions are currently absent in much of sub-Saharan Africa, where dividend discourse has been received with enthusiasm in policy circles (Cleland and Machiyama, 2017). In any case, Wolfgang Lutz and colleagues (2019) have argued that it is investments in human capital, particularly improved education, that are more statistically significant in accounting for the economic growth enjoyed by a broad swathe of countries than the changing age structure of their populations.

Table 5.1: Forms of demographic ‘windows of opportunity’

Form of ‘window’	Characteristics and implications
First	Declining mortality rates, in its initial stages, improves young-age survivorship, leading to larger-than-expected cohorts of surviving children. In time, this results in a larger-than-expected cohort of labour market entrants, which may find expression either in a boost in productivity due to the bump in the aggregate labour force, or in a logjam in sorting the new labour market entrants into productive employment.
Second	As fertility rates drop in response to the initial mortality decline, and young-age dependency ratios decrease, this potentially frees resources to improve human capital investments per child, whether made by the family, or the state, or both. Economists are increasingly interested in the long-term productive payoffs that result from parental-time-intensive, interactive modes of early childcare and education, which are modes of parental and school-system care that are facilitated by low-fertility environments. This represents a form of ‘life-course’ perspective.
Third	As age-structure shifts lead to an expansion of production and resources, a further window of opportunity can open as financial instruments and markets mature and stocks of savings grow, making possible increased investments in human and physical capital.
Fourth	When the benefits for society borne of the social and economic capital of older people are realized, a final window of opportunity may emerge. This window, associated with improved old-age survivorship, is highly conditional but would likely involve systemic changes that facilitate financial savings specifically to support a lengthening and active period of older age.

Sources: Fried (2016), World Bank (2016), Duminy et al (2023)

Consequently, some researchers prefer to speak in terms of demographic ‘windows of opportunity’ – periods in the demographic transformation of a society during which economic growth can potentially be achieved, but *only under certain conditions*. In fact, there are different kinds and forms of such a ‘window’, four of which are described in [Table 5.1](#).

Further scepticism arises from observations of international trends in fertility rates. As implied by the second demographic window of opportunity (see [Table 5.1](#)), to enjoy an economic boost a country must see a decline in its fertility rate so that the size of the working-age population increases relative to other age cohorts. However, in a range of countries (particularly in sub-Saharan Africa) we find persistently high levels of fertility ([United Nations, 2023](#)) and even unexpected ‘stalls’ in fertility declines ([Bongaarts, 2006, 2008](#); [Garenne, 2008](#); [Shapiro and Gebreselassie, 2008](#); [Ezeh et al, 2009](#); [Goujon et al, 2015](#); [Kebede et al, 2019](#); [Schoumaker, 2019](#)). Such stalls and reversals in fertility declines – sometimes well above the ‘replacement level’ of 2.1 births per woman – have also been observed for many urban areas in sub-Saharan Africa

(Duminy et al, 2021; Sánchez-Páez and Schoumaker, 2022).⁴ Slow fertility declines make it challenging for less wealthy countries to build the human capital, economic diversification, and employment opportunities sufficient to accommodate their growing working-age populations (United Nations, 2023).

Given that most future population growth will be concentrated in cities and towns of sub-Saharan Africa and Asia (United Nations, 2019), and that urbanization is historically correlated with economic growth (World Bank, 2009), harnessing the potential productivity arising from urban growth and ‘youth bulges’ should be a core driver of economic growth in such contexts.⁵ For many African contexts, however, the question is often framed as one of avoiding a ‘demographic curse’ posed by large cohorts of young urbanites who have insufficient skills and resources to enter the formal labour market; instead they engage in low-wage and precarious work, often looking to opportunistic movement and migration to secure some kind of income and advantage (Simone, 2004a, 2010; Pieterse, 2014). For some, a youthful (male) population denied the traditional markers of social adulthood and stuck in a state of ‘waithood’ (Honwana, 2014) present more as a force of instability – fertile grounds for radicalization and violence – than as an instrumental asset for economic growth (Agisilaou, 2022). That urban policy makers could work proactively to lower fertility rates in towns and cities by helping to meet unmet need for contraceptive services is seldom recognized in urban policy circles, although the argument has recently been made (Duminy et al, 2021, 2023; Harpham et al, 2021, 2022; Duminy, 2023).

As indicated by discourses surrounding demographic windows of opportunity, there are potentially positive links between demographic change, productivity, and economic growth. But what about possible negative effects? After all, public and political discourses often portray population ageing – where a society sees an increase in its median age due to declining fertility rates and increased life expectancy – as detrimental for economies. It is to this problem that we now turn.

Low fertility and population ageing: an economic problem?

Nearly every country is undergoing, or at least can expect, a growth in the number and proportion of older persons within its population (United Nations, 2023). Indeed, we find fertility at levels below replacement not only in high-income countries but also in many less wealthy settings. The potentially negative economic implications of population ageing and decrease have attracted public attention in diverse contexts including Japan, Singapore, Lebanon, South Korea, Australia, Vietnam, Italy, Russia, Bulgaria, Poland, Brazil, Mexico, Chile, and Costa Rica. Such concerns are usually fiscal in nature, arising from anticipated reductions in the size of productive workforces, constrained tax revenues, reductions in savings and investment,

and elevated demand for public expenditure on the provision of care and pensions (Bloom et al, 2010).⁶ Occasionally, as in Hungary, these concerns are animated by right-wing political fears over population ‘replacement’ alongside a desire to reassert conservative–patriarchal family values.

Yet, whether low fertility rates and population ageing are an economic problem for countries depends on a complex interplay of contextual factors including age-related patterns of income from labour, consumption levels, and the nature and extent of intergenerational transfers of wealth and care.⁷ Following Ronald Lee and scholars associated with the National Transfer Accounts programme (2014), we can understand this complexity, and differences in outcomes across contexts, in terms of the interplay of two variables. A high *fiscal support ratio* (where a society enjoys a greater ratio of taxpayers to tax beneficiaries) tends to be favourable for public finances, allowing the provision of more benefits at each age, lower taxes, a smaller budget deficit, or a combination of those three factors. A society with a higher *support ratio* (which has more earners relative to consumers) means that each of its members enjoys a proportionally greater availability of resources. That availability allows for more consumption, boosted savings and investments, or some combination of the two.

It follows that an ageing society (with growing proportions of children and older persons within the population – in other words, one having a decreasing *fiscal support ratio* and *support ratio*) is likely to see additional demands placed on state and family or household budgets. Those demands can strain the public finances and services directed to education, systems of healthcare and social security, critical infrastructures, and other wealth-generating interventions. High levels of state spending on young-age and older-age dependants have the potential to ‘squeeze’ the living standards of working-age populations (Mason and Lee, 2022). In principle, higher-income and ageing societies could boost their fertility rates to maximize their fiscal support ratio and support ratio. But if the core policy objective is to maximize levels of consumption within the society, a country like Sweden or France might actually require a *drop* in the total fertility rate from its already low (below-replacement) level (R. Lee et al, 2014). While low fertility will present challenges to government functions and fiscal health, and very low fertility will likely result in lower standards of living, generally speaking ‘moderately low fertility and population decline favour the broader material standard of living’ (R. Lee et al, 2014: 229).

By these calculations, low fertility is not, by definition, a serious problem for national economies. For the challenges it does present, encouraging immigration is one possible solution for governments – yet, while immigration can lower the median age of the host populations in the short term, in the longer term it may actually make a population older (R. Lee et al, 2014). Pro-migration policies also carry political risks, potentially contributing to political nativism and anti-immigration backlashes (Schrag, 2010; Mudde, 2012).

A second option is for governments to attempt to boost their population's total fertility rate. This calls for concerted and vast monetary investments and incentives to encourage people to have children. To date, such efforts have enjoyed only modest successes (relative to the impact required to halt population loss) in contexts like Singapore, Hungary, and Poland (United Nations, 2022a). They also raise under-addressed political and ethical questions. Will such policies one day be seen as coercive interventions that offered economic incentives exerting a disproportionate effect on low-income members of those societies (Duminy et al, 2023)? Is supporting national economic development and public finances a sufficient reason to justify adding to the numbers of high-consuming societies, even if this relegates future generations to relatively low standards of welfare? The latter question brings population ethics into play; the answer depends on one's position on whether childbearing is good, neutral, or harmful (Benatar, 2006) and how we consider the value of existence in relation to actions that affect the numbers of people being born, who those people are, and their quality of life (Arrhenius et al, 2022).⁸

A proportionately smaller workforce and taxpayer base can also be compensated for by investments in human capital to raise worker productivity, notably through education. Investing in health throughout the life-course of individuals, promoting relatively good health at older ages, would also help to moderate declines in economic growth linked to population ageing (Cylus and Al Tayara, 2021). Pension reforms, raising the legal age of retirement, are a possible resort – an understandably unpopular measure, as the 2023 protests and strikes in France, in response to such an official pronouncement, reconfirmed for other governments facing similar dilemmas (Boulhol and Queisser, 2023). Technology and robotics offer opportunities to manage population ageing by automating roles currently performed by young workers or by facilitating the care of older people (R. Lee et al, 2014). Yet, in pursuing such alleviative measures we may overlook the reality that, statistically speaking, younger populations tend to be more innovative – and, by extension, productive – through their concentration of 'fluid intelligence' and the novel, disruptive ideas they produce (Kaltenberg et al, 2023).⁹ Population ageing and decrease could thus curtail the potential for innovation that raises economic productivity and catalyses technological advancement. The application of artificial intelligence may compensate for deficits in human innovation, but its capacity to generate truly disruptive ideas remains to be proved (The Economist, 2023).

More than national

Zooming out from this state-centric discussion, we can also consider the global and regional economic changes that will likely arise from population change. Andrew Mason and colleagues (2022) have done exactly this. They

predict that population change will lead to a general slowdown in the growth of global gross domestic product, up to 1 per cent annually. They also expect geographic shifts in global economic activity, with a growing share to be located in sub-Saharan Africa and South and Central Asia. While age-structural changes may generally squeeze the living standards of working-age adults owing to high rates of spending on children and older people, populations of lower-middle-income countries (LMICs) could enjoy a rise in their standards of living. And population ageing will likely boost demands for public debt and the accumulation of private assets, possibly raising productivity as a result.¹⁰

However, we should avoid the depiction of a ‘two-speed world’ comprising populations that are either decreasing—ageing or growing—youthful. Growing countries and cities wishing to realize the potential of their demographic windows of opportunity cannot afford to focus their policy measures on the youth while neglecting the welfare of their increasing numbers of older people (Aboderin, 2012). Policy makers everywhere must anticipate changes in demographic size and structure over multiple time frames and proactively invest in their populations and services. For contexts that are currently experiencing population growth, the relative emphasis on investing in family planning and reproductive health programmes, plus education and employment creation, may over time have to shift to prioritize healthcare and social protection and measures that sustain productivity growth (World Bank, 2016; United Nations, 2023). Appropriate preparation and planning are critical to maximize the positive transformative effects of demographic changes and to minimize their negative effects.

The economic implications of population-structural changes are far from universally positive (expressed through the notion of demographic windows of opportunity) or negative (as a result of the fiscal challenges and dampened innovation potentially linked to an ageing population). They are instead multi-faceted and highly contextualized, relating as much to state policy trajectories, educational attainment levels, per capita rates of consumption, and cultural traditions of caregiving as to the total size of a society’s workforce or level of industrial development. By themselves, the demographic-economic relationships discussed here offer a strong reason to recentre demographic change within global development discourse. But what are left out of this perspective are the critical demographic connections with environmental change.

Environmental implications of demographic change

The first three decades of the 21st century have witnessed a resurgent debate on the role of demographic change within the generation of climatic risks (primarily through increased emissions) and within potential responses to

the global climate emergency. This debate has taken on a far more nuanced form by contrast with neo-Malthusian discourses of the past (Ehrlich, 1971; Meadows et al, 1972). What are now emphasized are the dynamic relationships between changes in population size, structure, and levels of consumption and education attainment – rather than a narrow focus on population growth and resource decline. It is estimated, for example, that population ageing (particularly in industrialized regions), by contributing to a slowing of economic growth, could reduce emissions by 20 per cent over the long term (B.C. O’Neill et al, 2010; Jiang and Hardee, 2011). Some of this work demonstrates that demography-facing interventions – including implementing appropriate policies to satisfy (currently unmet) global demand for family planning and reproductive health services – could create significant environmental co-benefits by lowering average fertility rates (B.C. O’Neill et al, 2010, 2012; Bongaarts and O’Neill, 2018).

We also see environmental crises problematized within a demographic framework in more popular domains related to reproductive decision making. Climate anxiety, and the impact it has on mental health, is now a well-recognized phenomenon within the psychology literature (Clayton, 2020). Fears over environmental catastrophe and widespread societal instability are leading some to decide against having children, or to limit their childbearing, owing to concerns about the impacts that climate change will exert on unborn generations, or that these generations may elevate the problems of resource consumption and climate change to the level of an existential threat (Arnold-Baker, 2022). There is a real possibility that a child born now will live in a world that has warmed by three or four degrees Celsius above pre-industrialization levels, radically compounding contemporary social, political, and economic instabilities. Such existential anxieties have helped to foster the BirthStrike movement, a collective of women and other genders challenging pronatalist societal norms and political injunctions and pressuring for more ambitious climate action (McMullen and Dow, 2022).

Aside from such cultural observations, there is a thoroughly geographic dimension to the demographic–environmental relationship pertaining to urbanization and urban growth. Consider the problem of urban spatial expansion. It is believed that cities are expanding spatially at rates faster than those at which their populations are growing (Angel et al, 2011). In some cases, this is linked to trends towards smaller household sizes (McDonald et al, 2013). Patterns of spatial expansion of towns and cities will have significant implications for land consumption, environmental degradation, and biodiversity loss at the urban periphery and in spaces of resource extraction further afield. Lower-density urban environments tend to produce more emissions per capita, meaning that patterns of urban sprawl will aggravate the drivers of climatic change. Even shrinking and ageing urban populations will not necessarily deliver a reduction in the consumption of natural resources

due to increasing per capita demands for housing space, ecosystem services, and environmental resources (Haase, 2013).

Global population changes and urbanization will also shift demographic profiles of environmental risk exposure and vulnerability. Coastal zones, vulnerable to climate change effects including sea-level rise and flooding, already host very large urban populations. These areas tend to be more densely populated than inland areas and see higher rates of population growth (MacManus et al, 2021). In the next decades, we can expect significant growth of the global population living in coastal areas at risk from sea-level rise and flooding, with the largest absolute growth in exposure expected to take place in Asia and the largest relative growth in Africa (Merkens et al, 2018).

As noted previously, future increases in the world's population will take place almost exclusively in the cities and towns of LMICs, particularly in sub-Saharan Africa and South Asia (United Nations, 2019). In these regions, the urban proportion of the population will rise as urban population growth rates overtake rates of population growth overall. The resulting processes of urbanization and urban growth, especially in poorer settings, often outpace the capacity of governments to make appropriate investments in infrastructure, environmental management, and climate adaptation. Consequently, increasing numbers of the urban population will be located in informal and slum-like settlements where human development indicators (including environmental health and access to safe and effective family planning services) are compromised, and which are acutely vulnerable to the impacts of climate change (Ezeh et al, 2017; United Nations, 2019; Duminy et al, 2023).

We may have a relatively good sense of how demographic change can exert impacts on the environment – but how will environmental change affect demography? We know, for example, that living in an urban environment, and in particular neighbourhoods within cities, can significantly affect people's fertility goals and behaviours (Duminy et al, 2021). We can therefore expect the production of environments, including those linked to urbanization, to influence patterns of demographic change at a global scale. We know less about how real or anticipated climatic and environmental changes affect people's reproductive behaviours (Eissler et al, 2019). Migration is another response to environmental risk, and climate migration will mediate shifts in fertility and mortality, and thus population sizes and age structures, in both sending and receiving contexts in ways that are currently not well understood from a global perspective (Clement et al, 2021; Shu et al, 2023; Hauer et al, 2024). Recognizing that environmental changes do and will influence fertility, mortality, and migration demands that population projections explicitly factor in climate feedback (Muttarak, 2021). It remains to be seen how this recognition will affect the ways that reproductive and

fertility behaviours are problematized in relation to government aims and modalities of development, as they have been for the economic problems discussed previously.

In sum, it matters – for economic and environmental processes – not only whether populations are changing in size, and at what rates, but also how those populations, measured at different scales, are shifting in their compositional characteristics. Moreover, it matters *where* those demographic changes are occurring, the kinds of settlements both accommodating and shaping them, and how dynamic climatic and ecological environments will impact on demographic change. By recognizing the full diversity of demographic processes unfolding simultaneously, albeit with different temporalities and geographies, we can begin to articulate a globalized perspective that moves well beyond a problematic centred narrowly on changes in population size.

Expanding the demographic perspective

We have not yet discussed how problematizations of development and environment will be mediated by complex sociocultural and political transformations driven by demographic changes. To take one example: we might identify shifting family roles and general attitudes towards family, and hence the ways in which people attach value and meaning to their family lives. There is growing academic and public interest in the implications of increased life expectancy and population ageing for redefined notions of ‘grandparenthood’ (Leeson, 2018). In many settings, older people are expected to take on increasingly significant roles in caring for the offspring of their children (often while caring for their own parents).¹¹ In some cultural contexts, these changes may be particularly significant for grandfathers who will be increasingly active in the care and upbringing of their grandchildren in a way not expected of their forefathers (Leeson, 2018). The implications of transformed grandparenthood are complex and hard to predict – for instance, grandparents can help to pass on traditional values and cultural mores, ensuring that children feel some connection and continuity with their familial and cultural history. Yet they may also impart relatively conservative social values (Mahne and Motel-Klingebiel, 2012).

From these kinds of observations, a series of questions flow: how will changing caregiving roles (performed by both older and younger people) transform the ideas and behaviours of the caregivers in different settings? How will transformed relationships with grandparents (and great-grandparents) shape the political and social values of future adults? How will shifts in the racial and ethnic composition of communities associated with urban population loss (Franklin, 2020) impact on social (in)tolerance and identification in cities? How will between-generational economic

inequalities affect generational solidarity or conflict? How will successive generations reshape the meanings of ageing or of youthhood? And how will environmental attitudes, economic productivity, and political modalities, preferences, and claims be affected as a result?

In considering such questions, global demographic change comes into view as a *transformative* process that will shift the fundamental conditions of economic development and inequality, political organization, cultural identification, health and wellbeing, settlement and shelter arrangements, and so on. From this perspective, we can revisit our understanding of urbanization – often discussed as a significant global demographic trend or ‘game-changer’ (Banks and Makuwira, 2022). What precisely is ‘game-changing’ about urbanization? At one level, the trend for a greater proportion of the world population to live in towns and cities, relative to rural areas, presents a critical developmental challenge that demands a sharpening, if not reimagining, of our abilities to analyse, predict, speculate on, design, and deliver urban infrastructures and services. But global urbanization will not only be a matter of having a predictable quantum of more (or fewer) people living in towns and cities, as we currently know and understand these places. We can reasonably expect demographic transitions to impact on the fundamental yet emergent processes, forms, and functions of our built and social environments, across all scales. That is so even if those impacts are layered atop existing institutions and systems exhibiting varying degrees of longevity and inertia.

Consequently, demographic change is properly understood as a globalized, dynamic, and transformative process, interacting with multiple complex planetary and societal systems, that will transfigure the ideas, practices, and values underpinning development. Thus far, our argument has proceeded from a synthesis of insights from existing work on the relationships between demography, spatial development, emissions, and so on. In the following section, we offer a specific and novel contribution to a globalized perspective on demographic change: one that relates to temporality, or more specifically to a critique of the temporal assumptions that underpin classical demographic transition and development theory.

The temporality of demographic transitions

The long-term national and worldwide population projections regularly published by UN agencies, and the theoretical model of the demographic transition, foster a sense of demographic change as slow, consistent, and predictable – often shorn of any climatic or environmental feedback effects (Muttarak, 2021). Moreover, they may promote a sense of inevitability around a single possible future – a fatalistic acceptance that fertility rates and population age structures everywhere will converge towards the benchmark

of an ‘end stage’ reflecting the conditions of Western countries now suffering from the effects of advanced capitalism and the proliferation of individualist postmodern values (Zaidi and Morgan, 2017). In demographic transition theory, we find a predicted universal future of small families and reliance upon modern medical contraception. Moreover, we find the expression of a temporality of linear and cyclical regularity – linear in describing the unidirectional convergence of fertility and mortality change around a Western norm; cyclical in referencing the life and reproductive cycles of individuals – unfolding at different speeds against the backdrop of an objective and homogeneous historical time.

How then should we interpret evidence of processes or events that do not conform to this unilinear model of demographic transition? How do stalls and reversals in urban and national fertility declines (well above replacement fertility level) in many African contexts (mis)fit this model? How do we understand recent evidence that relatively wealthy women living in urban areas of South Asia or West Africa prefer using traditional over modern methods of contraception as part of wider strategies of fertility regulation, which may include occasional recourse to emergency contraception and safe abortion (Basu, 2005; Rossier and Corker, 2017)? Just as the unilinear developmental assumptions of modernization theory have been challenged, recognizing that different geographies may follow different development pathways, should we similarly recognize the possibility of multilinear trajectories of demographic change (Zaidi and Morgan, 2017)? Put differently, should the demographic transition model simply be revised to allow for processes to move slower or faster, and forwards or backwards, along an axis or several axes?

Postcolonial historians have diagnosed the tendency of Western historicism to explain all worldly phenomena with reference to a process of ‘development’, whereby Europe is positioned as the sovereign theoretical subject of all histories (Chakrabarty, 2000). Time itself is presented as something that is natural, consistent, sequential, and spatialized – an objective domain independent of any ‘cultural’ influence. That demographic change comprises reproductive choices and acts often laden with ritual, spiritual, or divine significance is one reason to query the model of secular ‘disenchanted’ time underpinning demographic transition theory (Chakrabarty, 2000).

A second reason can be identified by engaging with academic literatures on ‘spectrality’ and ‘hauntology’. Scholars active in such fields emphasize the ‘inescapable revenance of the past’; instead, they strive to capture a sense of time as moving through fluid emergences with confluences and currents, ‘eddies’ and intensifications, ‘congestions’ and ‘irruptions’ – lacking a knowable directionality and ‘linear regularity’ (Wylie, 2007). In this way of thinking, we experience the return or persistence of elements of the past in ways which we are not always conscious of. Moreover, our present is

often haunted by futures, once promised or anticipated, that have been lost, foreclosed, or subsumed by the once-assumed victory of liberal democracy as the ideal of human history (Fukuyama, 1992; Derrida, 1994; Fisher, 2009, 2012). As Mark Fisher once diagnosed, advanced capitalism must operate through a cultural logic of recycling the past owing to an unwillingness or inability to imagine a radically different future.

If in the early 1990s Jacques Derrida (1994) felt compelled to speak about the ‘spectres of Marx’ – the problem of academic labour being haunted by a promise or possibility once held but lost in the wake of the collapse of Soviet communism – can we not consider debates about demographic change and development as being haunted?

The spectres of Malthus

If we are to diagnose and transcend the linear or cyclical regularity of historical time underlying demographic transition and development theory, this could happen through a recognition of how (mis)remembered pasts continue to bear upon the future-facing debates and decisions of the present. We can see this operating in at least two ways. First, it works through the recollection of memories of the eugenicism, classism, sexism, sexual neuroticism, and racism that circulated around population discourses of the 19th and 20th centuries (Connelly, 2008; Coole, 2013; Mayhew, 2014). Of particular concern are the relatively rare examples of coercive population experiments – like the 1976 Indian campaign of male sterilization, or more commonly China’s mythologized ‘one-child policy’ (Greenhalgh, 2003; Whyte et al, 2015) – that continue to induce anxieties about the place of demographic problems and interventions within agendas for sustainable development.¹² Whether these events happened in the way they are recalled is largely irrelevant to their rhetorical and moral force. Concerns about reproductive coercion, past and present (Senderowicz, 2019), are real and should by no means be ignored. Yet it seems that irrespective of how often family planning advocates emphasize that they are motivated to satisfy desired but currently unmet needs for contraception, to promote reproductive rights, to secure maternal and child health, and facilitate gender empowerment and equity (Bongaarts et al, 2012), their arguments are easily tainted and toxified by the ghosts of population control (Bendix and Schultz, 2018; Coole, 2021).

Second, we encounter the spectres of Malthusianism as the intellectual horizon against which sustainable development continues to be framed and problematized (Mayhew, 2014) and debates over population ethics are staged (Kolk, 2022). For all the anti-Malthusian polemics and postmortems conducted over the centuries and decades – from William Godwin to Karl Marx, Henry George, Sigmund Freud, Ester Boserup, and Julian Simon – it has proved remarkably difficult to move past our Malthusian haunting, even

if that preoccupation is expressed by raised hackles when some scent of a caricatured Malthusianism is sniffed out of a comment or debate. That is because Malthusianism signals not simply a particular theoretical explanation of why (bad) things happen but rather an entire political, cultural, and ethical attitude towards how we conceive of concerted public problems and seek their redress, and also how we apprehend time and the future as a ‘cause and objective of governmental intervention’ (Barnett, 2015b: 258).

If the ‘Malthus effect’ triggered the emergence of what Mitchell Dean (2015) terms ‘genopolitics’ – understood as a politics of government linking human reproductive choices and acts to ‘political, economic, and ecological objectives and aspirations’, and which in the era of international development took ‘the future shape and extent of the entire human species on the planet as an object of governmental concern’ (35) – then we continue to live in this Malthusian shadow. Demographers and economists can debate the ultimate ‘causes’ of fertility decline, and we can highlight the priority of unequal consumption-intensive capitalism, but what is rarely at stake is the pre-eminence of a mode of government that operates ‘under the tragic shadow of the recurrent and imminent event, of the catastrophe’ (37). We continue to labour within a mode of government of life that has at its heart the anticipation or avoidance of catastrophic futures, and that seeks to produce subjects and populations capable of exercising foresight and of bearing responsibility for the future of the human species and of the planet (Dean, 2015). Whether one does that by having one less child than desired, or limiting flight travel, or living an intersectional vegan lifestyle, is simply a matter of preference and persuasion. When viewed in this way, Malthusianism is not so much a theory of (un)sustainability but rather a *paradigm* for liberal governmental innovation which has proved remarkably persistent and pervasive for the past two or more centuries (Dean, 2015). Indeed, it is a paradigm that is arguably becoming further entrenched and intensified under new regimes of ‘security’, within which development and environmental problems are increasingly enrolled (see Chapter 6).

Conclusion

The Day of Eight Billion provided a reminder of the pervasive tendency to reduce the relationship between development and demography to a single metric of population change: that is, increases or decreases in total numbers of people measured at various scales. That reductionism is apparent even within arguments against Malthusianism, which hold that it is not *population change* that matters for sustainability but rather capitalist inequality. We have argued that demographic change is better understood as a global, dynamic, and transformative process. By *global*, we intend to signal the simultaneity of processes of change in population size, structural composition, household

characteristics, and migration unfolding across the world, with diverse temporalities and geographical relationships. By *dynamic*, we draw attention to how these demographic processes and structural characteristics interact in complex ways with multiple planetary and societal systems and, as a result, change and emerge over time. And by *transformative*, we recognize how demographic processes will transfigure the ideas, practices, and values underpinning how and where we live, how we generate and distribute wealth, and how we organize politically, make ethical claims, relate culturally, and discuss the objectives and modalities of development. In line with this understanding, a thorough, detailed, and multidimensional analysis of demographic change should be central to how we approach development and environmental futures.

A focus on demographic change holds particular value in relation to the global development shift. In part, that is because it draws critical attention to the unilinear models of transition, and secular temporalities of linear and cyclical regularity, that recur within development thought and practice. In thinking about development, we should, at minimum, allow room for multilinear transitions, for stalls and reversals and different change-rates, and their complex geographic distributions. Yet we could also take our critique further and question the model of historical time against which demographic change and development are brought into focus. We have noted how debates over population and development often invoke or awaken revenant pasts. That is clear in the ways that recollections of uncomfortable and painful, often politicized, memories of historical population discourses and events continue to bear upon the terms of debate surrounding present and future acts of government, including those related to sustainable development.

Moreover, demographic questions lay bare the pervasive and persistent (indeed, spectral) presence of Malthusian problematizations within development thought and practice. If overseeing the conduct of life in ominous anticipation of a catastrophic event has provided a pervasive paradigm of government for over two centuries, then working towards a true ‘paradigm shift’ in development calls for more than describing or explaining the dynamics of global convergence and divergence or rejecting our inherited geographies of development. Rather, it invites thinking beyond the horizontal framework of both Malthusian anxieties around catastrophic futures *and* anti-Malthusian techno-optimisms.

A desire to exorcize the spectres of Malthusianism invites us to acknowledge and surpass the well-trodden debates focusing on whether population size and fertility are principal drivers of (un)sustainability and potential societal collapse. Our escape may be aided by diagnosing the conditions of possibility for our recurrent haunting – a mode of genealogical and pragmatist critique (see [Chapter 4](#)) that more consciously and actively clarifies the Malthusian problematizations at the heart of practices and programmes

of development and security. Rather than assuming such framings to be insidious and pernicious, we might demonstrate precisely how they lead to unjust outcomes. That would imply acting more charitably towards those eager to speak about demographic factors within the framework of sustainable development rather than dismissing their concerns by reason of their association with the darker histories of population control or the legitimization of unequal capitalist development. Our escape may also involve discussing the objectives and modalities of development in more speculative fashion, rejecting an inherited binary choice between pessimism and optimism while cultivating a political and ethical openness to the emergent possibilities guaranteed and underwritten by demographic and planetary co-production.

Securing Health and Wellbeing

Introduction

Trends in international health outcomes were central to the narrative of ‘convergence’ underpinning the global development shift. To support their argument, [Rory Horner and David Hulme \(2019\)](#) could point to reductions in gaps between middle- and low-income countries in average health indicators, including life expectancy and child mortality rates. Moreover, they noted an ongoing complication (if not dissolution) of the traditional association – captured by the theoretical concept of the ‘epidemiological transition’ ([Omran, 1971](#)) – between acute infectious diseases and the ‘developing world’, on one hand, and between chronic non-communicable conditions and more ‘developed’ contexts, on the other.¹ Yet the vector of change in global health, as in other domains, is not a straightforward one of rapid between-country convergence. We still see significant inequalities in life expectancy across the world; within poorer countries, life expectancy may in fact be deteriorating for some marginalized groups ([Liamputtong and Rice, 2022](#)). In any case, improvements in average life expectancy at birth are by no means a prediction of future trends – they rather reflect the experiences of current generational cohorts who have benefited from the unsustainable exploitation and consumption of planetary resources ([Whitmee et al, 2015](#)).

This chapter proceeds from the assumption that we cannot understand the trajectories of global development without understanding trends and events within the domain of health, particularly in the wake of the COVID-19 pandemic. That importance is due not only to the empirical validity of claims regarding convergence in health indicators, or counterclaims of lingering or intensifying inequalities, but also to the fiscal and institutional power enjoyed by the health sector. Starting with the fiscal story: spending on health constitutes a significant portion of total government expenditures, and in most cases the COVID-19 pandemic provided a boost to state health budgets. Among Organisation for Economic Co-operation and Development countries, the average ratio of health expenditure to gross domestic product

(GDP) declined from a peak of 9.7 per cent, at the height of the pandemic in 2021, to 9.2 per cent in 2022 – although it had consistently hovered well above the 8 per cent mark in the decade following the Global Financial Crisis.² Globally, total health expenditure reached US\$ 9.8 trillion in 2021 – equivalent to 10.3 per cent of global GDP (WHO, 2023).³

The sheer volume of capital that flows through the health sector is reason enough to keep health central to global development debates, but political and institutional factors offer a second set of reasons. The health sector is somewhat unique within the international governance system: historically, it has been the focus of a dedicated set of institutions (in the form of subnational and national departments of health, the World Health Organization [WHO] and its affiliates, relatively powerful professional associations, and numerous philanthropic and non-governmental agencies), benefiting from consistent political will and budgetary allocations as well as a large, established, and well-funded scientific research base (Espey, 2023). Those active in the health sector therefore enjoy a thematic focus and degree of longstanding intellectual, institutional, and political support not shared by other domains of pressing public concern like climate change, demographic change, or urbanization (Duminy and Parnell, 2020).

One of the implications of the health sector enjoying such fiscal and institutional prominence is that there may be relatively few incentives for health professionals to break decisively with their established models of inquiry and intervention. For instance, it has sometimes proven difficult for health researchers and practitioners to move firmly away from a biomedical model of disease – a model that defines health as the absence of disease and ‘assumes disease to be fully accounted for by deviations from the norm of measurable biological (somatic) variables’ (Engel, 2012: 379). The biomedical model remains dominant despite successive rounds of calls to give greater weight to the environmental, social, psychological, and behavioural factors that influence health and wellbeing (Engel, 2012; Farre and Rapley, 2017), including the social determinants of health inequalities (Marmot, 2005; CSDH, 2008; Marmot and Bell, 2012; Marmot et al, 2012). Within a biomedical approach, solutions to health problems focus on clinical diagnosis, pharmacological treatment, and symptom reduction in individual patients rather than on addressing the root causes of such problems or seeking their prevention at the level of populations (Pineo, 2022; WHO and United Nations, 2023). It is a model and approach that has been undermined, and yet in some ways reproduced and entrenched, by the experiences of the worldwide pandemic of COVID-19.

The COVID-19 pandemic

Horner and Hulme’s (2019a) foundational paper on the global development shift was initially published in December 2017, fully two years before the

identification in Wuhan (China) of a highly transmissible and pathogenic novel coronavirus (severe acute respiratory syndrome coronavirus 2 or SARS-CoV-2), which causes COVID-19 by infection. Understandably, much of the subsequent commentary on the interface between global development and health has dwelt on the impacts and implications of the COVID-19 pandemic. Some have depicted the crisis – in disrupting global value chains, boosting indebtedness, intensifying digitalization, curbing international climate responses, reinforcing patterns of inequality, revealing the deeply interconnected status of the world, and undermining the developed–developing country binary – as specifically supporting the uptake of a ‘global development paradigm’ (Oldekop et al, 2020; Banks and Makuwira, 2022).

Accordingly, it is important to recognize how the COVID-19 pandemic is significant not only as an event exerting disastrous and painful consequences for many millions across the world – one that has shaped trajectories of socio-economic development and inequality – but also as a catalyst of debates; in other words, as a discursive and rhetorical marker enrolled in supporting claims to shifts and transitions in our thinking about development and environmental problems. Here we can identify at least three health-facing debates within which the pandemic has been narrativized: debates surrounding competing models for health systems, those around density and connectivity, and those concerning the need for new conceptual frameworks for health and wellbeing.

Commentators have argued that responses to COVID-19 served to reinforce the dominance of the biomedical model within health programming, particularly in countries, like the US, already held fast in the grips of an international ‘medical industrial complex’ (Rothman, 2021; Acolin and Fishman, 2023). By contrast, others have used the effects of the pandemic to highlight the structural and intersectional inequalities that make some individuals, groups, and places more vulnerable to health-impacting risks and hazards than others (Marmot et al, 2020). Stephanie Topp (2022), for instance, notes that the crisis helped to reproduce a long-running debate between those emphasizing that health interventions should recognize and respond to the structural and social determinants of population health and inequity, and those seeing the role of health systems in biomedical terms as the effective and economic delivery of formal, modern, and individualized healthcare. Yet the pandemic also created an unusually well-ventilated space for discussing the health system impacts of contrasting political ideologies and values. The political popularity of the injunction to ‘build back better’, on one level, reflected a desire to redirect post-pandemic governance away from the marketized medicalization of health systems towards a more ‘structural’ approach emphasizing the boosting of universal and equitable access to primary healthcare as the basis of individual, community, and national resilience (Topp, 2022).

While highlighting the competing political ideologies underpinning different health system models, the COVID-19 pandemic also renewed older debates centred on the relationship between cities and infectious disease. Two main elements of this relationship were re-problematized. The first was the issue of *density*, which has always occupied an ambiguous status within urban discourse: in the 19th and 20th centuries, it was typically linked to problems of contagion and socio-political pathologies of many kinds (Calhoun, 1962; Parnell, 1993); more recently, urban density and proximity have been prized as essential conditions for economic agglomeration (World Bank, 2009; Bettencourt, 2013; UN-Habitat, 2013). The fear was that dense cities would create conditions for the rapid spread of infectious diseases like COVID-19; some commentators predicted, as it turns out rather prematurely, the death of cities (Hernández-Morales et al, 2020) and contemplated de-densified city futures (Duminy, 2023). Yet the pandemic also encouraged a somewhat different emphasis in the density debate, one focused on how, in the context of climate change, global urbanization expressed in ‘extended’ forms (that is, through sprawling low-density suburbs and peripheral hinterlands), with a resulting frequency and intensity of human–ecological interactions, generates increased risks for the emergence of zoonoses (Connolly et al, 2020; Ali et al, 2023). Ultimately, empirical research revealed a tenuous (at best) link between density and COVID-19 infection rates; the view among those in the urban sector was that well-managed density of urban populations and built environments remains critical for better economic performance, service delivery, environmental and ecosystem management, and emergency response (UN-Habitat, 2021).

A second axis of the city–disease relationship highlighted by COVID-19 is that of *connectivity* and related concerns over how cities may aggravate health and disease risks owing to their status as hubs of trade and travel in global economic and migratory networks. Researchers have argued that epidemiological risks are heightened by the realities of interconnected global capitalism; their focus has generally fallen on large, established ‘global cities’ as concentrated sites of connective infrastructures and thus disease transmission (Keil and Ali, 2008). Patterns of COVID-19 infection in the US appeared to confirm the significance of connectivity, not only between but also within metropolitan areas (Hamidi et al, 2020), as a key enabler of transmission. Urban connectivity, like density, emerged both as a potential source of epidemiological risk and as a positive characteristic that defines cities as potential centres of sustainable development and prosperity – a reality to be balanced and managed appropriately through capable and resilient urban planning and management (UN-Habitat, 2021).

Finally, reflections on the COVID-19 pandemic as being deeply marked by relationships between urbanization, environmental transformation, species interaction, and health inequities have provided added support for

the emergence of conceptual frameworks like ‘one health’ and ‘planetary health’. For some, a global pandemic driven by a disease that ostensibly ‘spilled over’ from animals to humans within the confines of the Wuhan ‘wet market’ (Cohen, 2023) proved that a ‘one health’ approach, recognizing the ‘fundamental interconnectedness of humans, animals, and their shared environment’, should be central ‘to ensuring the healthy and sustainable future of the planet’ (Amuasi et al, 2020: 1543; Marty and Jones, 2020; WHO, 2022). For proponents of planetary health, while natural systems underpin human health, ‘far-reaching changes to the structure and function of the Earth’s natural systems’, driven by processes including urban, climatic, and demographic change, ‘represent a growing threat to human health’ (Whitmee et al, 2015: 1973; Kronenberg et al, 2024).⁴ Here the COVID-19 pandemic served as a reminder that impairments of natural systems – driven by changes in climate, land use, and food systems linked to urbanization – provoke complex human–ecological interactions and thus the emergence of threatening diseases (Haines and Scheelbeek, 2020).

We can see how the COVID-19 pandemic catalysed, and was enrolled within, a variety of debates surrounding shifts and transitions in our thinking about health problems. However, in referencing the pandemic we wish to avoid the temptation to depict it as a ‘watershed moment’ or ‘game-changer’ (Banks and Makuwira, 2022) in the problematization of development. In retrospect, the historical effects of the COVID-19 pandemic are best described as a mix of unruly changes and structured continuities, some radical and some far more mundane, distributed across multiple scales and domains of life (Leach et al, 2021). It is inherently difficult to delineate any neat effects and narratives from events of such complexity and scale. While we may resist the temptation to parable the pandemic – to extract some ‘deeper meaning’ akin to divine retribution for humanity’s sins inflicted upon the planet (Žižek, 2020) – it nonetheless serves as a useful ‘event metaphor’, a seam from which to mine insights into transformations in how we think about and act towards the emerging nexus of health, development, and security.

Accordingly, we would emphasize the continuities (and discontinuities, where they exist) that the pandemic shares with trends preceding and following the crisis of the event itself – in this sense, we are interested in the pandemic as an ‘eventualization’ of longer-run processes and trends. In empirical terms, the COVID-19 pandemic illustrates how health-facing professionals and researchers (like those in many other sectors) will increasingly face challenges for which they are not wholly prepared. Such challenges need not take the form of improbable but spectacular, high-impact outbreaks of disease but could be related to shifts and intensifications of more regular or ongoing processes that challenge the traditional structures and logics of international health – international and internal migration being one example (Galea et al, 2022). At a discursive level, we will see

the pandemic, and health challenges more broadly, as illustrative of how problems and practices of development, environmental change, and security are increasingly intertwined. A key aspect of this relationship is a mode of government and development, conducted within a broad framework of security, that has at its heart the anticipation of possible futures that, while uncertain or even unlikely, are potentially catastrophic or apocalyptic. It is a thoroughly *apprehensive* mode of governing social change that seeks to prepare populations and individuals to bear such catastrophic threats by enhancing their resilience and thus their capacity to absorb, recover, adapt, and transition (Ballard and Barnett, 2023).

Health security

Health is one of many domains – like food, energy, and water – in which ‘security’ is regularly deployed as a framing and operational concept. Meanings and usages of ‘health security’ as a public health concept, while widespread, have differed and shifted over time (Aldis, 2008). Recurrent themes include the need to protect vulnerable individuals and populations against diverse threats including hunger, disease, poverty, and inequality – but also from spectacular shocks like bioterrorism. The rise of health security discourse signalled the emergence of ‘new global conditions’ for which traditional approaches to international health were deemed insufficient – such as addressing health problems in countries racked by internal conflicts that are no longer framed by the geopolitical tensions of the Cold War (Aldis, 2008), or heightened epidemiological risks (particularly from emerging and re-emerging infectious diseases) linked to globalization, environmental change, and intensified cross-border movements of people (Hoffman, 2010; McInnes, 2014).

The 1990s emergence of health security discourse also referenced a blurring of the lines between classical security operations and those traditionally the preserve of the humanitarian sector. That was evident in the growing involvement of military actors in public health activities, and the more explicit linking of health and foreign and security policy concerns (McInnes and Lee, 2006; Aldis, 2008). Traditionally, then, health security has been understood in narrow terms as how health risks may affect military capacity and operations, on one hand, and how conflict can affect health and the promotion of health, on the other (McInnes, 2014). This ‘securitization’ of health has largely been undertaken with an underlying bias towards health, security, and foreign policy risks as perceived by Western or Northern nations and institutions (Ingram, 2005; McInnes and Lee, 2006).

Over time, ‘broader’ conceptualizations of health security have emerged, whose intention is to move beyond the domain of military security and defence (Stoeva, 2020) and instead engage with a definition of *human*

security that prioritizes people (rather than states) and emphasizes collective action (rather than geopolitical competition) in addressing transnational security threats (UNDP, 1994; S.M. Malik et al, 2021). Yet in practice health security discussions have often retained a state-centric emphasis on how selected health problems generate risks for national and international political, economic, and physical security and stability (Šehović, 2020; Stoeva, 2020). Threats to health security have been envisaged primarily in terms of infectious disease: whether rapidly spreading diseases, HIV/AIDS, drug-resistant disease strains, or bioterrorist and biological weapon attacks. Responses to these threats have typically been framed by the perceived need to improve surveillance as well as emergency preparedness and response, such as by the implementation of international health regulations (WHO, 2007b, 2018a; Rushton, 2011).

A similar reductionist movement can be noted for ‘environmental security’, a concept that, like health security, emerged in the wake of the Cold War as part of a broadening of security agendas (Dalby, 2002, 2009). With roots in a progressive human security approach (UNDP, 1994), environmental security has arguably been ‘captured by an orthodoxy’ focusing on ‘non-traditional threats to traditional referents (i.e. the state)’; increasingly, it has been perceived as ‘a synonym for the threat multiplier dimensions of climate change’ (Elliott, 2015: 11). There has been a tendency for both environmental and health security to be framed as economic problems – if human (in)security is increasingly linked to the global economy and its entitlements, then threats to health and environmental security are envisaged as economic threats, as disruptors of the distributed and complex supply chains on which transnational economic systems now depend (Dalby, 2017). Indeed, the historical uniqueness of COVID-19 as a pandemic is that it produced not only a crisis for health and health systems but also an economic crisis by obstructing the circulations on which the global economic system and the economic health of many nations currently depend (Topp, 2022; World Bank, 2022b).

Whether the COVID-19 pandemic has served to reinforce or undermine the pre-existing health security focus on infectious disease risks, national physical and economic security concerns, and foreign policy priorities is an open question (Holst and Razum, 2022). Without doubt it has reinvigorated discussions on building national and international capacities for emergency detection and response. Here we will make two observations about health security in the wake of the recent pandemic. First, in terms of the linkages between health and foreign and security policy, we can no longer simply assume that the nature of these linkages involves Western powers imposing their geopolitical interests on all countries, as might have been assumed at the start of the 21st century (McInnes and Lee, 2006). Instead, COVID-19 demonstrated that such crises provide a stage for other

players (significantly, China and India) to bid for international leadership and influence, particularly as traditional Western powers fumbled their pandemic communications and strategic responses (Campbell and Doshi, 2020; Green and Medeiros, 2020; Roul, 2024). Global health is a pre-eminent domain in and through which emerging powers actively work to reshape developmental norms; and the pandemic has highlighted, and arguably enhanced, this status.

Second, the COVID-19 pandemic confirmed the trend for health security to be conceptualized as necessarily involving a variety of actors extending beyond national governments or international agencies like the WHO (Šehović, 2020). Practically speaking, in most settings civil society organizations, local governments, voluntary associations, and non-governmental organizations played a critical role in ameliorating and recovering from the exigencies of the crisis. Yet, in countries like the UK, the pandemic also saw resorts to modes of liberal government that tasked autonomous individuals and communities to show responsibility, to be resilient, to think and act ‘like epidemiologists’ (thereby assuming a relatively high degree of scientific literacy), and to play an active role in governing emergencies (Clarke and Barnett, 2023). In this sense, nation-states were by no means the sole bearers of responsibility for promoting health security, even in settings where more comprehensive ‘authoritarian’ responses were observed (Gao and Zhang, 2021).

And, third, the COVID-19 pandemic demonstrated that any definition of health security must include more than the risks to health posed by infectious diseases. The crisis highlighted major intersectional disparities in non-communicable disease risk factors, in access to healthcare, and in the capacities of health systems to respond to ‘syndemics’ (Horton, 2020; Holst and Razum, 2022) that are often concentrated within urban populations (Ellis et al, 2021; Pineo, 2022). Addressing non-communicable disease burdens and issues of socio-economic inequality are therefore necessary conditions of post-pandemic health security (Marmot et al, 2020).

In sum, we can see the COVID-19 pandemic as supporting the case for a broadening of the health security agenda. Yet, to date the literatures on health security, global health, and global development have failed to diagnose how thinking and activities in health-facing domains relate to broader ‘apparatuses of security’ within processes of government. Here we can understand such apparatuses as ensembles of ideas, strategies, techniques, and spaces that seek to guarantee various circulations – of people, capital, and goods, as well as natural elements – while minimizing the risks generated by such mobilities and circulations, and that involve mechanisms of anticipating and pre-empting possible (even if improbable) future events (Foucault, 2007; Barnett, 2015b). In particular, the global development literature has failed to consider the COVID-19 pandemic, and health more broadly, as a case of how

development problems are increasingly (although not universally) addressed not simply in pursuit of physical and economic security but specifically within a ‘politics of possibility’ in which resilience and complexity thinking, alongside algorithmic analysis and prediction, play core roles.

Securing the future

If the rise of modern rationalities and techniques of government involved the invention and analysis of ‘risk’, and hence a *probabilistic* conception of the future, deployed within various ‘apparatuses of security’ (Hacking, 1990; Dean, 1998; Foucault, 2007), then scholars like Louise Amoore (2013) argue that contemporary regimes of government are increasingly guided by a *possibilistic* view of future events. Through various practices of security, modern modes of liberal government, which emerged in the 18th and 19th centuries, sought to generate certain effects at the level of the population as a whole and were primarily interested in the future with reference to the calculation of the probability of something occurring and, through this calculus, attempted to minimize the risk of undesirable outcomes (Foucault, 2007). As the argument goes, with the availability and application of new technologies of surveillance and data capture and methods of analysis, and under conditions of advanced neoliberal capitalism and securitization in the wake of the 11 September 2001 attacks on the US, security practices are also and increasingly ordered around the imagination of ‘low probability, high consequence’ events like terrorist attacks and also pandemics, hurricanes, or financial crises (Amoore, 2013).

Put differently, governmental practices of security characteristic of advanced liberal capitalism increasingly invoke a ‘modality of risk’ that is thoroughly anticipatory. It works not strictly through calculative certainty to prevent, avoid, or insure against some future event, based on the analysis of past data that are projected into ‘probable futures’. Rather, it incorporates the unknowability and uncertainty of the future into decision making, attempting to ‘pre-empt an unfolding and emergent event in relation to an array of possible projected futures’ (Amoore, 2013: 9). Imagining and anticipating catastrophic events or emergencies – placing heightened emphasis on practices of pre-emption, precaution, and preparedness – is central to contemporary governmental regimes of security even if they are always shaped by specific socio-political contexts and objectives (B. Anderson, 2010a, 2010b; B. Anderson and Adey, 2011, 2012; Adey and Anderson, 2012; Barnett, 2015b). Modes of anticipation may be calculative, involving algorithmic prediction based on the detection of relationships in big data that may be shorn of any theory of causation (Amoore, 2013), but can also take the form of scenario exercises designed with reference to past events and experiences (Adey and Anderson, 2012).

It is against the backdrop of immanent vulnerability and unpredictable yet unavoidable – potentially catastrophic – futures that the widespread enthusiasm for discourses of resilience can be brought into relief. Whereas traditional practices of disaster risk analysis and management sought to calculate the probability of certain known hazards and remove or avoid them, or at least reduce their impacts, resilience planning emphasizes anticipating possible disruptive events of all kinds, however unlikely, and developing pre-emptive strategies to cope with, mitigate, and recover from those events if they occur. Asking societies, cities, and citizens to boost their resilience makes sense when counterposed with the unpredictable and emergent futures characteristic of the non-linear change expressed by complex adaptive systems (Walker and Cooper, 2011). Consequently, resilience thinking involves a distribution of responsibility for anticipatory and reconstructive action to citizens and civil society (A. Amin, 2013; Barnett, 2015b). It implies a political economy of crisis management and future-proofing based on ‘a strategy of permanent, open-ended responsiveness’ (Walker and Cooper, 2011: 154) and a willingness to seize crises, like the COVID-19 pandemic, as opportunities for progressive systemic reorganization and transition, to ‘build back better’ (Topp, 2022) or ‘fairer’ (Marmot et al, 2020).

What is missing from previous discussions of the COVID-19 pandemic within the frame of global development is the event’s relation to these distinctive kinds of ‘temporal imaginaries’ and ‘grammars’ characteristic of a ‘genuinely *apprehensive* image of social change’ (Ballard and Barnett, 2023: 6, emphasis in original). It is to the issue of futurity – the ways in which certain ideas about the future are enrolled in motivating various kinds of health-oriented and developmental actions in the present – that we now turn.

Health and the future: prediction and uncertainty

Problematizations of health and infectious disease played a central role in the historical emergence of rationalities and practices of security and government.⁵ Moreover, pandemics, and other health-related threats like bioterror attacks, have been central to the framing of anticipatory practices of security in the post-9/11 West (Cooper, 2006; Lakoff, 2008, 2015). Thus, health is an ideal domain through which to think about how the future is problematized within the practices and discourses of development and security. We can understand this relationship in at least two ways.

First, we encounter catastrophic and devastating futures – albeit ones that cannot be calculated or predicted on the basis of probability – as the background assumption and driving motivation for contemporary practices of security (Barnett, 2015b). Indeed, the COVID-19 pandemic is only a recent instance and exemplar of how eschatological discourses – the notion that we may be living in the ‘end times’ – may come to affect life in the

present, and how we look to the past for ‘lessons’ (Lynch et al, 2021). If there was a sense of living through ‘dark times’ during the pandemic, with a foreboding and ominous sense of apocalypse, or even if some experienced the crisis as a kind of *Jetztzeit* (now-time) – a temporal interruption and standstill pregnant with revolutionary opportunity – then these affective registers took shape against a future that was fundamentally unpredictable and unknowable, and therefore both fearful and exciting. No one could say with certainty what form the post-apocalyptic society would take – hence the popular eagerness to speculate about the future in the midst of the crisis: to ask what post-pandemic cities will look like (Batty, 2020). Will we ever return to commute-to-office working arrangements? Will dolphins return to the canals of Venice? (Narrator: they didn’t.) Hence, also, the discussions of how best we could use the crisis as an opportunity to shape the future, to alleviate its worst impacts, while promoting systemic shifts towards fairer and sustainable development trajectories (M.M. Jones et al, 2020). In asking us to learn from the pandemic, the question often is not one of gathering best practices to ensure that we can respond to similar risks and emergencies, but rather one of ensuring that we are better prepared to ‘respond to the unknown’ in the future crises that we, unavoidably, will face (British Academy, 2021).

These observations raise questions surrounding political legitimacy and its relationship to development. If political authorities, regimes, and decisions derive legitimacy in part from the making of promises about future states of the world (Beckert, 2020), then how is legitimacy ensured when futures are unpredictable, emergent outcomes of complex systemic processes – when the angel of history has its back turned on the future? On one level, the notion of the future as unpredictable, contingent, and undetermined – something that can potentially be shaped – is a necessary condition for the exercise of promissory legitimacy and has been a consistent defining feature of modern liberal government (Beckert, 2020). What, then, has changed with the increasing uptake of an imaginary of the future that is based less on calculable probabilities, or on grand blueprints of progress, and more on unpredictable possibilities and emergences? Discussions surrounding COVID-19 and post-pandemic futures demonstrate that the political legitimacy of development is increasingly derived from claims to create not a society liberated from crisis but rather a society that is resilient and adaptive – one that can prevent crisis from turning into catastrophe and can shift nimbly to more desirable trajectories of recovery. The promise of a better and secure future is largely immunological in nature (Kaika, 2017).⁶

Second, the COVID-19 pandemic demonstrated widespread enthusiasm for practices of forecasting and prediction as a basis of governmental responses to security threats.⁷ Following the rapid international spread of the disease, we saw the use of predictive epidemiological models for the prognosis of

patients and for detecting those with increased risk of infection, hospital admission, or dying (Wynants et al, 2020). Epidemiological modelling and predictions of morbidity, mortality, and healthcare demands were used to assess and compare hypothetical interventions (Poletto et al, 2020): the modelling work done by the Imperial College COVID-19 Response Team ultimately justified the implementation of ‘lockdown’ measures in the UK (Ferguson et al, 2020). We witnessed the development of artificial intelligence and machine-learning algorithms to predict COVID-19 infection using data from wearable technology (J.R. Walter et al, 2024) and from the rapid analysis of computed tomography (CT) scans, and to predict mortality risk in infected patients (Pourhomayoun and Shakibi, 2021). Algorithms predicted likely surges in COVID-19 infection through wastewater analysis (M. Diamond, 2023). Such powers of prediction extended to the molecular scale – including the use of biochemical models to predict viral mutations and evolution (Thadani et al, 2023; Zaccaria et al, 2024) and the use of predictive algorithms to rapidly develop vaccines (Tulchinsky and Mason, 2023).

On one level, the enthusiasm for COVID-19 forecasting and prediction can be seen as characteristic of ‘government through risk’, or more precisely government through an ‘epidemiological risk rationality’ in which ‘risk is made calculable and governable by morbidity and mortality rates, and public health interventions like sanitation and inoculation programmes’ (Clarke and Barnett, 2023). In this respect, the pandemic showed continuity with a longer history of liberal government. But, on another level, it also laid bare a seemingly contradictory movement: that despite rapid advances in our ability to predict particular events (like viral spread, mortality, and mutation) with ever-greater accuracy, the broader currents of social, economic, and political change during and following the pandemic remained the domain of ‘radical uncertainty’ – immune to divination, beyond the predictive pale, a domain in which the only currency was robust and resilient preparedness and situational judgement (Heffernan, 2020; J. Kay and King, 2020). Arguably, these movements fostered the social climate of uncertainty, fear, and sense of powerlessness that enabled conspiracy theories, vaccine hesitancy, and retrospective exclusionary nationalisms to flourish in bringing ‘narrative coherence’ to a frightening, unpredictable situation, thus allowing the linking of past, present, and future within an easily graspable causal framework (Van Prooijen and Douglas, 2017; Bieber, 2022; Pertwee et al, 2022).

Following from this point, it would be ingenuous to claim that pandemic responses were neatly determined by the outputs of predictive algorithms – such predictions were not always used timeously (if at all) by politicians. In writing on the emerging ‘politics of possibility’, Amoore (2013) is careful to avoid the depiction of older ‘probabilistic risk models’ being entirely ‘eclipsed by new forms that work with emergent possibilities’ (10). Rather, Amoore finds data-led algorithmic practices of prediction and simulation becoming

intertwined with ‘intuitive and speculative knowledges that imagine future scenarios’ and more traditional risk analysis procedures (10). Similarly, during the COVID-19 pandemic the outputs of expert algorithms enjoyed an uneasy existence with the ‘hunches’ of political leaders and appeals to common sense and intuition (Young et al, 2022). Injunctions with utilitarian and epidemiological justifications jarred against appeals to personal experience, know-how, absurdity, alternative scientific interpretations, and individual suffering (Clarke and Barnett, 2023). Rather than demonstrating the hegemony of algorithmic government, it is the uncomfortable assemblage of the algorithmic, the calculable, the speculative, the intuitive, the probable, and the unpredictable that the pandemic so aptly captured. It is this sense of unevenness – the coexistence of multiple modes of futuring, anticipation, and pre-emption that collectively bear upon the present – that perhaps better foreshadows the future of global development.

Conclusion

We concur, with other scholars, that health problems and trends should be core to any shift in the conceptualization of development. Part of the reason is the longstanding fiscal, scientific, and political-institutional prominence of the health sector within development policy making and programming – a prominence only reinforced, if not expanded, by the exigencies of the COVID-19 pandemic.

In this chapter, we have tried to reorient the discussion of health within the frame of global development, away from narratives of convergence and divergence, from consideration of the various determinants of health and illness (Liamputtong and Rice, 2022), and from debates over competing objectives and models of health systems (Topp, 2022). Rather than discussing the COVID-19 pandemic in making a case for the global development shift (Oldekop et al, 2020; Banks and Makuwira, 2022), we have focused on what it tells us about the emerging ‘temporal imaginaries’ of social and environmental change and, by extension, the objectives and coordinates of development. We suggest that the legitimacy of development ideology and action will be increasingly asserted not simply on the basis of calculations of probability and aspirational promises of a ‘better’ future – a world ‘free from’ hunger, poverty, want, fear, violence, and so on – with action understood as a ‘projection of intentional will into a foreseeable future’ (Barnett, 2015b: 261). It will also lean on invocations of a sense of immanent vulnerability and urgency, and on the need to build capacity to anticipate and respond to devastating yet unavoidable threats in a radically uncertain future. Consequently, we can reasonably expect development, and problems related to domains like health, to be increasingly conducted in the name of ‘security’, with its promissory legitimacy derived from its capacity to help

us anticipate, pre-empt, withstand, absorb, adapt, and transition in relation to possibly catastrophic security threats of all kinds.

Scholars tracing an emerging ‘politics of possibility’ have highlighted growing applications of big data mining and algorithmic prediction to security concerns, including those related to global health, in the context of advanced liberal capitalism. But the COVID-19 pandemic shows us that algorithms and smartphone-mediated surveillance are not the sole means by which emergencies and public problems are governed. We still look to traditional disciplinary interventions (like quarantines and lockdowns) and actions motivated by probabilistic rationalities (like epidemiological risk modelling). We still lean on intuition, speculation, gaming, historical experiences, situational judgement, and cultural, moral, and religious narratives as alternative modes of anticipation. It becomes even more difficult to generalize about the uptake of data-driven apparatuses of security when we recall that many contexts enjoy neither the data record nor the technical, institutional, and political capacities necessary for algorithmic styles of government.

It follows that our notion of global development should encompass the full variety of anticipatory rationalities and practices of security – not exclusively the algorithmic modalities found among wealthier and data-rich contexts and institutions. More generalizable is the sense of government and development as taking place in the shadow of a potentially catastrophic future – a mode of government that is paradigmatically Malthusian (Dean, 2015) but now overlaid with the ominous unimaginary of an uncertain future, complex non-linear social change, and the imperatives of pre-emption, preparedness, and resilience. Arguably, the disjuncture between ever more accurate algorithmic prediction and a radically uncertain yet threatening future creates room for myriad alternative interpretations of causality to emerge and ‘go viral’ – as seen with the conspiracy theories and exclusionary nationalisms that swirled around the SARS-CoV-2 virus.

These observations about the emergent temporal imaginaries of change leave us with sensitizing dispositions and questions regarding the futures of development. As computerized methods, using massive and ever-expanding repositories of highly granular data, become more accurate in predicting complex socio-economic and environmental outcomes, will distrust in science and governments subside or be enhanced through fears of surveillance and social engineering? Will the ‘age of prediction’ generate new risks of complacency (Tulchinsky and Mason, 2023)? Will it encourage or discourage retrospective visions of nationhood and culture as the basis of future-facing identification and organization? Will interest in development-for-resilience be undermined or simply reframed? And how will it shift the promissory legitimacy on which programmes of development depend?

Financing Global Development

In this chapter, we explore the role that finance plays in global development. We engage with emerging debates on how finance is increasingly influential in shaping the practices and possibilities of both big ‘D’ and little ‘d’ development (see [Hart, 2001](#)). We refer to this process as the *financialization of development*. The role of finance and financialization has not received significant attention in debates associated with the global development shift, although research on these topics has gained momentum in critical development studies and development geography more broadly ([Mawdsley, 2018](#); [Gabor, 2021](#)). The blind spot in the global development debate is surprising given that financialization offers a powerful analytical and explanatory perspective to understand contemporary modes of uneven development and the complex interconnections between economic process, places, and scales. Here we show how finance provides an illuminating lens through which to explore the shifting landscape of development and the ways in which societal relationships to and within nature are being transformed.

Financialization refers to the expanded influence of finance and interest-bearing capital in shaping economic, political, social, and cultural processes. Prior to the Global Financial Crisis of 2007–08, the concept did not enjoy widespread circulation but found use among heterodox or critical economists and economic geographers (see [Krippner, 2005](#); [Langley, 2008](#)). Early uses of the concept described how corporations were increasingly being reorganized to prioritize shareholder value, and how urban real estate was transforming into a financial asset subject to waves of speculation and accumulation by powerful global financial actors such as hedge funds, pension funds, investment banks, and sovereign wealth funds. Much of this early literature on financialization addressed processes in Western Europe and North America and urban financial hubs like Singapore and Hong Kong. But more recently the debate has expanded to incorporate financial transformations across a wide range of phenomena and contexts ([Mader et al, 2020](#)). Yet there is some disagreement about the extent to which financialization refers to entirely novel processes. Some commentators argue that it signifies a new epoch of

global capitalism, while others contest its novelty and see it as an elaboration and transformation of pre-existing economic processes (Christophers, 2015a). Here we understand financialization as an *intensification* of already existing processes that have helped to extend and entrench neoliberal-style approaches to governance.

Our interest in the concept of financialization is twofold. First, there is growing recognition that finance is now highly influential in framing global development, setting the parameters and opportunities for economic development, poverty alleviation, and environmental sustainability across contexts of varying levels of wealth. Global challenges are increasingly framed around the notion of a ‘finance gap’, which foregrounds the role of private sector investment in meeting such challenges. Countries and cities of the Global South are increasingly positioned as ‘emerging markets’ by development actors, presenting opportunities for finance to prise open new frontiers of capital accumulation (Mawdsley, 2018). These transformations in how development is understood and practised have wide-reaching implications for any understanding of global development in the 21st century.

Second, finance – as will be demonstrated in this chapter – is a key medium through which planetary-scale and situated processes are connected and co-constituted. Global financial actors, who are themselves geographically anchored (often in hubs such as London, New York, and Hong Kong), constantly seek out locales with the necessary characteristics (including political and institutional regimes, economic systems, infrastructures, and consumer bases) to reliably produce return on investments. Morag Torrance (2008) refers to this as the *glocalization* of infrastructure governance, in which urban infrastructure is to an ever-greater extent ‘unbundled’ and integrated into the portfolios of global financial actors but is still subject to local governance regulations, planning applications, legal challenges, contestations, and the like. We will show in this chapter that this relationship – between the planetary and the situated – both takes advantage of and reinforces geographical difference and uneven development between areas that are considered profitable or not. We concur with Jennifer Robinson and colleagues (2021) that the emphasis should fall on explaining financialization as a set of complex processes impacting on inequality in highly contextualized ways, rather than using financialization as a pre-packaged causal explanation for the emerging patterns of difference we find worldwide.

There are powerful narratives promoting the need for greater private finance to achieve development goals and sustainability targets like those contained within the 2016 Paris Agreement. These narratives are being promulgated by traditional international development actors, such as the World Bank and United Nations, as well as by some nation-states (see our discussion of the Kenyan state later in the chapter) and a host of new and emerging actors including the New Development Bank and Asian

Infrastructure Investment Bank (Weerakoon, 2023). Here our core argument is that despite these hegemonic discourses claiming that private finance is necessary to achieve global development goals, processes of financialization will generate more inequality, or at least entrench existing inequalities, in the context of neoliberal-style economic governance. The chapter first provides a more in-depth definition of financialization. We then discuss how financialization is shaping development, assessing the assertion that development is now characterized by a Wall Street Consensus (Gabor, 2021). Finally, we provide an illustrative example of financialization: the case of water services in Kenya.

What we mean when we talk about financialization

Gerald Epstein (2005: 3) defines financialization broadly as ‘the increasing role of financial motives, financial markets, financial actors, and financial institutions in the operation of the domestic and international economies’. Financialization is now used to describe a wide – albeit interlinked – range of processes and relations covering many different empirical phenomena at a range of geographical scales, from the local to the global (Van der Zwan, 2014). Yet, while there is a lot of debate about what constitutes financialization and what does not, all definitions point to a deep and ongoing transformation of how societies and economies operate and the growing influence of finance in shaping social relations. Indeed, Harvey (2005: 33) argues that these processes are deep and transformative, affecting all aspects of the global economy, state apparatus, and everyday life, and that we are therefore witnessing the ‘financialization of everything’.

Most definitions rest on making a distinction between the ‘real economy’, on the one hand, and the ‘financial economy’, on the other. As Greta Krippner (2005: 174) argues, financialization refers to ‘a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production’. Here, the ‘real economy’ refers to the realm of material production (for example, toys being made in China, clothes in Bangladesh, cars in Germany, oil refinement in Angola), which is expressed in the classic Marxist formula $M-C-M\Delta$, where money (M) is exchanged for commodities (C: labour, means of production, raw materials), put through a process of production, and exchanged for M plus profit. In the ‘financial economy’, by contrast, there is no production. Instead, only financial transactions take place, whereby money is invested in an asset or shares with the expectation that it will generate return over time, along the lines of $M-M\Delta-M\Delta\Delta-M\Delta\Delta\Delta$, and so on. Financial transactions, therefore, do not produce value (Labban, 2014) but simply take advantage of changing relative values between things and places, and over time. In this sense, we can understand the financial economy as ‘sitting atop’ the real economy,

playing a key role in the historical development of capitalism by enabling the movement of capital into and within the real economy. [Andy Pike and Jane Pollard \(2010: 36\)](#) argue that it is important not to overstate the separation between the financial and real economies because ‘the material basis of the “real economy” is inescapable’. Instead, scholars argue that financialization is causing the financial economy to become disproportionately influential – in other words, the financial economy is growing faster than the real economy. As [Natascha van der Zwan \(2014\)](#) summarizes:

What unites these studies is a view of finance beyond its traditional role as provider of capital for the productive economy. Instead, studies of financialization interrogate how an increasingly autonomous realm of global finance has altered the underlying logics of the industrial economy and the inner workings of democratic society. (pp 99–100)

[Brett Christophers \(2015a\)](#) argues that the term financialization is being applied loosely to a multitude of processes and phenomena and as a result is becoming ‘fuzzy’, losing its conceptual and analytical purchase. While we believe that the extent to which processes of financialization are shaping and transforming myriad aspects of the contemporary world means a broad understanding is not necessarily undesirable, we also agree that it is important to be clear about how we use different terminologies. To that end, we have outlined the distinctions between concepts that are related to but distinct from financialization in [Table 7.1](#).

A key point is that financialization is not equivalent to privatization. Indeed, it is common for public utilities and governments to undergo transformations towards greater financialization without directly selling public assets, although the two often go together. [Pike \(2023\)](#) shows how many local governments in the UK have, in the context of over a decade of austerity and declining funding from central government, increasingly taken on debt as a way of funding new projects or maintaining existing services. Here the guaranteed future income generated by local taxes is used as security to borrow capital to fulfil government functions. For [Pike \(2023\)](#), this signals a significant structural change in how many local authorities practise local statecraft. While financialization does not necessarily accompany privatization, it does necessitate commercialization as a prerequisite – in other words, it requires that an organization or sector (in this case, local government) will operate according to commercial principles, such as full cost recovery and profitability, to guarantee returns to investors. These distinctions are important for understanding transformations in the water services sector in Kenya, which we discuss later.

It is useful to disaggregate various intellectual framings of financialization. First, economic framings tend to focus on how finance is reshaping the ways

Table 7.1: Defining related, but different, concepts

Concept	Explanation
Financialization	The extension of interest-bearing capital into more and more aspects of society and nature, both extensively and intensively. It involves the realignment of politics, culture, and social-natural relations with the purpose of generating revenue and return on investment. Some argue that financialization is a departure from neoliberalism, while others say it is an extension of it.
Neoliberalization	The movement towards economic liberalism that became dominant in the US and Western Europe in the 1970s and 1980s and has since become prevalent in one shape or form in many capitalist economies. Characterized by a promotion of ‘free’ markets, where the state assumes the role of facilitator and promoter of market ‘solutions’ and market governance.
Privatization	The transfer of exclusive property rights from collective ownership, public ownership, or non-ownership to ownership by private individuals.
Commodification	The categorization of something into quantifiable units with a monetary value that can be exchanged.
Commercialization	The governance of something according to the commercial principles of full cost recovery, market exchange, and profit making.

corporations and other economic actors behave, highlighting the growth of financial trading, financial services, and financial markets, including futures markets. There is now an extensive literature on how corporations are operated increasingly and primarily in the interests of their shareholders (French et al, 2011). As domestic or international investors become more value-oriented, the success or failure of a company (and therefore its market value) is linked steadily more to its ability to generate returns and dividends for shareholders. As a result, company managers are more likely to adopt sentiments or practices that prioritize growing shareholder value over other imperatives, such as labour wellbeing, environmental sustainability, and social responsibility (Froud et al, 2000).

To take another example from the UK, we can see these transformations clearly taking place in the postal and courier company, the Royal Mail. Established in the early 16th century, the Royal Mail was long state-owned and state-operated, holding a guaranteed monopoly on postal delivery in the country. The company was privatized in 2013 and floated on the London Stock Exchange. Yet the Royal Mail has struggled to balance its letter delivery service, for which demand has slowly declined since the advent of email, and its parcel courier service, which has faced growing competition from new courier companies. Company executives have claimed that the Royal Mail is

now losing £1 million a day and requires structural adjustments to address its challenges. The proposed changes, along with long-term wage suppression, led to prolonged industrial action by union members in 2022–23.¹ Nevertheless, the Royal Mail has continued to pay out dividends to its shareholders, returning £400 million to investors in 2021. At the same time, executives have continued to receive bonuses; for 2022–23, the board changed the way that bonuses are calculated in such a way that they now only reflect the ‘success’ of the company in creating value for shareholders. The upshot is that, in the context of a deepening corporate financial crisis, executives are only incentivized to generate returns for their investors. They can receive bonuses regardless of how well the company performs according to other metrics such as total revenue, quality of service, or employment conditions. In this example, the process of financialization has changed how – and importantly *for whom* – the Royal Mail operates.

Second, political-economic framings often focus on understanding how particular sectors are being transformed by financialization. In the post-2008–09 financial-crash era, much attention has been paid to how real estate and urban space have become increasingly financialized as spaces of speculation and rent extraction (Moreno, 2014; Fields, 2017). Others have focused on infrastructure assets – particularly telecommunications, transport, and energy – and the growing role of finance in shaping how, where, and when infrastructure projects are developed (P. O’Neill, 2019).

Third, social and cultural approaches emphasize how financialization is also a process of transforming people, their behaviours, and everyday lives. Financialization may seem like a fairly abstract concept, but it is important to remember that things like rates of return, bankability, shareholder value, and so on are always predicated on actual people. Indeed, the existence of a population of ‘good’ financial subjects (that is, people who are willing or able to make regular payments for goods or services, reliably service their debt, and pay their bills) is a prerequisite for all the processes mentioned earlier (Langley, 2008). Through their study of mortgages in Barcelona, for example, Melissa García-Lamarca and Maria Kaika (2016) introduce the concept of ‘embodied financialization’ to show how global processes of finance are enabled and underpinned by a reorientation of lives. People’s practices, labour, day-to-day decisions, and future planning are shaped by their relationship to debt. Mortgages, they argue, are a form of biotechnology ‘that engineers an increasingly intimate relationship between practices of everyday life and speculative practices of global real estate and financial markets’ (García-Lamarca and Kaika, 2016: 313).

Fourth, political-ecology perspectives are concerned primarily with understanding how processes of financialization are shaping nature–society relations. If economies in the Global South are understood as a *geographical* frontier of financialized modes of accumulation, then previously

unfinancialized natures – such as water (discussed later in the chapter), land, and ecosystems – represent a *material* frontier (K. Kay, 2018; Knuth, 2018). The financialization of nature describes a diverse set of processes through which the varied material elements and processes of ‘nature’ become enrolled in the circuits of capital accumulation through financial mechanisms, such as debt, value extraction, and speculation (Ahlers and Merme, 2016; Schmidt and Matthews, 2018). Financialization through the emerging global apparatus for climate change governance, for example, has attracted significant debate in recent years. The development of carbon markets – either through offset markets or through cap-and-trade systems – since the signing of the Kyoto Protocol in 1997 and the establishment of the Clean Development Mechanism has opened new areas for investment, speculation, and value extraction (Lohmann, 2012). In this sense, the atmosphere itself has become a frontier of finance, measured through the price of tonne of CO₂ equivalent. Moreover, as the reality of a changing climate continues to manifest through extreme events, insurance against climate events through measures like ‘catastrophe bonds’ has become another form of financial accumulation (Keucheyan, 2018). At the heart of the financialization of nature, according to Stefan Ouma and colleagues (2018: 501), is ‘a process of ontological reconfiguration’, a reconstitution or reimagining of complex social and natural relations, ‘through which different qualities of nature and resource-based production are translated into a financial value form’.

Global development and financialization: a new Wall Street Consensus?

The term ‘Washington Consensus’ was popularized in the 1990s by the economist John Williamson to describe a set of broad policy prescriptions that were being promoted for international development by major development actors headquartered in Washington, DC, such as the World Bank, the International Monetary Fund (IMF), and the US Department of the Treasury, as well as influential think tanks, including his own, the Peterson Institute for International Economics. He outlined ten prescriptions, initially aimed at Latin American economies but later extended to Asia, Africa, and Eastern Europe, which he summarized as three big ideas – ‘prudent macroeconomic policies, outward orientation, and free-market capitalism’ (Williamson, 1990: 17). These ten points reflected dominant opinions around how ‘developing’ economies should best achieve growth and progress (see Table 7.2). The list reflected Williamson’s understanding of the priorities of the time, which were more concerned with achieving economic efficiencies than normative issues, like equity or justice. As such, he ‘deliberately excluded from the list anything which was primarily redistributive, as opposed to having equitable consequences as a byproduct of

Table 7.2: The policy prescriptions of the Washington Consensus

	Policy	Explanation	Quotation
1	Reduce fiscal deficits	States should administer budgets with fiscal discipline.	‘There is very broad agreement in Washington that large and sustained fiscal deficits are a primary source of macroeconomic dislocation in the forms of inflation, payments deficits, and capital flight.’
3	Tax reform	Although there is no consensus around how much tax is appropriate, there is agreement that tax reform is needed.	‘The principle is that the tax base should be broad and marginal tax rates should be moderate.’
4	Interest rates	Rates should be (1) determined by the market and (2) moderately positive.	‘The suspicion is that such segmented credit markets provide a prime environment for corruption to flourish.’
5	Exchange rates	A competitive exchange rate (that is, an exchange rate that encourages exports but does not lead to excessive inflation) is a prerequisite for developing an outward-oriented economy, regardless of whether the rate is set by the market or the state.	‘In the case of a developing country, the real exchange rate needs to be sufficiently competitive to promote a rate of export growth that will allow the economy to grow at the maximum rate permitted by its supply-side potential.’
6	Trade liberalization	Free trade with minimal duties is seen as a good thing. Countries should liberalize imports. Protectionism distorts economies and leads to corruption.	‘Access to imports of intermediate inputs at competitive prices is regarded as important to export promotion.’
7	Foreign Direct Investment (FDI)	Countries should not restrict the flow of FDI.	FDI ‘can bring needed capital, skills, and know-how, either producing goods needed for the domestic market or contributing new exports’.
8	Privatization	Privatizing state enterprises and assets can increase competition (which is seen as positive) and ease fiscal budgets.	‘Privatization may help relieve the pressure on the government budget, both in the short run by the revenue produced by the sale of the enterprise and in the longer run inasmuch as investment need no longer be financed by the government.’
9	Deregulation	Deregulation promotes competition, which is good for economies.	Deregulation ‘is generally judged to have been successful within the US, and it is generally assumed that it could bring similar benefits to other countries’.
10	Property rights	Countries where private property is not guaranteed or protected will fail economically.	Property rights are of ‘fundamental importance for the satisfactory operation of the capitalist system’.

Source: After Williamson (1990)

seeking efficiency objectives, because ... the Washington of the 1980s [was] a city that was essentially contemptuous of equity concerns' (Williamson, 1993: 1329).

This consensus – or ‘universal convergence’, as it was also described – was seen by many as being synonymous with neoliberalism because of its emphasis on free markets and a limited role for the state. Williamson later bemoaned this conflation, as well as the inference that this was intended to be an economic ideology imposed on the Global South from Washington (Williamson, 2002). However, the history of structural adjustment during the 1980s and 1990s, particularly in Latin America and Africa, shows that much of the development policy and ideology was (1) often imposed by organizations like the IMF and World Bank and (2) profoundly neoliberal, in the sense that structural adjustment sought to liberalize and open economies and was steeped in the Reaganesque language of free market governance (Konadu-Agyemang, 2000; Laurell, 2015). In the 2000s, there was lots of debate about whether development had moved past the Washington Consensus (see Serra and Stiglitz, 2008 on the post-Washington Consensus), as well as fierce opposition to neoliberal development practices, particularly in Latin America (see Silva, 2009). However, the collective processes that we now call the financialization of development are essentially a continuation of the neoliberal approach to development of the 1980s and 1990s.

The financialization of development has been underway for some time, but most commentators agree it has intensified, particularly since the 2008 global financial crisis (Mawdsley, 2018). Much of the early work on the development–financialization nexus explored the emergence of microfinance, such as small-scale loans and the extension of banking services to previously unbanked populations (often through app-based or telephone banking), which enabled people with lower incomes to access credit. While some have argued that microfinance has enabled development by extending finance to credit-starved groups, others have been more critical, arguing that it has increased levels of indebtedness and deepened inequality (see Kar, 2018).

The intensification of these processes has, according to Toby Carroll and Darryl Jarvis (2014), emerged from a confluence of interests, including the changing role of development organizations away from providing concessional loans towards blended finance, international financiers seeking investment opportunities in emerging markets, and governments looking to generate revenue to fulfil development targets. ‘Emerging markets’, they argue, ‘are seen as ripe for private sector investment and, at the same time, in need of foreign capital to support rapid industrialization, modernization and poverty reduction’ (Carroll and Jarvis, 2014: 533). Such processes, Emma Mawdsley (2018: 267) says, are part of a shift towards framing economies in the Global South as ‘frontiers’ that are ‘increasingly attractive to global

capital flows'. The injection of finance into so-called frontier economies, which has become characteristic of contemporary development, serves to open up new enclosures for capital accumulation (Storm, 2018).

Financialization and debt-led development are a double-edged sword, in the sense that they can be 'a foundation for economic development and social inclusion', directing funding to cash-starved economic sectors, but also 'an instrument of wealth extraction, enhanced inequality and potential crisis' (Furlong, 2019: 572). If decisions on funding and investment are increasingly made based on the ability of a sector, project, or region to generate returns, 'attractive' sectors or areas are likely to draw in capital and grow rapidly, just as 'unattractive' domains are sidelined and starved of credit (Bond, 2013). This dynamic creates a 'geography of the rate of return across the world' (Torrance, 2009: 95), leading to varied processes of exclusion, in which certain areas fall beyond the circuits of capital, and of inclusion, in which previously overlooked areas are enrolled within those circuits.

Daniela Gabor (2021) argues that we are now seeing an emerging Wall Street Consensus, which is a reformulation of the Washington Consensus, having some distinctive characteristics of its own, but broadly in the same vein. The Wall Street Consensus, according to Gabor (2021), sees global finance as a crucial development partner and promotes an approach to development that turns on two main points. First, all manner of asset classes – major infrastructure services, including water, energy, and transport, as well as housing, healthcare, and so on – are de-risked to attract investment. De-risking refers to guarantees that protect an investor or an asset from things like political risk (for example, a change in government, nationalization, or tighter regulation), demand risks (that is, if a service, such as a private road, is not used by customers), and monetary risks (including currency and exchange rates). Unlike earlier forms of market fundamentalism, which shunned (at least in theory) the role of the state in supporting markets, the 'de-risking state' plays a key role by creating a 'safety net for the holders of development assets, protecting their profits from [different kinds of] risks' (Gabor, 2021: 431).

The second key aspect of the Wall Street Consensus is that efforts are made by the state and multilateral organizations to re-engineer domestic financial systems to mirror the US financial system. The aim here is to put in place laws and practices that allow easy access to domestic markets by global financial actors. At the same time, we see increasing efforts in many countries in the Global South to mobilize domestic finance in parallel with global finance to meet development challenges. A prerequisite of both principles, as will be shown in the example of water services in Kenya, is that service users are turned into customers willing to pay. In other words, the whole architecture of the financialization of development rests on creating reliable revenue streams from different assets – without the certainty of returns through revenue, global financial actors will not invest.

Filling the finance ‘gap’

Much of the narrative and discursive justification for this shift in global development is framed around the concept of a ‘finance gap’ or ‘infrastructure gap’. Increasingly, we see the challenges of achieving sustainable development targets being expressed in terms of financing gaps – or the amount of finance required to fulfil particular aims within the timeline of the Sustainable Development Goals (SDGs) or the Paris Agreement. For example, with reference to climate change and ‘green growth’ targets, the African Development Bank calculates in its economic outlook report that ‘to close Africa’s climate financing gap by 2030, approximately US\$ 213.4 billion will need to be mobilized annually from the private sector, to complement constrained public resources’ (African Development Bank, 2023: 61). In this 236-page report, finance gaps are mentioned 73 times. The language of gap-filling is particularly widely used when framing African development challenges, although the same language is also mobilized in other contexts (see Inter-American Development Bank, 2022). For Tom Goodfellow (2020: 257, emphasis in original), this is part of a broader process whereby ‘from the outside’, and increasingly from the inside, ‘capitalism in Africa is discursively constructed as being held back by *absences* and *spaces* that need filling’.

Commentators often lament the backlog of incomplete infrastructure projects and the pipeline of new projects without finance across the continent, on the one hand, and the availability of domestic and international capital seeking investment opportunity, on the other hand. A Nigerian investment firm, for example, argues that the ‘financing gap persists, even as more than US\$ 100 trillion is held by pension funds, sovereign wealth funds, mutual funds, and other institutional investors’, adding that in the ‘context of global savings, large financing markets, and other investable projects, the available capital is large enough to solve the global infrastructure needs’, but ‘there are not enough *investable* projects’ (Brickstone, 2022, emphasis added). From this perspective, the challenges of sustainable development should be addressed by governments, multilateral organizations, and other institutions working to de-risk projects to make them bankable and thereby attract private investors. The financialization of development, then, is an attempt to connect what Rhodante Ahlers (2020) calls the ‘wall of money’ with sectors and places that have been long starved of funding.

The shift towards the financialization of global development finance gap-filling is exemplified by the World Bank’s Maximizing Finance for Development (MFD) policy. Launched in 2017, the MFD policy aims to attract private financing for development projects (World Bank, 2019). It is one of the key ways that the bank aims to contribute to the achievement of the SDGs. Drawing on the narrative of the ‘finance gap’, the World Bank argues that it would take up to US\$ 4.5 trillion a year to meet the SDGs – an

amount that cannot be met by government spending and development aid. The answer, the bank says, is to attract private investment into development projects – especially infrastructure projects – that will generate economic growth. To that end, MFD aims to foster a coordinated approach to assisting countries in creating development projects that are financially viable and therefore attractive to external investors. The aim is that every US dollar spent on development projects by governments and multilateral development organizations should be matched by corresponding investment from the private sector. Where conditions are unfavourable for private investment, emphasis is placed on the ‘centrality of government actions to improve the investment climate’ (World Bank, 2017a: 2) by fostering markets, improving governance, and de-risking sectors.

MFD is achieved through a process the World Bank calls ‘cascading’. The cascade approach is a priority list running from private sector to public–private and, finally, public. So, if a project can feasibly be delivered by the private sector alone, it should be. If not, public–private partnership options are evaluated. Here, the role of the state should be to de-risk the project through subsidies or guarantees, which means that the risk is taken on by the public sector and revenue is guaranteed to the private sector. Options for ‘blended finance’, in which concessional loans from multilateral development organizations are combined with private finance, can also be considered. If neither of the first two options is possible, then public sector delivery is considered. In this way, the principles of MFD become systematic and are built into the decision-making process for development projects. The purpose of this approach is, according to the World Bank (2017b: 14), to ‘allow public resources to be deployed strategically to facilitate reforms and expand the pool of projects that can be financed with commercial and private capital’. As such, the World Bank works to mobilize private capital for projects in which it has a direct involvement and to catalyse private capital for projects in client countries in which it has no direct role.

This means that, wherever possible, development projects should be able to generate returns because it is only by projects being judged commercially viable and profit producing that private actors will consider investing. As a result, MFD is explicitly framed as an effort to open new markets in developing economies. Indeed, the World Bank states that MFD is an opportunity for global financial actors to enter new areas, and marketing material for the strategy makes it clear that MFD is about ‘help[ing] private finance tap into developing markets’.² Inevitably, this means that MFD favours projects and places that are profitable (or potentially profitable) and excludes projects and places that cannot generate sufficient revenue but may well have the potential to contribute a great deal to reducing poverty or fulfilling other goals for sustainable development. The narrative that often

surrounds these discussions, however, is that mobilizing private sector funds in one place frees up scarce public funds for other projects.

Case study: financializing water services in Kenya

Kenya's experience in many ways reflects broader processes towards increasingly financialized forms of development. Since a series of water sector reforms in Kenya, there have been attempts to commercialize key sectors by a range of actors, from national and regional government, domestic financial actors, international investors, and development organizations to non-state actors (Newell and Phillips, 2016; Savelli et al, 2019). Facilitated by these interests, the Kenyan government has been active in pursuing a growth model based on financialized infrastructure development, restructuring sectors, and setting up public bonds and feed-in tariffs to encourage private investors (Klagge and Nweke-Eze, 2020). For example, in 2013 the National Treasury established the Public–Private Partnership Committee with the express remit to 'provide for the participation of the private sector in the financing, construction, development, operation, or maintenance of infrastructure or development projects' (Republic of Kenya, 2013: 311).

Despite clear policy objectives since the early 2000s, investment in water services has lagged behind other sectors. This is not an uncommon picture. In general, compared with other sectors – such as energy, transport, and real estate – finance has been slow to penetrate water resources and services (Loftus et al, 2019). In part, this is due to the particular material and social characteristics of water that make it unfavourable – or at least highly context-dependent – for investors, qualities that have been thoroughly debated in the literature (see K. Bakker, 2003). This is changing, however, and there is now a growing critical literature on how water services are increasingly enrolled in circuits of financial accumulation across both Global North and Global South (Bayliss, 2014; Loftus et al, 2019). Hug March and Thomas Purcell (2014: 11) suggest that financialization is an appropriate term to interpret structural changes in the water sector because very often 'it is not water itself, but the network of services and infrastructures involved in its delivery, that has been embroiled within the contemporary financial environment'. Financialization requires a certain level of commodification of water but is not *necessarily* predicated on the full privatization of water.

The challenges facing the water sector in Kenya are framed by government organizations and development agencies in terms of an infrastructure finance gap, in much the same way as we described earlier. This is usually illustrated with reference to the projects needed to deliver the Vision 2030 target of universal supply by 2030, compared with the public sector's ability to deliver those projects. For instance, a major report by the World Bank and the Water Services Regulatory Board (WASREB) calculated that for Kenya to reach

its Vision 2030 target of universal access to safe water, investment of 1.288 trillion Kenyan shillings (KSh) is required between 2015 and 2030 (this figure is just for water supply, not sanitation). Of this, the report suggests, KSh 562 billion can be met through government budgets, leaving an investment gap of KSh 726 billion, equivalent to US\$ 7.1 billion (WSP and WASREB, 2015). The National Water Master Plan describes the infrastructure finance gap as a ‘seriously tight situation’ (MEWNR, 2013: EX11). This gap in investment is mobilized as a discursive justification for the introduction of private finance to the water sector. For example, WASREB’s current strategic plan states that part of its role as water sector regulator should be to enable an ‘environment for sector financing, including closure of [the] finance gap’ (WASREB, 2023: 13).

In Kenya, the slow process of restructuring and reorganizing the water sector to attract investment is occurring through two interrelated processes (Williams, 2021). First, there have been significant attempts by government and development organizations since the 2000s to commercialize water services through institutional restructuring. In Kenya, there is a legal and institutional separation between water resources, which cannot be privately owned, and water services, which have undergone a dual process of decentralization (with greater control and responsibility devolved to the 47 county governments) and commercialization. This restructuring was kickstarted by the Water Act of 2002 and completed, at least in principle, in the Water Act of 2016. The explicit goal of these Acts was to encourage the sector to operate within its means. Water service providers (WSPs), which are responsible for delivering water to consumers, for connecting new customers to the network, and for collecting revenues, are all structured like private companies and are supposed to fund their operations through revenues (this has not always been achieved in practice, however). In principle, WSPs can be owned or operated as private companies, although most are owned by the county governments, and only three out of 94 are currently privately owned. The regulator WASREB’s tariff-setting process has become the linchpin of the commercialization of water services. In principle, tariffs should be set at a rate to allow WSPs to cover costs through revenue collection. However, very few WSPs are close to achieving this. There are many reasons for this, but one of the main challenges is high levels of water loss, or non-revenue water (NRW) – that is, water that is taken out of the system but is never paid for. Currently, water utilities lose an average of 43 per cent in NRW, either through physical losses (pipe leakages) or commercial losses (water theft, usually by cartels and illegal vendors, or faulty metering). This amounts to the loss of KSh 15.8 billion, or US\$ 146 million, in revenue each year (WASREB, 2020).

Second, initiatives are underway to formalize and securitize household bill payments and repackage this into investable products. Water customers

are central and essential to the viability of investments in the water sector because it is ‘their regular payment of bills on which the whole architecture of securitization rests’ (Bayliss, 2017: 393). The challenges outlined earlier mean that much of the water service sector in Kenya is currently considered by financial actors ‘unbankable’ and ‘uninvestable’. ‘De-risking’ has therefore emerged as a crucial mechanism pursued by the state and development organizations to cultivate markets and woo investors. Most of the focus has been around formalizing water consumption and reducing NRW. Barriers to reducing NRW are significant, including the power of the cartels that supply large areas of cities with water, political inertia, and the fiscal constraints on water service providers.

Nevertheless, many see great untapped potential for stable revenue from Kenya’s urban water users. For one thing, people are used to paying often extortionate rates for water. The informal forms of water provision – including illegal connections, water kiosks, water carts, and water trucks (known as bowsers) – many of which are controlled by cartels, already operate like a market, albeit one tightly controlled often by violent means. In informal settlements, those who are not connected to the water network pay an average of 150 per cent of the highest tariff per unit for domestic consumers (WSUP, 2018). So, there are already extremely high levels of reliable revenue, but much of it is not formalized or financeable. Christiane Tristl (2023) shows how, in the Mathare slum in Nairobi, new technologies, such as telephone banking and smart water dispensers, are being used to formalize water customers in low-income areas and demonstrate reliable and secure revenues to investors. In 2023, the government also established a new section of the police force, the Water Police Unit. The stated purpose of the water police is to protect critical water infrastructure from criminal interference, although the unit has been criticized for conducting forced disconnections in informal settlements.

Will finance help achieve development objectives?

What is currently underway in Kenya, therefore, is a more-or-less concerted effort to transform the social relations of water, *to make water pay*. Proponents of this argue that finance can fulfil an important function in accelerating development – who would be against increased funding for much-needed infrastructure projects? Even within critical academic circles, there is debate around the role of finance in development. Noel Castree and Christophers (2015), for example, suggest that, given the scale of environmental and social challenges confronting us, global finance – if correctly directed – could be an incredibly powerful force for positive change by, for instance, rapidly switching economies from fossil fuel dependence to renewable energy.

It may be that such projects result in improved services for some people in some areas, but that does not discount the fact that financialization is, first and foremost, about the re-engineering of sectors towards the generation of surplus and, therefore, the extraction of value. Projects can have good social intentions *and* be extractive at the same time. To justify the latter with appeals to the former is to confuse things. There is, therefore, a danger that the pursuit of financialized models of water provision in Kenya by development organizations and financial actors is deepening the gulf between service areas that are deemed potentially profitable and those that are not.

Writing of infrastructure projects in the *Global South*, Nicholas Hildyard (2016) argues that the guaranteed (or de-risked) contracts and contracted income streams that underpin all projects involving private partners – be they public–private partnerships or entirely private – constitute a relationship of extraction between financial actors and host communities that amounts to legalized looting. ‘Financial extraction’, Hildyard (2016: 20) argues, ‘is not about the social purpose intentions of a project, but about the flows of wealth through it and who gets to enjoy them’. Similarly, Nicholas Shaxson (2018) makes an analogy with the ‘resource curse’ theory. Briefly put, the resource curse, which was a popular concept in development circles in the 1990s, attempts to explain why countries with substantial amounts of resource wealth – usually oil or minerals – often struggle to benefit from extraction and struggle to achieve economic development. Likewise, Shaxson (2018) argues, economies that are too financialized suffer from extractive financial relationships and, therefore face barriers to development.

The result is that, in the absence of strong regulation or redistributive mechanisms, financialization leads to uneven development. As Patrick Bond (2013) argues:

Finance creates unevenness because some circuits of capital (and the spaces that host them) ‘grow’ much faster as accumulation processes build upon each other, even to the extent of dangerous speculative bubbling, while other areas are more decisively ‘redlined’, starved of credit, disinvested, blighted, drained of savings and, when credit does flow, subject to predatory financiers. (pp 569–70)

The unevenness of financialized forms of development, in which potentially profitable areas and sectors have access to funding and support, while others are deemed unprofitable, creates what Christophers (2015b) describes as a geography of inclusion and exclusion. Owing to this ‘uneven participation and distribution of reward’, Shaun French and colleagues (2011: 803) argue that financialization has deepened social differences and helped drive the growing economic inequalities that we observe nearly everywhere (Piketty, 2014).

Conclusion

We have explored how processes of financialization are changing the landscape of global development, reshaping the contours of how developmental and environmental concerns are problematized for a wide range of public and private actors. We have seen how the settings of the Global South are increasingly framed as frontier economies, presenting opportunities for capital to secure new waves of investment, speculation, and accumulation. While there has been much debate about the precise meaning of financialization, and the specific processes that should be included under the umbrella term, there is a growing recognition that the increasing role of financial actors constitutes a novel historical phase of development. The financialization of development is bound up with powerful institutional changes (that is, which actors are involved and how), as well as scalar and geographical transformations in development.

Financialization of water services in Kenya offers an instructive case for at least two reasons. First, the Kenyan government and other influential actors are actively pursuing financialized forms of development, presenting the ‘Silicon Savannah’ as a land of opportunity for investment in technologies, infrastructures, and services. Powerful multilateral organizations and corporations are advancing such processes as they seek to ‘open up’ Kenya as an ‘emerging market’. The case represents this trend of heightened interest in settings that may previously have been seen as too risky or simply unprofitable.

Second, the Kenyan case demonstrates that water services, which to date have not been commercialized at the rate or intensity of other sectors, are being positioned as a potential source of financial revenue, provided that the sector can be appropriately de-risked for investors. Water, as well as other natural resources, is now the focus of new waves and modalities of capitalization and value extraction. That reality will drive far-reaching changes to people’s everyday relationship to water just as it will transform the rationalities of how we govern its networked flows and associated political rights. Emerging inequalities in Kenya’s water sector, while shaped by colonial forms of ownership and governance of nature, are deeply tied to contemporary processes of value generation. For that reason, the financialization of water tells a cautionary tale of the future of development, environmental governance, and social equity.

Connecting through Infrastructure

At the 2023 meeting of G20 leaders in Delhi, the heads of three of the world's most powerful economic blocs – the US, India, and the European Commission – formally agreed to back a new infrastructure development umbrella initiative called the Partnership for Global Infrastructure and Investment (or PGII). Originally proposed the year before at a G7 meeting held in the German Alps, the PGII is intended to ‘mobilize hundreds of billions of dollars in infrastructure financing’ to deliver ‘energy, physical, digital, health, and climate-resilient infrastructure’ to boost ‘sustainable’ and ‘green’ economic development.¹ The PGII was envisaged as a transcontinental infrastructure corridor connecting India, the Middle East, Europe, and other countries through high-tech, sustainable infrastructure projects across a range of sectors. At the conclusion of the Delhi meeting, the PGII was described by the prime minister of India, Narendra Modi, as ‘a beacon of cooperation, innovation, and shared progress’; as a ‘green and digital bridge across continents and civilizations’ by the president of the European Commission, Ursula von der Leyen; and as a ‘really big deal’ by the US president, Joe Biden.²

The PGII is the latest iteration of a recent series of international partnerships and programmes to coordinate infrastructure investment, including the laboriously named Build Back Better World (B3W) partnership proposed at the 2021 meeting of the G7. The official language of such initiatives proselytizes the need to build strategic partnerships between countries, to construct socially and environmentally ‘sustainable’ projects, to improve governance within host countries, to mobilize private finance for development, and to increase the impact of multilateral development assistance. Yet these are also deeply geographical and geopolitical projects, designed to promote the strategic interests and maintain the international relevance of older powers in a rapidly changing world. Indeed, the express aim of the governments of the US and Europe in developing the PGII – in this case aligning with the geopolitical interests of India – is to rival and counterbalance China’s massive programme of international infrastructure

investment: the much-touted Belt and Road Initiative (BRI). The geopolitical ambitions of the PGII have been illustrated, for example, by its enthusiastic reception in Taiwan, where leaders see the partnership as an opportunity to strengthen economic and political ties with Europe, North America, and lower-middle-income countries in Asia and Africa and to check China's growing influence (Sang, 2022).

In this chapter, we show how 'mega' infrastructure visions like the PGII form part of a broader shift towards infrastructure- and state-led models of development. That movement is part and parcel of new geographical imaginaries of global development, of nodal points of economic activity connected by continent-spanning corridors, joining sites of consumption and production with new frontiers of extraction (Williams et al, 2020). Such imaginaries are most clearly articulated through the BRI, launched by the president of China, Xi Jinping, in 2013. The BRI has sought to redraw global geographies with China at their centre, connecting Asia and Europe via the Silk Road Economic Belt (SREB: the *Belt*) and the rest of the world via the Maritime Silk Road (MSR: the *Road*). The reality is more disparate than the terminology implies: there is no single road or belt. Rather, these corridor-driven connections are at once political and geopolitical, social and cultural, economic and financial, as well as physical and infrastructural. The BRI, as with other infrastructure megaprojects, is presented as a global vision: vast in scope and ambition. Yet it is not 'planetary' in the sense that we discussed in Chapter 2. The BRI seeks the production of new global spaces in defiance of Western imperialism, but arguably these spaces are themselves highly uneven and exclusionary and will shape processes of uneven development in years to come.

Shifts towards infrastructure-led development are unfolding at multiple scales, from the global visions of the BRI and PGII, to national-level programmes such as Kenya's Vision 2030 policy discussed in Chapter 7, and to urban and regional-level strategic policy making. These shifts entail a changing role for the state, or even a reassertion of the centrality of the state in the (dis)functioning of global capitalism. Ilias Alami and colleagues (2021: 1295, emphasis in original) argue that we are seeing a 'redefinition of the Development project', characterized by new forms of market regulation and a 'strategic ideological adjustment concerning the place of the state in Development, including a partial embrace of its role as promoter, supervisor, and owner of capital'. Readers may notice an apparent paradox between this formulation of state-capitalist development of infrastructure corridors and the financialized forms of infrastructure development, encapsulated by the notion of a Wall Street Consensus, explored in Chapter 7. However, scholars have asserted that no such contradiction exists – as we saw, the state and multilateral organizations are often central to the 'opening up' of new frontiers, and the guiding of private capital into emerging markets,

underpinning the financialization of development. For [Seth Schindler and colleagues \(2023: 228\)](#), in programmes of infrastructure-led development financialization and state capitalism ‘are not only at times complementary, but they are co-constitutive, as states are able to access capital for entrepreneurial spatial plans’.

Although the PGII is designed to maintain the West’s geopolitical hegemony, infrastructure-led development is profoundly reshaping the geographies of global development through the forging of new partnerships and connections. Importantly, the geographical imaginaries of new infrastructure corridors disrupt many of the spatial categories of traditional international development thought. They entail novel geopolitical realignments, and interregional patterns of competition and cooperation, that enjoin us to move beyond the simple dualisms of Global North–South or developed–developing. Later, we illustrate these shifts through a discussion of the Lamu Port–South Sudan–Ethiopia Transport Corridor (LAPSSET): a megaproject stretching across East Africa designed to boost economic growth in the region.

New global infrastructure geographies

Our political and economic worlds are increasingly experienced, mediated, and organized by infrastructures ([Star, 1999](#); [Larkin, 2013](#); [P. Harvey et al, 2017](#); [Bridge et al, 2018](#)). Projects like the BRI and PGII span continents; facilitate extensive circulations of people, capital, and things; connect centres of production and consumption with distant landscapes of extraction; and reconfigure relationships between countries and regions and between public and private sectors. At the same time, infrastructures increasingly shape our day-to-day activities. As smartphones continue to colonize our time, both awake and asleep, we are plugged directly into trans-infrastructure smart networks through which – income permitting – we can remotely control the temperature and humidity of our homes and other apparatuses connected to the ‘internet of things’, trade stocks in New York or Shanghai, track an airliner or ship, or order all manner of consumer products to be delivered promptly by hassled and precariously employed couriers ([Kitchin, 2014](#)).

When we talk about infrastructure, we are really interested in the processes and relationships enabled by fixed infrastructures. The ‘peculiar ontology’ of infrastructures as ‘matter that enables the movement of other matter’, Brian Larkin (2013: 329) proposes, ‘lies in the facts that they are things and also the relation between things’. On the one hand, infrastructures are relational in the sense that every object, entity, or technology has the capacity to influence wider movements and outcomes. On the other hand, infrastructures are relational in that their function is to operate as connections between entities.

This is what [Penelope Harvey and colleagues \(2017\)](#) refer to as the ‘doubly relational’ character of infrastructure.

We are witnessing a global ‘infrastructure turn’, both in terms of the increasing focus of states, corporations, and other development actors on infrastructural development, and with respect to social and political theory ([A. Amin, 2014](#); [Addie et al, 2024](#)). Infrastructure is at the centre of new forms of geopolitical competition, particularly between China and the US ([Hameiri and Jones, 2023](#)). The US has responded to the BRI and China’s strategic financing of other international infrastructure projects with a series of initiatives, like the B3W and PGII, as well as new partnerships such as Asia-EDGE (Enhancing Development and Growth through Energy), which aims to increase US influence over energy markets, trade, and security in the Indo-Pacific region. [Schindler and colleagues \(2022\)](#) argue that this kind of competition over the construction of transnational infrastructure constitutes a new Cold War, in which the US and China aim to expand their respective geopolitical and economic spheres, integrating territories more firmly within their corporate and financial value chains and state-political influence. Looking specifically at Nepal and Laos – both currently hedging their bets between US and Chinese support – they suggest that this competition is posing new risks and challenges for countries caught between contrasting spheres of superpower influence while providing opportunities for infrastructure development that would otherwise not have been available.

Development corridors and economies of anticipation

The ‘infrastructure turn’ in development thought and practice is associated with the generation of new spatialities and spatial relations, both real and imagined. Here a key aspect has been a shift towards infrastructural geographies of development based on *nodes* and *corridors* ([Wiig and Silver, 2019](#); [Williams et al, 2020](#)). Development corridors open up new spaces of extraction (such as remote oilfields or virgin forests), linking these with centres of finance, production, and consumption (like major cities, ports, and special economic zones [SEZs]) via transportation, pipeline, and telecommunications networks. Such corridors are infrastructural, with a material presence, but they are also imagined entities, embodying modernist visions of the colonization of new frontiers and the priority of economic growth. Corridors have become ‘dreamscapes of development’ and, increasingly, the ‘dominant blueprints for spatial development’ through the ‘specific way in which they express, perform, and implement “desirable futures”’ ([Müller-Mahn, 2020](#): 156). Infrastructure development corridors are often presented by powerful actors in a top-down manner, while being represented by lines drawn on maps connecting existing and imagined geographies. In studying

the Manta–Manaus corridor in South America, [Japhy Wilson and Manuel Bayón \(2017\)](#) argue that megaprojects offer fantasies and utopias that are never fully realizable. They point to complex fusions between the material dimensions of frontier extraction and accumulation enabled by infrastructure corridors and their ideological representations.

Proponents of megaproject visions are remarkably effective in framing these projects as guaranteeing ‘win-win’ development outcomes and mutually beneficial cooperation between international actors. Indeed, ‘there is an overwhelming assumption’, [Charis Enns \(2018: 106\)](#) argues, ‘that the development benefits of new corridors naturally drive inclusive development’. However, in reality ‘this approach to development creates new patterns of spatial inclusion and exclusion simultaneously’. Such projects are arguably ‘neocolonial’ in their character and ambition, based on ambitions of extraction and racialized capitalism, despite the rhetoric surrounding inclusivity and South–South cooperation ([Kimari and Ernstson, 2020](#)).

A growing literature examines the contestations and ruptures that occur when the idealism and fantastical visions of corridor developments run up against existing local politics, materialities, and cultures ([Ruwanpura et al, 2020](#)). [Ngala Chome \(2020\)](#) shows how authorities and bureaucrats involved in planning the LAPSSSET corridor invoke images of northern Kenya as a place of both abundance and possibility, on the one hand, and backwardness and emptiness, on the other. These narratives, they argue, clash with the realities and ‘economies of anticipation’ that exist in the region. Consequently, ‘top-down grand-modernist plans’ like LAPSSSET are ‘shaped by local dynamics’ in such a way that corridors are transformed from ‘exclusivist “tunnel” visions to more networked corridors embedded in local economies’, reflecting the peculiarities of their specific historical and geographical context ([Chome et al, 2020: 291](#)). Moreover, within the places earmarked to host infrastructure corridor developments, the anticipation of investment can lead local actors to engage in ‘frontier transformations’ whereby ‘individuals and groups jostle to position themselves as best they can to benefit from expected new resources or compensation, or to mitigate or avoid their expected impacts’ ([Mosely and Watson, 2016: 453](#)).

Critiques of the social exclusions created by corridor developments are accompanied by concerns over the environmental impacts of infrastructure megaprojects. [William Laurance and colleagues \(2015: 3202\)](#), assessing over 30 existing and planned infrastructure corridors, conclude that many ‘will promote serious and largely irreversible environmental changes’. We can expect corridor-linked landscapes to bear new scars of resource extraction, the generation of new sources of emissions and pollution, and novel drivers of biodiversity and habitat loss. Such environmental threats will not be localized; rather, they will be planetary in scope – encompassing terrestrial, atmospheric, and oceanic systems.

Oceanic geographies of global infrastructure

Infrastructure is often thought about in purely terrestrial terms, yet corridor megaprojects often combine terrestrial developments with emerging oceanic geographies of trade, transport, land reclamation, and territorial disputes. In the second half of the 20th century, dominant notions of globalization were framed around an international, land-based geography emphasizing the interconnections between localities, cities, and national territories with set borders. But earlier paradigms of globalization were more oceanic. Colonialisms practised in the 17th and 18th centuries by the Spanish and Portuguese, and later dominated by the Dutch and British, revolved around oceans and maritime trade and conquest. World maps from the time show detailed and well-known coastlines, with the continental interiors of the Americas, Australia, and Africa only vaguely illustrated and labelled. Such representations were accompanied by colonial notions of wildness (in the case of the American West), of darkness (in the case of Africa), and of silence and emptiness (in the case of Australia).

We are now seeing something of a return to the oceans in development imaginaries, where they are positioned as new frontiers of capital accumulation and territorial control (Campling and Colás, 2021). Transforming the ‘blue economy’, for example, is now regarded as an important aspect of the 2030 Agenda (K.-H. Lee et al, 2020). Oceans are strategically important within many infrastructure corridor megaprojects, often (although not entirely) because of their key role in international trade. The MSR, for instance, is one of two main elements constituting the BRI. Through the MSR, China has sought to expand and consolidate its geopolitical sphere of influence in the South China Sea and Indian Ocean – including the strategic chokepoint of the Malacca Strait – and to enhance connections with South East Asia, Australia, and East Africa. This has led to growing tensions and competition with India, which itself has sought to develop infrastructural connectivities in and through its coastal urban hubs. Both countries have jostled to gain geopolitical advantage in the region, illustrated by India’s development and expansion of island naval bases in the Indian Ocean and by China’s courting of the Maldivian government alongside its controversial projects of ‘island-building’ upon coral atolls in the South China Sea (Rice et al, 2016; Malik, 2018). Ports that were once seen as secondary or provincial have emerged as strategic geopolitical and economic nodes, central to the evolving infrastructural geographies of global development, and recent years have seen major developments at the ports of Lamu (Kenya), Gwadar (Pakistan), Manaus (Brazil), and Colombo (Sri Lanka) (Ruwanpura et al, 2019). It is in the context of these emerging economic interests and geopolitical tensions, traversing land and sea, that we should understand the motivations and ambitions of the BRI.

The Belt and Road Initiative

The BRI is the most high-profile and hotly debated global vision of state-led and infrastructure-based development, partly because of its size and scope, and partly because of the radical way it reimagines the geographies of the global economy. Launched in 2013 as the One Belt One Road strategy, the BRI reflects both China's changing domestic development and its changing role in shaping the evolution of global capitalism. The BRI, although often represented as a series of discrete lines on the world map – centripetally connecting China to Central Asia and Europe via the SREB, and to South East Asia, Australasia, and Africa via the MSR – should be more accurately understood as a broad (even vague) collection of ideas and policies collected together under one umbrella. The BRI revives the mythology of the ancient Silk Road to construct a vision and a framework to guide ongoing processes of the internationalization of Chinese enterprises, currency, and financing, and the growing cultural, geopolitical, military, and economic influence of China globally, through a model of infrastructure-led development.

The BRI, and the vision it engenders for the future of China and its relationship to the rest of the world, did not spring out of nowhere. Many scholars have argued that the BRI represents a culmination or fruition of over three decades of Chinese foreign and international policy reform. This began with Deng Xiaoping's ascent to power in 1978 following the death of Mao Zedong. During the 1980s, Deng ushered in a set of reforms that saw the gradual liberalization and opening up of China's economy to the rest of the world. This involved the adoption of capitalist and market-oriented reforms, including significant changes in the economic role of the Chinese Communist Party (CCP) and the growth of private enterprise – changes that [Harvey \(2005\)](#) situates as part of a broader drift towards neoliberal modes of economic governance in the 1980s and 1990s. This involved a transition away from a communist economic model to a socialist market economy, captured by Deng's famous expression 'capitalism with Chinese characteristics' or the popular term 'red capitalism' ([C.E. Walter and Howie, 2012](#)). These reforms allowed more exchange and trade with international actors and were part of a clear policy of allowing municipalities and provinces more freedom to pursue industries that they considered would most promote economic growth and to adopt export-oriented growth.

Deng's opening-up reforms were followed by the CCP's 'going-out' policy, launched in 2000. In the 1980s and 1990s, China had become a recipient of vast amounts of foreign direct investment (FDI), placing pressure on the renminbi currency. The aim of the going-out policy was to increase investment in other countries through outbound FDI, thereby rebalancing fiscal conditions, and to encourage Chinese companies to internationalize and expand operations into other countries as a way of diversifying China's

economy and driving economic growth. In the early 2000s, part of China's economic strategy involved purchasing foreign debt, particularly US government debt. However, after the Global Financial Crisis of 2007–08, returns on this debt stagnated, causing Chinese investors to seek out other more profitable strategies for investment. This combined with a growing crisis of overproduction domestically, which refers to a situation in which the economy produces more value than it can reabsorb through investment. In China, this manifested as stagnating domestic growth in the 2010s, a lack of profitable investment opportunities domestically – as illustrated in the emergence of so-called ghost cities: vast urban developments with underused infrastructure and empty real estate – and resulting surplus liquidity in the financial sector (Summers, 2016). The strategy of encouraging investment in other countries, therefore, can be understood as a spatial fix – to use Harvey's (2014) term – by seeking out profitable opportunities abroad to absorb surplus domestic capital. In this context, infrastructure projects came to be seen as relatively secure and profitable and are favoured particularly by the CCP, which has attempted to discourage internationalizing Chinese firms and investors from what it sees as unwise foreign investments, such as gambling, sports teams, and entertainment. Investment in foreign infrastructure, therefore, became a focus of the CCP, Chinese banks, and corporations and increased dramatically after the Global Financial Crisis.

A concomitant driver of China's going-out policy was the CCP's desire to internationalize the renminbi currency. The control of credit, lending and borrowing, has been an important mechanism of state power, by means of which the CCP has maintained control of China's political economy and, therefore, society. The strategy of facilitating the internationalization of Chinese companies and enterprises as a way of promoting economic growth, then, was accompanied by a political imperative to strengthen the renminbi internationally. Global financial centres, particularly Singapore and London, have become important nodes through which renminbi is channelled, often to finance the operations and borrowing of Chinese corporations working abroad (Hall, 2023).

These economic imperatives driving China's internationalization combined with a series of geopolitical factors. Beijing has, for example, had a longstanding interest in developing the country's western provinces, particularly the semi-autonomous regions of Tibet, Xinjiang, and Inner Mongolia. Connecting these provinces more to the rest of the country through infrastructure development, including high-speed rail, roads, telecommunications, inland ports, and so on, is seen as a way of increasing overall territorial integrity and national coherence. It is also understood as a strategy to strengthen the CCP's control in the more remote regions, both economically and politically. The Chinese model of infrastructure-led development, as it is being implemented in these western provinces,

is, therefore, part of a wider effort of state building by Beijing to achieve a more cohesive and unified China.

In a similar vein, Beijing also sees the infrastructural development of the border regions as a means of forging political and economic co-dependencies with its neighbours (Kazakhstan, Kyrgyzstan, Tajikistan, and Pakistan), thus stabilizing Central Asia and pivoting their economies eastward. One of the flagship developments of the BRI is the Khorgos Gateway. Opened in 2015 and now the largest ‘dry port’ in the world with an accompanying SEZ, comprising factories and warehouses, the Khorgos Gateway sits on the border between Xinjiang and Kazakhstan. The gateway connects the two countries through rail infrastructure and is an important node through which freight is transported from China’s manufacturing regions to Russia and Europe. This, as proponents are eager to point out, has cut the journey time for cargo from eastern China to Western Europe from 40 days, by ship, to 18 days, by train.³ Although some critical commentators have been quick to point out the challenges that the realization of this project has encountered, the ambition underpinning its development is to reshape the geographies of trade and align major economies towards Central Asia and China.

Some commentators have described China’s aspirations in Central Asia as a ‘Eurasian pivot’ (Zhang and Belgibayev, 2014; Mayer, 2018) – in other words, an attempt to bring geo-infrastructure coherence to the continent and to connect the countries of Central Asia centripetally to China. This is presented using the linguistic themes of cooperation, ‘win-win’ development, mutuality, shared goals, connectivity, regional integration, and harmony. These themes are illustrated well, for example, in the official documents relating to the China–Pakistan Economic Corridor (CPEC). Officially launched in 2015 as part of the BRI, CPEC is an agreement between the governments of China and Pakistan to develop a series of projects, including road, rail, pipeline, energy, and water infrastructures, connecting the border between north-eastern Pakistan and western China, through central Pakistan, to the port of Gwadar on the Arabian Sea in the country’s south-west. China has committed to investing US\$ 46 billion in infrastructure in Pakistan. This includes (1) the China–Pakistan Railway, which runs from the city of Kashgar in Xinjiang to Gwadar; (2) other transportation links, including the Karakoram Highway; (3) the expansion of Gwadar Port into a major hub of trade and shipping, which also involves the development of auxiliary infrastructure in Gwadar, including two seawater desalination plants to supply water, a 300 MW coal power station, and an international airport; (4) nine new SEZs designed to increase industrialization and economic growth; (5) new energy plants, including coal, hydroelectric, wind, and solar, to address Pakistan’s energy supply challenges; and (6) cooperation agreements around science and technology and information technology.

Most of the physical infrastructure will be located within Pakistan but financed by Chinese banks, designed by Chinese engineers, constructed by Chinese contractors (often with Chinese materials), and with favourable import–export duties on Chinese goods. The official narratives around CPEC highlight discourses like ‘regional connectivity’ and ‘friendship’.⁴ The underlying motives are for Pakistan to receive Chinese financing and engineering to develop national infrastructure and boost economic growth; and for China to secure construction contracts, develop investment opportunities, pivot Pakistan’s economy towards China, and connect its landlocked western provinces to a deep-water port.

The BRI can be seen as a profoundly ecological project from at least two perspectives. On a superficial level, official documents and promotions materials claim that the BRI will contribute to ‘sustainable development’, that it promotes the development of ‘smart’ and ‘green’ technologies, and that its approach to infrastructure is built on a model of ecological modernization. Such claims are questionable. [Joe Williams and colleagues \(2020\)](#) analysed all energy projects grouped under the BRI umbrella, including energy extraction; processing and refining; transportation via pipeline, cable transmission, and shipping; electricity generation; and energy consumption. Of these, the overwhelming majority were for the development of carbon-intensive and fossil fuel-dependent technologies, many involving oil and coal. As such, far from being a model of ‘sustainable’ or ecologically sensitive growth, the BRI will entrench reliance on destructive and fossil fuel-intensive infrastructures for decades to come and will shape the character of energy transitions in China and the BRI host countries.

On a deeper level, we mean that the BRI is *ecological* because its vision, and the projects that constitute it, are built on particular modernist logics of technological progress and particular logics of resource extraction, trade, and consumption that are shaping nature–society relations within and beyond China. There has been a tendency in anglophone and Western discourses to paint ‘China’ as a monolithic actor in an undifferentiated ‘Africa’. Debates on this topic have often revolved around disagreements on whether Chinese involvement is contributing towards economic development, or whether it is creating new dependencies and extractive relationships. They have also highlighted issues like the environmental impact of Chinese-backed infrastructures and concerns over resource-grabbing (or the new ‘scramble for Africa’), labour practices, the geopolitical influence that China is gaining from infrastructure development, and rising indebtedness of African countries (sometimes described as ‘debt-trap diplomacy’). Without wishing to reproduce any of these debates, it is nevertheless important to note that since the 1990s Chinese actors have played a growing role in the governance, extraction, and use of resources in Africa, albeit more in some places than others.

Take two examples of the ecologies of the BRI: Chinese involvement in energy and water resources in Africa. Chinese companies and state actors are now major players in the energy sector across much of Africa. This includes financing and contracting in fossil fuel extraction, electricity production (including fossil and renewable), electricity transmission, and energy consumption. Currently, an estimated 600 million people – or 43 per cent of the continent’s population – do not have access to electricity (IEA, 2022b). Given that increasing access to electricity is a key agenda within the Sustainable Development Goals – and energy more generally is an important driver and outcome of economic development – China’s role in shaping the types of energy transition occurring in African contexts in the coming decades will be hugely significant for poverty reduction, economic and social development, and greenhouse gas emissions (Shen, 2020). Marcus Power (2012), for example, shows how partnerships with China have been central to post-conflict reconstruction and the creation of a ‘petro-state’ in Angola. Power describes how an entangled ‘web of connections’ links the two nations. Angolan actors have sought Chinese support and engineering in infrastructure development, while Chinese actors see Angola’s oil wealth as an important part of securing energy resources. The two governments share a ‘mutual conception of development as modernization as well as a sense that Angola can learn from (and potentially seek to reproduce) China’s historical experiences of “development”’ (Power, 2012: 995). For Angola’s elite, this partnership has generated enormous wealth, and from that view it has been hugely successful, but it has also resulted in growing economic stratification and marginalization.

This particular Chinese approach to development-as-modernization is also reflected in water infrastructure development. Modernist and big infrastructure-led approaches have dominated domestic Chinese water governance for decades, most emblematically captured in projects like the Three Gorges Dam. Emphasis is placed on engineering ‘solutions’ and supply-side management. Although many commentators tend to see such projects as resulting from a monolithic Chinese state, Michael Webber and Xiao Han (2017) argue that this model of water governance has been led by the ‘Chinese water machine’ – an assemblage of actors comprising political and economic elites, including corporations, state-owned enterprises, different bureaus and ministries of the state, research institutes and universities, and domestic and foreign water companies, all of which are involved in shaping, promoting, and implementing a thoroughly modernist model of centralized water governance. Since the early 2000s, this has coalesced into the ‘institutional embodiment of China’s commitment to large infrastructure’ (Crow-Miller et al, 2017: 233). More recently, Han and Webber (2020) show how the Chinese water machine has exported this model of large dam development to other countries as part of China’s

going-out policy and the BRI. This has occurred through the promotion of such approaches through ‘soft power’ and through the internationalization of Chinese financing, engineering, and contracting services, resulting in megaprojects like the Grand Renaissance Dam in Ethiopia.

Many of the networks and ideas that underpin the BRI predate its 2013 announcement. The BRI drew together all these processes, strategies, and imperatives – both domestic and international – under a single vision and umbrella policy. It is a vision that is global in scope and ambition, but it is global in a very particular way: one that places China at the centre. Despite the official rhetoric, it is a vision that will create new power imbalances, new dependencies, and new forms of ecological change and destruction.

South–South cooperation and the LAPSSET Corridor

That development cooperation now takes place in a novel and complex institutional landscape – no longer characterized by Northern countries transferring aid to poor postcolonial contexts – was a foundational assumption of the global development shift (Horner and Hulme, 2019a). The LAPSSET Corridor provides one example of this new cooperative landscape. A major programme for coordinated infrastructure development in East Africa, it includes massive investments in projects spanning Kenya, South Sudan, and Ethiopia. While illustrating some of the new modalities of cooperation and infrastructure-led development that disrupt our inherited 20th-century notions of development, the programme also threatens to reinforce existing forms of inequality and marginalization. Some of the main ideas that underpin LAPSSET had been around since the 1970s – particularly the oil pipelines, refineries, and port development intended to connect landlocked oilfields to the global market – but the unified vision for regional cooperation was rejuvenated in 2013 as part of Kenya’s Vision 2030 policy, the country’s overarching national development strategy. The aim of the megaproject is to develop Kenya’s central and northern regions, foster interconnections and economic integration in East Africa, and provide a gateway for trade, investment, and commercial activity in the region. Its ambition is captured by the slogan of the [LAPSSET Corridor Development Authority \(2024\)](#): ‘Building transformative and game-changer infrastructure for a seamless connected Africa.’

LAPSSET comprises nine core areas (Kenya Vision 2030, 2021; [LAPSSET Corridor Development Authority, 2024](#)):

- *Lamu Port development.* This is the linchpin of the LAPSSET programme and includes the construction of 23 new deep-water berths to accommodate large cargo ships, as well as auxiliary infrastructure, such as terminals. The aim is to make Lamu one of the largest ports in Africa

and to reduce the region's reliance on trade through Mombasa. Phase 1 (construction of the first three berths) is complete.

- *Highways and roads.* The objective is to construct or upgrade around 2,800 km of roads connecting coastal Kenya to inland regions. The largest projects will be highways connecting Lamu to Isiolo (Kenya), Isiolo to Juba (South Sudan), and Isiolo to Addis Ababa (Ethiopia).
- *Oil pipelines,* including an 800 km, US\$ 1.5 billion crude oil pipeline from the Lokichar oilfields in South Sudan to Lamu, and a refined oil pipeline from Lamu to Ethiopia.
- *Railways.* Nearly 2,500 km of standard gauge railway is planned to link Lamu, Nairobi, Juba, and Addis Ababa, all connecting through Isiolo in central Kenya. All stages are still in the feasibility phases.
- *Airports.* The corridor includes three new international airports, all of which will be located in Kenya. One of these is completed (Isiolo), and the other two are longer-term aims (Lamu and Lake Turkana).
- *Resort cities.* The LAPSET strategy includes the development of tourist infrastructures and attractions in three places: Lamu (on the Indian Ocean coastline), Isiolo (which is close to several wildlife and nature reserves), and Lake Turkana, all located in Kenya. The purpose is to grow international and domestic tourism, as well as commercial, business, and real estate development.
- *SEZ.* A planned SEZ at Lamu City is intended to encourage industrialization and commercial activities.
- *Major water and energy projects.* These include a planned oil refinery at Isiolo and the planned High Grand Falls Dam on the Tana River, which will supply irrigation water, urban water for Lamu, and energy from a 700 MW hydroelectric power station. A Chinese-financed project for a coal power station was also proposed for Lamu, but this was successfully challenged in the courts by environmental and social justice groups in 2019.
- *Utility infrastructures.* These include water, energy, and Information and Communication Technology (ICT) projects that will essentially provide the service preconditions for many of the other infrastructure projects. For example, reliable water, energy, and internet services are a precondition for the resort city developments.

In terms of financing, the LAPSET megaproject combines different sources, both traditional and non-traditional, depending on various factors. Some of the elements are funded directly through government budgets, including the highways and road construction budget. Some projects involve financing from traditional multilateral institutions, such as the World Bank and the African Development Bank. Chinese financiers, including Exim Bank, and contractors have also been involved. Commercial finance is being used for

the most profitable elements, including some of the resort city developments. And the crude oil pipeline is being financed by a joint agreement between the Kenyan government and Tullow Oil, the company operating in the Lokichar oilfields.

LAPSSET is presented as an economic vision for East Africa, but the infrastructural development of the region is culturally and socially mediated (Tavengwa and Newhouse, 2017). In a similar way to the BRI, albeit on a much smaller scale, the LAPSSET corridor combines a number of existing processes and ideas under a unified umbrella policy. It is utopian in its vision for growth and prosperity, as well as its ideals of South–South cooperation and mutual benefit. But this vision also masks some deep contradictions and contestations when it comes to actual implementation. Indeed, LAPSSET has encountered many roadblocks and challenges since 2013. Perhaps most notably, the finances of some of its largest elements – including the pipelines and port development – have been affected by the slump in oil prices up to 2021, which has affected the financing, forecasting, and viability of some of the projects (see Browne, 2015).

Politically, LAPSSET has also been contentious for reasons including a perceived lack of public participation and democratic decision making in the projects, and fear of corruption born out of a history of scandals involving failed, delayed, and untransparent infrastructure deals. Accusations of land grabbing by corporations and governments have already been made (Chome, 2020). Kennedy Mkutu (2021) shows how the drive to open up northern Kenya as a frontier that underpins the LAPSSET initiative is resulting in the dispossession and marginalization of certain groups, particularly pastoral communities in the Turkana region. While LAPSSET is likely to benefit some groups, Mkutu (2021) argues, it is also likely that it will reinforce existing inequalities.

Specific projects within LAPSSET have also been contentious. For example, a 1,050 MW coal power station costing US\$ 2 billion was proposed for Lamu under the LAPSSET umbrella. This project, which was proposed by a Kenyan energy company called Amu Power with financial backing from the Industrial and Commercial Bank of China, would have been Kenya's first large coal power plant for electricity generation. It is estimated that the plant would have increased the country's greenhouse gas emissions by 700 per cent. Critics of the project argued that Kenya, which has large hydroelectric and geothermal potential, did not need an environmentally damaging coal plant and that it would not address the region's energy challenges, which are more about transmission than generation. Furthermore, operating such a facility would have made Kenya reliant on importing coal from other countries. Environmental and social justice groups, led by an organization called deCOALoniz, successfully challenged the environmental impact assessment in court. In 2019, the

project was suspended, and the Industrial and Commercial Bank of China later withdrew its financial backing.

Infrastructure visions like the BRI and LAPSET are often presented as cases of emergent South–South cooperation, described in terms of mutual benefits, common identities, and shared experiences as a direct challenge to traditional Western models of development. But such narratives may obscure power imbalances between cooperating countries and lead some to overlook how infrastructure megaprojects potentially marginalize certain groups and spaces, in either familiar or novel ways (Ruwanpura et al, 2020).

Conclusion

Development has always involved a complicated relationship between utopianism and the optimistic narratives used to motivate major projects, on one hand, and the realities of implementation in place, on the other. In some senses, the emergence and popularity of corridor-based megaprojects and infrastructure-led development promise to extend this tension, but it also represents something qualitatively and quantitatively new. No longer does development comprise individual projects and programmes implemented within the borders of discrete nation-states, with assistance (provided by traditional wealthy donors of North America, Western Europe, and Eurasia) channelled through national governments of poor recipient countries. Rather, transnational programmes of infrastructural development have enrolled new actors, partnerships, modalities of assistance, technologies, landscapes and waterscapes, knowledges, and imaginaries – and have come to play a significant role within emerging geopolitical conflicts and ongoing, contested efforts to redraw the map of the global economy. If we have indeed entered a new era of global development, it is one underlaid by the symbolic and connective force of material infrastructures.

Conclusion: Towards a More Planetary Global Development

On 15 October 2023, a week after Israel launched its military assault on Gaza in response to the violent attack by Hamas, the president of Colombia, Gustavo Petro, released the following (abridged) statement on the social media platform X (formerly Twitter):

The barbarity of consumption based on the death of others leads us to an unprecedented rise of fascism, and therefore, to the death of democracy and freedom. It is barbarism, or ‘Global 1933’. ... What we see in Palestine will also be the suffering in the world of all the peoples of the South. The West defends its excessive consumption and its standard of living based on destroying the atmosphere and climate. It does not want to transform its economic system except as far as the market goes to decarbonize it. And it knows that the effort will be minuscule to save life on the planet. Its policy seeks to defend the consumption bubble of the rich on the planet and not save humanity, whose majority is disposable, like the children of Gaza. ... We are going to barbarism if we do not change power. The life of humanity, and especially of the people of the South, depends on the way in which humanity chooses the path to overcome the climate crisis produced by the wealth of the North. Gaza is just the first experiment in considering us all disposable.¹

Here, Petro connects a number of trans-scalar processes: global climate change, uneven development, colonialism, the reduction of many people to a status of disposable ‘bare life’, the rise of the political right in the North and South, the call for solidarity between the peoples of the Global South, and a hint at a better future encapsulating a planetary vision of shared humanity. These themes conjure a particular idea of global development, including a fusion of ecology and politics, an anticipation of plausible apocalyptic

futures (in the form of totalitarian capitalo-barbarity amid climatic crisis), and contemporary invocations of historic moments and categories to make sense of deeply complicated presents and unpredictable futures (including references to 1930s European fascism and longstanding inequalities between Global North and South). Petro's statement presents a view of global development in which the 'global' is not an all-encompassing totality or fixed entity but is emergent, normative, and partial. There is an added layer of complexity and irony in this statement: made by a former member of an urban guerrilla movement, now an elected president, posting a message about anti-barbarism and solidarity on a social media platform owned by a billionaire that has been accused of algorithmically fuelling social and political polarizations. We see the entry of unconventional actors into formal politics, new means of communication overlaid on older political institutions and ideologies, and the political use of memory and possible futures to orient thought and action in the present.

We write these words, in May 2024, at a moment of intensified uncertainty, rupture, and international realignment. One critique of the global development shift is the tangential attention given to questions of macro-scale political change, such as the uneven rise and deepening of (and increasing popular appetite for) right-wing authoritarianism (Sims et al, 2022) – a trend, at least in the West, mediated by environmental problems not only through discourses of 'petro masculinity' that link climate denial, misogyny, and racism (Daggett, 2018) but also through more widespread disruptions, inequalities, and tensions set in train by environmentally induced migration, resource pressures, and shocks. Over a decade ago, Slavoj Žižek (2010) argued that we were witnessing a growing alignment between market-oriented capitalism and political authoritarianism. Some of the most 'successful' national economies in recent years – like those of China and Singapore – have combined corporatization, commercialization, and market-oriented policies with authoritarian government, one-party rule, suppressed individual liberties, and intensified surveillance. The col joining capitalism, democracy, and development – something assumed in the second half of the 20th century – has been eroded. Large parts of the world's population are now subject to the dual violence of 'free' markets and undemocratic states.

Yanis Varoufakis (2024) has diagnosed the fusion of capitalism and authoritarianism in his book *Technofeudalism*. The former minister of finance for Greece argues that digital platforms (including Google, Amazon, Meta, and Apple in the US; Baidu, Alibaba, Tencent, and Xiaomi in China) are playing a growing role in shaping capitalist markets and governance. Through what one might flippantly term the 'rise of the tech bro empire', owners and executives of such firms have assumed a level of global wealth, power, and influence rivalling or surpassing that of governments and international agencies – a situation the historian William Dalrymple (2020) has compared

to the disproportionate economic and political power that corporations like the British East India Company exerted in the 18th century. Varoufakis conceptualizes the value extracted by these digital platforms as a form of rent, which is becoming the dominant mode of capital accumulation in the place of profit (see our argument about financialization and shareholder value in [Chapter 7](#)). Such platforms are increasingly influential in our lives, in terms of the marketable data and information they collect about us, by mediating if not directing our choices and behaviours regarding work and consumption, and in terms of the disproportionate scale of their value and thus political influence. In the absence of democratization, Varoufakis argues, the digital economy – and therefore the global economy – will become increasingly authoritarian. Warnings like this foreshadow what should be core concerns of global development scholarship in coming years.

We have noted, despite calls for a global development shift, a continued reliance on many of the categories and terminologies characteristic of 20th-century international development. In some senses, we are all limited by vocabulary and must rely on the historical and geographical categories of development to some degree. Categories such as ‘Global North’ and ‘Global South’, or regional references like ‘Asia’ or ‘Africa’, can be useful: they are widely understood, and they exist as categories of practice – while offering ‘strategic essentialisms’ – within processes of policy making and political claim making. Undoubtedly, they are problematic if mobilized in an unreflexively essentialist or deterministic/deductive manner (in the sense that ‘we can expect to find X in Y *because* it is a Northern/Southern city or country or region’). Like other concepts, ‘the South’ can be used in different ways: ones that reproduce international power asymmetries, but also ways that challenge those inequalities and seek out new forms of solidarity.

However, while recognizing the strategic political value of such categories, we should remain vigilant about their oversimplifications. This was a concern addressed in [Chapter 8](#). The jostling between India and China, for example, for influence in Eurasia, the South China Sea, and Indian Ocean is creating new spatial forms not easily captured by the traditional vocabularies and concepts of development. The emerging geopolitics and international relationships materialized in infrastructure corridors, therefore, demand the rethinking of many assumed spatial categories. In this book, we have framed global development within contemporary geopolitical and economic realignments, including the increasing political influence of cities and organized local governments, the rising power of the BRICS+ (Brasil, Russia, India, China, South Africa+) countries (and other blocs), shifting global power geographies linked to demographic changes, and emerging translocal modes of civil society organization. Any concept of global development must reckon with the fact that we live in a more fluid and less predictable multipolar world – if indeed the notion of ‘poles’ still holds

any value in grasping the pace and dynamism of contemporary political, economic, and sociocultural transformations.

Through this book, we have considered a series of tensions immanent in the multidisciplinary study of development – tensions in accounting for the global–planetary or the situated–contextual, between an emphasis on processes and that on form, between the discursive and the material, between the universal and the particular (many are neatly captured in recent debates within urban scholarship, discussed in [Chapter 4](#)). Some scholars have sought to reconcile or resolve these tensions through theoretical manoeuvrings – one thinks here of [Peck’s \(2023\)](#) conjunctural analysis, [Hart’s \(2018\)](#) relational comparison, and [Yeung’s \(2024\)](#) mid-range theory. Others have resolved to ‘pick a camp’. Many such debates – like those in urban theory – have arguably reached an impasse. Our view is that these tensions often reflect binaries deeply set within language, as well as specific visions of what ‘theory’ is and should do: generally, providing universalizable and ‘de-familiarizing insight into fundamental causes’ ([Barnett, 2020b](#): 455).

Our aim has not been to reconcile or resolve these tensions in pursuit of conceptual purity and universal coherence but rather to find ways of *being with* them; in a sense, to ‘stay with the trouble’ ([Haraway, 2016](#)). The scale and unprecedented nature of current challenges (not least climate change, ecological breakdown, and entrenched poverty) and forms of oppression (the rise of right-wing authoritarianism, the violences of neocolonialism, the injustices wrought by capitalisms) compel some, like Petro, to seek new planetary forms of solidarity. It is important to assert that ‘global’ development is not identical to ‘universal’ development, and that the ‘global’ – or, better yet, the ‘planetary’ – references a plurality rather than a singularity. Indeed, given the Euro–American–centrism of 20th-century discourses on development, [Alessandra Mezzadri \(2023\)](#) argues that we urgently need a more planetary perspective on development, one that will centre ‘the experiences in/of the majority world; think through plural frameworks and locations; and speak to the extraordinarily diverse material realities and practices of power, inequality, and subordination across our planet’. It is necessary to think at a larger scale than ourselves and our immediate situations, but we all inevitably see the world from a particular place and time. The tensions we outlined previously arise as actors strive to make sense of and confront problems of concerted public interest. Rather than philosophical puzzles to be solved in the name of theoretical elegance and coherence, we would see them as productive and generative vectors of problematization.

Shifts, ruptures, non-linearities, and realignments

Globalization is not a unilinear progression towards a more interconnected and integrated world. What we see around us is far more complicated: trends

in some places towards protectionism and isolationism; aggravation of older conflicts and emergence of newer rivalries; intensification of inter- and intra-generational culture wars; convergences in some domains, divergences or stasis in others. Our language of globalization should retain space for processes that run against the grain of an ‘end of history’ narrative. Discourses of global development should avoid grand and universalizing narratives but rather strive to encompass moments of rupture, counter-shifts, and realignments. While traditional institutions and systems of international development retain significant power and authority, we also see acute transformations in global power relations, including the rising power of individual cities and city networks, alongside the emergence of other powerful actors within the international system (like corporate shareholders), as well as changes in other domains: the emergence of novel kinds of transnational social movements or networks (including Black Lives Matter, LGBTQ+, anti-vaxxers, Flat-Earthers, and the alt-right), increasingly powerful super-wealthy individuals, and new forms of big data-driven algorithmic governmentality, to name a few.

We recognize that capturing *all* developments that bear upon ‘big D’ Development (Hart, 2001) is not realistic for a book such as this. It has never been our intention. Unavoidably, this means that many important phenomena and processes relevant to global development have not been explored or have been referenced only perfunctorily. Instead, we have looked to assemble a set of insights, provocations, and ‘lines of flight’ for thinking about global development and its relationship to environmental changes. In Chapter 4, we discussed urbanization as one of the defining processes of contemporary global change and development. Recent debates among urban scholars offer something of a cautionary tale for debates about global development, telling us much about the tensions and challenges involved in thinking about, analysing, and theorizing processes that reach across scales and altitudes. We considered the emerging field of urban science as an instructive case of how some researchers are grappling with problems of scale, generalization, process, and difference – seeking to use new data sources and methods in pursuit of universal and actionable theoretical insights. In Chapter 5, we encouraged a reframing of development-facing debates around global demographic change, eschewing the myopic focus on changes in population size and highlighting instead a set of dynamic, transformative, and spatially uneven processes comprising multiple and emergent trajectories of change.

Part of our purpose in Chapter 5 was to disrupt the unilinear notions of temporality that have traditionally framed demographic and developmental thought. If demographic change provides a prominent example of how the past and memory haunt our discussions and actions in the present, then Chapter 6 (focusing on health) considered how certain framings of the future

bear upon the ways in which development and environmental concerns are problematized. We used the COVID-19 pandemic as an illustration of how development is increasingly pursued in the name of a ‘security’ that invites an apprehensive vision of the future and social change. Taken together, these chapters demonstrate that the global development shift should leave room for a more conscious critique of the standard model of objective, disenchanting, sequential time – characteristics of Western historicism and (social) scientific models – that underpins the dominant ideas and activities of development.

In [Chapter 7](#), we engaged with emerging debates on the financialization of development and environment, in which both ‘emerging markets’ and nature are seen as a new frontier of accumulation and financial opportunity. Finance and the linkages between globally mobile finance and spatially emplaced contexts, we argued, tell us much about what is driving new patterns of uneven development. Finally, in [Chapter 8](#) we considered how contemporary shifts towards development through infrastructure corridors are changing spatial relationships, dynamics, and (geo)political power relations. Much of the debate here concerns the rise of China as a major development player (or set of players), the corresponding attempts by European and North American actors to use infrastructure to leverage and (unsuccessfully) maintain their hegemony, and the emergence of new forms of development cooperation. We showed how infrastructure corridors, while novel in some ways, may also reinforce existing forms of dependence and domination.

What are the implications for global development? We can say with some confidence that all the processes discussed in the preceding chapters are complex in their geographic distributions and systemic interactions. They are diverse in their political and ethical motivations and objectives, and in their cultural informants. The emergent and open-ended nature of these processes – characterized variably by transitions, reverse transitions, reorientations, hauntings, hopes, and forebodings – undermines some of the core assumptions of the global development shift: that we are living through an age of international *convergence* and increasing global *interconnectedness*. Yet we would avoid foregrounding an affect of apprehension towards an uncertain and unpredictable future; where many see escalating risk and danger, we should also recognize opportunity and potential.

Possibilities and emergenc(i)es

As noted earlier, in writing this book, we have faced the challenge of capturing elements of the ‘new’ and ‘emergent’ character of development while making use of inherited geographical and theoretical categories. It remains difficult to talk about development and environmental processes without recourse to categories like the nation-state, income-based groupings of countries, geographical regions, the Global North–South, the city, the

past–future, change–continuity, or nature–culture. Using such terms arguably reproduces the ‘imperial aura’ that we identified in writings on global development in [Chapter 1](#). In some respects, abandoning these terminologies completely may not be an entirely realistic or desirable outcome: they remain categories of practice that are consistently mobilized by many actors and institutions in clarifying problems, explaining causes, making claims, and assigning responsibilities. They remain meaningful figures through which people experience and conceive of issues of concern in the world. But what is at stake here is not simply a problem of traditional vocabularies of development failing to capture ongoing global transformations but also a problem of how we go about writing a world into being.

If through this book we have aspired to open new horizons for development inquiry, a significant challenge arises when we recognize the various modes by which futures are foreclosed (one of the themes addressed in [Chapter 6](#)). In some settings, futures are increasingly represented as radically uncertain. We may be encouraged to think of the world as existing in an extended state of emergency, comprising the unpredictable (and potentially threatening) outcomes of complex and non-linear systemic processes – here the future is something we are to be secured against through enhanced capacities for anticipation, pre-emption, and resilience. Meanwhile, emerging scientific technologies (while adept at recognizing patterns linking city functions to population size, or modelling protein folding and viral mutations) have so far been unable to predict the long-term trajectories of complex system changes. In other contexts, the very notion of an open-ended future may be perceived as a threat to total state or party power ([Andersson, 2018](#)). In still others, the ‘future’ may not be something objectively distinct and spatially distant (albeit linked by chains of causality) from the ‘past’ or ‘present’ but is rather apprehended in the context of cyclical, event-based, or spiritual and mythological times ([Garuba, 2012](#); [Fabian, 2014](#)). Some may be too preoccupied by the everyday grind or by staying alert to seize opportunistic movements, to speculate about the future as something that can be specified and planned for, in the sense that they feel free and able to inscribe their will on something yet to be written ([Simone, 2020](#)). It is not only the ‘liberal’ West that faces a ‘crisis of the future’ ([Knappe et al, 2019](#)).

Without a sense of the future as something that can be specified and wilfully brought into being, it is doubly challenging to write about the future of global development without recourse to the inherited ideas and categories of international development. We hope that by drawing attention to this challenge, others may choose to address it in a more targeted and forceful manner. Although we do not write as futurologists, we nevertheless believe it remains important to point to emerging possibilities for organization and action to change the world, and the project of ‘development’, in ways that we collectively deem desirable.

We could start by embracing the positive qualities of unpredictability and emergence that, on one level, characterize apprehensive governmental regimes of security but that, on another level, offer the possibility of a world that is not stuck in the limbo of a melancholic extended present, or in mourning past national and imperial glories.

By way of example, let us take one set of possibilities: those arising from new technological capacities linked to artificial intelligence (AI). Such technologies are often discussed in terms of their risks – to jobs, privacy, and even human existence – rather than their potential benefits for drug discovery, job creation, recreation, urban planning, and so on. We wondered also about the political implications of AI, how it might leverage new political opportunities. Naturally, we thought it best to ask ChatGPT; the response is provided in [Box 9.1](#). The ‘post-political’ nature of the answer is striking. Politics is reduced to a matter of efficient service delivery and improved outcomes in existing governmental domains, with national governments as the assumed unit of analysis and practice. There is no sense, in this response, of AI technologies initiating or assisting the transformation of political organization and claim making, of reshaping politics as a ‘distribution of the sensible’ (Rancière, 2004), or of imagining truly disruptive transformations and alternative political futures. That should not be entirely surprising, given that such systems (at present) learn by recognizing patterns in existing data, which are always heavily biased.

Box 9.1: The (post)politics of AI

What are some political opportunities linked to AI technology?

AI technology presents various political opportunities, both domestically and internationally. Here are some key opportunities linked to AI:

1. *Economic growth and competitiveness.* AI can drive economic growth by boosting productivity and innovation. Nations that invest in AI research, development, and implementation can gain a competitive edge in the global economy.
2. *Job creation.* While AI may automate some tasks, it also creates new job opportunities in AI development, data science, and AI ethics. Governments can invest in education and workforce training to prepare citizens for AI-related jobs.
3. *Healthcare improvements.* AI can enhance healthcare delivery, leading to improved patient outcomes and cost savings. Governments can invest in AI-driven healthcare solutions to make healthcare more accessible and efficient.
4. *Public services optimization.* AI can be used to optimize public services like transportation, energy, and infrastructure. Smart city initiatives can leverage AI to improve urban living conditions and reduce resource waste.

5. *Climate change mitigation.* AI can help address environmental challenges by optimizing energy consumption, monitoring pollution, and aiding in climate modelling. Governments can incentivize AI-driven solutions for sustainable development.
6. *National security.* AI can enhance defence capabilities, cybersecurity, and intelligence gathering. Governments can invest in AI research to bolster their national security and protect against cyber threats.
7. *Social services and welfare.* AI can assist in identifying and addressing social issues, such as poverty, homelessness, and unemployment. Governments can use AI to target resources more effectively and create data-driven social policies.
8. *Education enhancement.* AI can personalize education, making it more effective and accessible. Governments can invest in AI-driven educational tools and platforms to improve learning outcomes.
9. *Data privacy and ethics regulation.* Governments can establish AI regulations that protect individuals' data privacy and promote ethical AI development. These regulations can build trust in AI systems.
10. *International collaboration.* AI presents an opportunity for countries to collaborate on research, standards, and norms. International agreements can help set guidelines for the responsible development and use of AI technologies.
11. *Diplomacy and soft power.* Nations can use AI as a tool of diplomacy and soft power by sharing AI expertise, contributing to international AI research initiatives, and fostering global cooperation in AI-related fields.
12. *Disaster response and preparedness.* AI can improve disaster response by analysing data, predicting disasters, and coordinating relief efforts. Governments can use AI to enhance disaster preparedness and response capabilities.
13. *Reducing inequality.* AI can be harnessed to reduce inequality by providing access to education, healthcare, and economic opportunities for marginalized communities. Government policies can support AI projects with a social impact.

To realize these political opportunities, governments must carefully balance the benefits of AI with potential risks, such as job displacement, bias, and security concerns. Effective policy making, ethical considerations, and international collaboration are essential for maximizing the positive impact of AI on society and politics.

Source: Response generated by ChatGPT AI system [Accessed 5 September 2023].

Despite the current post-political and self-serving inclinations of ChatGPT, the rapid and open-ended development of AI systems presents openings for critical discussions and practices of development that are not inculcated by catastrophic or utopian futures or retrospective critiques of its colonial origins. By shaping how people live, work, and recreate, AI systems may reproduce new or aggravate existing socio-economic inequalities. In doing so, they will contribute to the ongoing (re)problematization of various

domains of public affairs, potentially by catalysing new axes of political organization, new processes of claim making, and new content attached to those claims. In a more instrumental sense, new data sources and AI-driven methods will increasingly be enrolled in the identification, framing, and redress of problems of public concern. That implies that the agency for the critical diagnosis of development-related problematizations will be further distributed, beyond the domain of the knowing human subject, to include semiconductor chips, algorithms, clouds, mobile and wearable devices, robotics, and so on. By interrupting existing patterns of forming and solving developmental problems, technological developments like AI will serve to amplify or intensify pre-existing domains of thought and action (Barnett, 2015a).

From this pragmatist perspective, AI-infused futures should be anticipated neither as wholly catastrophic nor as universally liberatory, but rather as mediating the situations through which emerging problems of development are elaborated and addressed. It is a perspective that invites ongoing vigilance about how those problems are framed, and for what consequences. It invites a mode of critique that is preoccupied with ‘clarifying the problems at the heart of practices and projects we otherwise would take as unproblematic’ (Koopman, 2011: 533–4), with the aim of identifying and seizing opportunities for transformations away from situations deemed unjust.

In line with this vision of futurity and critique, a vision that eschews the choice between optimism and pessimism, we might also reconsider growing calls for the decolonization of global development (A. Kothari et al, 2019; Keahey, 2023; Hammett, 2024). For Kothari and Klein (2023), a project of decolonization challenges Eurocentric notions of development, strives to actively include indigenous and subaltern voices, and invites a praxis of inquiry expressing an ‘ethics of solidarity’. It aims to exceed a Western ontology and epistemology focused on the relationship between universalism and particularism, on dualisms (like that of mind–body or culture–nature), and on the interpretation of events along the linear axes of space and time. Rather, decolonized development thought emerges from the recognition of a dynamic and evolving ‘pluriverse’ of realities, worldviews, values, and ways of knowing (Escobar, 2018; Reiter, 2018).

There is much to be welcomed in calls to decolonize development; many of these decolonial impulses resonate with our interest in articulating a more ‘planetary’ perspective on development. Yet we may question how a decolonial agenda resonates with scholars from China – a country never fully colonized, a superpower whose citizens constitute over 17 per cent of the world’s population – over and above concepts of de-Westernization or anti-imperialism. And we are mindful of Olúfẹ́mi Táíwò’s (2022) critique of the sloganized academic discourse on decolonization: it is often unrealistic in its ambitions, tends to conflate coloniality with modernity, and ultimately works

to deny the agency of (in the context of Táiwò's argument) African thinkers and producers – imposing values on and infantilizing them, though they have long appropriated, domesticated, and interpolated ideas and styles from the Western world. Following Táiwò, engaging with the global development shift from a decolonial perspective should mean more than 'telling us what is wrong with using knowledge and frameworks derived from the colonial period' (20). There is a risk that programmes of intellectual decolonization may follow a thoroughly retrospective and subtractive vision of critique – an idea that something, because it has origins in a colonial milieu, is therefore irrelevant or harmful and in need of decolonizing. Moreover, there is the ever-present danger that in making any kind of ontological argument, as with claims surrounding the 'pluriverse', we reproduce 'unacknowledged claims of universal authority' (Barnett, 2020b: 446).

Embracing an alternative, more productive approach to the critique of global development – as we have attempted in this book – need not entail a stark choice between affirmation or disavowal. It might take a more pragmatic form, by recognizing the plural possibilities and commitments, attitudes and knowledges, that are mobilized in situations where people confront problems of pressing public concern in the world. It may well be that such mobilizations bear the taint of colonialism and coercion or patriarchy and whiteness, or not. Indeed, part of the task of critique would be to demonstrate precisely what is harmful or disabling about such an association for our efforts to address worldly problems, and therefore creates the need for something to be rejected or decolonized.

A planetary approach to global development, as we have begun to outline through this book, is by definition critical of colonial discourses in view of the impulse to recognize diversity and plurality – to question references to 'undifferentiated wholes' (Táiwò, 2022: 22) like 'Latin America', 'Africa', 'Oceania', 'Arctic', 'Global South', the 'Anthropocene', and indeed the 'planetary', as assumed abstract categories of analysis and explanation. We have suggested that a planetary ethic of development inquiry may find value in a more diagnostic approach to critique – one that asks questions about how something has come to be seen, understood, and addressed as a problem in a particular way, through particular situations that animate public concern. It is an approach that invites a view of decolonization as a point of arrival rather than a theoretical starting block; it welcomes a critical mode of *assembling* insights, offering 'participants arenas in which to gather' (Latour, 2004: 246), rather than a mode characterized by debunking and scholastic revelation. It invites careful specification of the historical geopolitics of knowledge and practice underpinning development – asking whether something is created, caused, conditioned, determined, or merely influenced by colonialism, and, for that matter, by which type of colonialism, and whether there might be alternative explanations for its postcolonial

persistence beyond the assumption of continued genuflection to colonial will (Táiwò, 2022) – as a useful mechanism through which to critique the biases active in discourses surrounding developmental and environmental problems. It is a mechanism that may offer a productive counterpoint to more ontological and deductive theoretical framings of the decolonization agenda, some of which lean on strongly culturalist accounts of the exercise of power (Barnett, 2020b; Duminy and Watson, 2023).

Recentring the environment in global development

A starting point for our critique of the global development shift has been the relative neglect of environmental processes as shaping, and shaped by, the trends and transitions characterizing contemporary development. We conclude by encouraging future researchers of global development to more consciously and critically engage with questions concerning the ‘environment’.

That agenda of environmental engagement should not be limited to bolting on the study of, for example, biodiversity change, water resources, or climate risk to traditional topics or methods of development inquiry, even if this is to be welcomed as a starting point. It is an agenda that should be attuned to the (potentially) negative consequences of thinking about ‘nature’ or ‘environment’ as an external realm, one that provides the context for societal affairs – recognizing instead that humans are now geological actors (re)producing worldly environments in significant, albeit highly unequal, ways (Dalby, 2017). It could include an acknowledgement of the distributed agency of non-human and non-living actants, and of the bodily and earthly entanglements through which something called ‘life’ emerges (Whatmore, 2006). It should welcome the careful reflexive translation of theoretical concepts and insights from the study of ‘natural’ processes to that of development, as has been done with complex systems and resilience theory, just as concepts derived from the humanities and social sciences have helped to forge new environmental perspectives. It could bring into focus the coexistence and co-production of multiple planetary environments that include different conceptions of the nature of existence, as well as various ways of knowing, ethical commitments and judgements, aesthetic appreciations, and modes of critique. It might take as one of its core ambitions the clarification of how environmental processes – broadly conceived – and non-human actants underlie the problematic situations, practices, and projects of development.

In sum, recentring the environment in global development – thinking about development in a more planetary style – does not entail simply feeding environmental data into existing theoretical models of development. It rather invites a transformed and transformational project of critical inquiry into the

problems, emerging always through processes of life–matter entanglement, that animate concern and processes of care and repair. Such a pragmatist-inspired project would recognize that problematizations of development always already enrol more than human concerns, that we often become aware of something as *being a problem* through the signals and responses issued by living and geophysical systems. In other words, it might embrace critique (understood as a diagnostic clarification of worldly problems) as a distributed activity involving algorithms, plants, animals, oceans, atmospheres, molecules, electrons, and so on – systems that signal disruptions and stresses, and that themselves respond through various processes of repair.

Notes

Chapter 1

- ¹ The passage in question describes how ‘animals are divided into: (a) belonging to the Emperor, (b) embalmed, (c) tame, (d) suckling pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies’ (Foucault, 1994: xv).
- ² ‘Development’ thinking and practice predated the Second World War, with strong roots in interwar colonialism (Cowen and Shenton, 1996; Hodge et al, 2014; Duminy, 2022). However, here ‘international development’ specifically describes the era of coordinated development, involving bilateral and multilateral organizations, that followed the war.
- ³ The same can be observed of other recent collections published under the moniker of ‘global development’, in which that term offers at most a rebranding of ‘development studies’ or ‘international development’ without reflecting on what this new branding might mean, in and of itself, for our understanding and practice of development. The critical study of ‘global development’ refers to the critical study of development that is happening *everywhere*, of development as a *global process* (Obeng-Odoom, 2023a; Melber et al, 2024).
- ⁴ For instance, the emergence of ‘global history’ references an ambition to understand historical events as part of an ‘integrated whole’ (Conrad, 2016).
- ⁵ To take the example of ‘global health’: whereas the primary focus of ‘international health’ was on addressing health problems as they appeared within the borders of participating ‘developing’ countries, the discourse of ‘global health’ prioritizes the improvement of health and achieving equity in health for all people worldwide. Accordingly, it emphasizes transnational health issues, determinants, and solutions. Arguably, many such emphases were already present in the era of international health (Brown et al, 2006).

Chapter 2

- ¹ The Global Challenges Research Fund was established in 2015, but its budget was later curtailed significantly by Conservative government cuts to official development assistance spending.
- ² Similarly, Andrew Fischer (2019) argued that, by focusing the analysis of convergence on the period after 1990, Horner and Hulme were guilty of at best overlooking the specific detrimental effects of, and at worst implicitly condoning, the neoliberal reforms and structural adjustment imposed on many Southern settings.

Chapter 3

- ¹ For an example of doughnut economics translated into practice, see the Amsterdam Doughnut Coalition’s city tool for transformative action: <https://www.kateraworth.com/wp/wp-content/uploads/2020/04/20200406-AMS-portrait-EN-Single-page-web-420x210mm.pdf> [Accessed 4 December 2024].

- ² See the themed issue of the *Monthly Review* edited by John Bellamy Foster (2023).
- ³ In the UK, for example, groups such as Migration Watch UK (which is led by Peer of the House of Lords, Lord Green of Deddington) explicitly link the loss of green space and green belt land in Britain to rising levels of immigration (see MWUK, 2021).
- ⁴ With retrospect, we can caveat that he was referring specifically to Western, or European/North American, attitudes to nature and frontiers.
- ⁵ Carbon intensity is measured by the tonnes of CO₂e equivalent emitted per unit of GDP in each country: tCO₂e/US\$ 1,000.
- ⁶ It is beyond the scope of this book to give a full account of the emergence and structure of sustainable development discourse, but for useful summaries and discussions of the contested nature of the debate, see Castro (2004), Baker (2016), and W.M. Adams (2020).
- ⁷ List of Nobel Prize-winners: <https://www.nobelprize.org/prizes/lists/all-nobel-peace-prizes/> [Accessed 6 December 2024].

Chapter 4

- ¹ In the sense we are using the term ‘urbanization’, we are referring less to the demographic shift in the proportion of a total population living in towns and cities relative to rural areas and more to the wide-ranging dynamic processes shaping and driven by the growth and transformation of urban areas.
- ² There is a debate over this relationship in contexts of sub-Saharan Africa, where ‘urbanization without growth’ has been observed. Scholars have looked to demographic (rather than economic) explanations to account for this phenomenon (Fox, 2012, 2017; Jedwab et al, 2017; Hommann and Lall, 2019).
- ³ Saskia Sassen distinguishes ‘global cities’, which exert economic influence on a global scale, from ‘world cities’, which shape global culture and politics either through their historical and cultural significance (like Rome, Istanbul, Athens, or Jerusalem) or through their political and diplomatic influence (as in the case of Brussels).
- ⁴ These calls have been made by, among others, scholars interested in ‘urban science’ (Alberti, 2016; Acuto et al, 2018; Espey et al, 2024), history (Fox, 2012; Nightingale, 2018, 2024; Sandoval-Strausz and Kwak, 2018), policy mobilities (McCann, 2013; Croese, 2018), infrastructure studies (Wiig and Silver, 2019), health (Corburn et al, 2019; Pineo, 2020; Kronenberg et al, 2024), environmental and ecosystem change (Seto et al, 2012), and sustainability more generally (Parnell et al, 2018), as well as by those writing in a critical theoretical register (Robinson, 2011; Roy and Ong, 2011; Sheppard et al, 2015).
- ⁵ Sims and colleagues, in their recent edited handbook on global development, present urbanization as a ‘game-changer’ (Banks and Makuwira, 2022), although in this respect it plays a secondary role to COVID-19 and is not highlighted as a core transformative process.
- ⁶ See, for example, the constructive critiques by Angelo and Wachsmuth (2015), Buckley and Strauss (2016), and Angelo and Goh (2021). For the application of the planetary urbanization concept and approach to processes of gentrification, see Wyly (2015), Lees et al (2016), and Lees et al (2023).
- ⁷ Clive Barnett (2020b) recognizes that critiques of ‘universalism’ in urban theory are often, in practice, concerns about generalization or the range of possible application of an idea – ‘whether and how research undertaken in specific places can be effectively translated into generalizations applicable to other places’ (6).
- ⁸ We note that many use the term ‘city science’ rather than ‘urban science’. We have chosen to use ‘urban science’ as we believe that it captures the broader processes and systems associated with urban change, which include but extend beyond the physical territorial or administrative unit of ‘the city’.

- ⁹ This ensures that ‘city science is relatively unusual in the social sciences, in that one can still often find work seeking “laws” in city structures’ (Wolf, 2023).
- ¹⁰ Martin Arvidsson and colleagues (2023) note that most work on urban scaling carries strong assumptions of homogeneity: for example, that residents of a city enjoy similar numbers of network contacts, or that different companies within an industry exhibit similar levels of economic complexity and productivity. By contrast, they argue that laws of scaling arise from within-city inequalities. The networks and affluence of elite groups depend on the social environments that the largest cities provide. The outputs of these elite groups account for the higher-than-expected (superlinear) outcomes of larger cities.
- ¹¹ The proposed temporal universality of scaling theory is demonstrated by its application to the analysis of urban settlements in ancient (Lobo et al, 2020) and pre-industrial eras (Cesaretti et al, 2020).
- ¹² A third, less common, ‘inductive empiricist’ approach is associated with claims that massive volumes of urban big data and data analytics can be employed to discover ‘the most salient factors with regards to a particular phenomenon’ without any reference to theory (Kitchin, 2020: 45).
- ¹³ For instance, attempts to model and simulate ‘informal urbanization’ in settings lying ‘off the map’ of mainstream coordinates of urban analysis and theoretical elaboration present, in spirit if not explicit orientation, critiques of the Western or Northern biases extant within much urban inquiry and theory (Agyemang et al, 2023).
- ¹⁴ For Jessica Espey and colleagues (2024), for example, the fragmented state of urban science ‘has prevented the emergence of very clear headline messages’ about its ‘value and contribution ... for international decision-making’, while hindering ‘meaningful conversations across sectors about urban effects in areas like health and biodiversity’ (366).
- ¹⁵ This is another sense in which we can understand the spread of practices of anticipation (see Chapter 6): alongside political practices and discourses that are motivated by notions of the future, we see the reframing of scholarly practice in relation to expected future developments in data and analysis.

Chapter 5

- ¹ The first such occasion was 11 July 1987, when the birth of Matej Gaspar in Zagreb (Croatia, then part of Yugoslavia) was heralded (with considerable media fanfare) as the symbolic moment when the world population reached 5 billion. On 31 October 2011, the Day of Seven Billion, the United Nations Population Fund (UNFPA) used the occasion to launch a major new campaign of international development – entitled 7 Billion Actions – focused on seven key issues: poverty, gender equality, youth, ageing, urbanization, environment, and reproductive health and rights. Agencies like the UNFPA used opportunities to celebrate their achievements in boosting life expectancy through better public health and medical care as well as improved nutrition and hygiene. Robert Mayhew (2014) writes of the Day of Seven Billion: ‘In general, the tenor of the stories that ran on this date reinforced the same, very simple assertion: Malthus is wrong’ (232).
- ² We are aware that, strictly speaking, programmes of birth control are not ‘Malthusian’ in the sense that Malthus himself advocated late marriage and would likely have been ‘horrified’ at the idea of birth control (Mayhew, 2014). We should distinguish between what Malthus, the person and author, had to say about population, and what has been articulated as ‘Malthusian’ or ‘Malthusianism’ by their interlocutors and opponents.
- ³ Diana Coole (2021) notes that neoliberal ideologies’ rejection of any semblance of state economic planning included population planning; drawing upon rational choice theory, neoliberal theorists saw changing fertility behaviours as a response to economic opportunities and aspirations. This position was supported by the ‘Boserupian’ arguments

- of economists like Julian [Simon \(1981\)](#) who saw population growth as ultimately being economically beneficial by instigating and providing a resource for increased productivity, innovation, and economies of scale.
- ⁴ Classical demographic transition theory would predict that fertility rates in mid-transition countries are lower in towns and cities than in rural areas. That expectation arises in part owing to (an assumed) greater availability of safe and high-quality family planning and maternal and child healthcare services, and in part because of the higher costs of living and childrearing in urban environments ([Duminy et al, 2021](#)).
 - ⁵ Contrary to popular belief, over half (approximately 60 per cent) of urban population growth of LMICs is accounted for by natural population increase (the excess of urban births over deaths), rather than by spatial expansion or migration ([Montgomery et al, 2003](#); [Fox, 2017](#); [Jedwab et al, 2017](#); [Menashe-Oren and Bocquier, 2021](#); [Bocquier et al, 2023](#)). Accordingly, a series of researchers have made the forceful argument that urbanization – when defined specifically as the trend for an increasing proportion of a population to live in urban rather than rural areas – is better understood as a demographic rather than a purely economic process, particularly if we are to account for the phenomenon of ‘urbanization without economic growth’ so often discussed for the sub-Saharan African context ([Dyson, 2011](#); [Fox, 2012, 2017](#); [Jedwab et al, 2017](#); [Hommann and Lall, 2019](#)). [Montgomery and colleagues \(2022\)](#) note important exceptions to this rule of thumb, including China, and moreover that the relative shares of urban population growth accounted for by natural increase, migration, and spatial expansion will likely vary over time, even for individual cities or towns. [Bocquier and colleagues \(2023\)](#) use census data to show that urbanization in Africa and Asia is, on the whole, generated more by natural increase and spatial expansion than by migration, although in Asia it reflects internal migration trends and spatial reclassification to a greater extent than in Africa, where natural increase is the key driver.
 - ⁶ There is a risk that, in depicting older people as an ‘economic and care burden’, demographic transition theory reproduces a ‘foundational ageism’ ([Vera-Sanso, 2022](#)).
 - ⁷ For example, in a relatively wealthy country like the United States, older persons on average consume more than their younger counterparts, and they receive relatively high transfers from public sources, but they also tend to contribute more in terms of private transfers than they receive throughout their life-course. In an upper-middle-income context such as Thailand, by contrast, older persons tend to consume at similar rates to those who are younger. Older Thais generally receive modest public transfers at rates similar to their contributions, and private transfers (in the form of support from families, for instance) take on major significance: private transfers are received by older populations at rates outstripping their contributions. These differences ‘in shapes of labour income and consumption by age, and in public and private transfers made and received, lead to differences in the impacts of population age distributions’ ([Lee et al, 2014: 230](#)).
 - ⁸ Here we can note that another specific reason for re-engaging with demographic questions within development thought is that they bring fundamental moral questions about the value of human existence, and how we justify trade-offs between the fact and quality of human life, now and into the future, into sharp focus.
 - ⁹ We are not saying that older populations are not innovative or intelligent, but rather that ageing is statistically associated with increases in valuable cognitive abilities linked to the accumulation of experience-based knowledge, also known as ‘pragmatics’ or ‘crystallized intelligence’ ([Kaltenberg et al, 2023](#)).
 - ¹⁰ At the subnational level, increasing academic and policy attention is dedicated to how cities might manage population ageing and loss. Detroit in the United States – a city that in 2013

filed for bankruptcy – is often cited as an extreme case. What city governments can do to compensate for huge unfunded pension costs, collapsing housing prices, a diminishing tax base, and cumulative neighbourhood decline (known as the ‘death spiral’) is not always clear (*The Economist*, 2024). They can offer incentives for workers to move in, they can implore government agencies to locate employment-creating facilities in their vicinity, but larger fiscal concerns are usually the preserve of other spheres of government. In any case, few cities deal with the extreme challenges of city-scale population loss faced by Detroit. For most, the challenge will be an ongoing one of ensuring their ‘age-friendliness’ by managing localized distributions of demographic changes as individuals progress through the life-course and as the population-structural characteristics of neighbourhoods shift over time (WHO, 2007a, 2018b).

- ¹¹ Some societies will experience these changes as ‘new’. Others will do so with a longer precedent. In many African settings, for instance, grandparents have often played important roles in caring not only for their own grandchildren, whom they often live in proximity to if not co-resident with, but also for children from other domestic groups (Oppong, 2006).
- ¹² The Chinese example need not be cited in negative terms – in March 2023, Egyptian president Abdel Fattah El-Sisi cited China as an example of a country having succeeded with a policy of population control.

Chapter 6

- ¹ The epidemiological transition assumes that as a country develops – enjoying improved living standards and healthcare services – morbidity and mortality from infectious diseases, malnutrition, and other conditions decrease. As a result, people live longer, and the total burden of disease of the population shifts towards degenerative and chronic disease problems. Conditions like mental illness, cancers, pollution exposure, accidents, violence, substance abuse, and cardiovascular disease become more prevalent (Omran, 1971).
- ² ‘OECD health statistics’, Available from: <https://www.oecd.org/health/health-data.htm> [Accessed 7 May 2024].
- ³ COVID-19 also affected spending on health research. The 2022 UK Health Research Analysis found an increase in annual funding for health research in all public sectors, with the largest growth enjoyed by research on infectious disease (up from 9 per cent in 2004 to 15.4 per cent in 2022), including challenges related to COVID-19, post-pandemic recovery, and antimicrobial resistance. Surprisingly, there was a decrease in total funding for health research from 2018 to 2022, attributable to pressure from high inflation and a decrease in the charitable sector’s contributions, linked to pandemic-driven strains on the sector’s income (UK Clinical Research Collaboration, 2023).
- ⁴ This realization left the Rockefeller-Lancet Commissioners with a troubling question: given what we know about human impacts on the environment, why has global health actually improved in recent decades? Their answer was sobering – we may have mortgaged the health of future generations in order to promote economic development in the present. COVID-19 seems to have confirmed these fears – we will increasingly face unpredictable health risks deeply interconnected with the past and present impacts of human activities on natural systems (Whitmee et al, 2015).
- ⁵ Michel Foucault (2007) focuses on the problems of infectious disease, the epidemic, and model responses to these problems as illustrative of how early modern practices of government attempted to prevent future negative outcomes through a disciplinary logic of exclusion (leprosy), or enclosure, surveillance, and control (bubonic plague), and later attempted to mediate negative outcomes through a more actuarial, probabilistic logic of inoculation (smallpox).

- ⁶ The popular enthusiasm for notions of ‘the multiverse’ arguably reflects the cultural condition of a society plagued by regrets, by how things ‘could have turned out differently’. Likewise, there is widespread enthusiasm for stories and characters who are prophetic – characters sometimes endowed with the ability to envision multiple possible futures and select or make possible the optimal course of development. While we remain insecure about our future, it seems many of us would be keen to place our faith in those who can divine the future and make the impossible possible. Such enthusiasm surrounds the potential applications of big data and advanced analytics of prediction but also recurs in popular culture: films and series like *Arrival*, *Dune*, *Edge of Tomorrow*, *Foundation*, and *Everything Everywhere All at Once* are several recent examples.
- ⁷ This enthusiasm for prediction predated the pandemic, sometimes in prophesying terms: health experts, Hollywood filmmakers, and other commentators had long predicted and warned of possible international epidemics of highly infectious diseases, particularly zoonoses (Quammen, 2012; Tulchinsky and Mason, 2023).

Chapter 7

- ¹ As covered in the *Financial Times* article ‘Royal Mail in crisis: can the service survive the strikes?’, 13 November 2022, Available from: <https://www.ft.com/content/c3405f95-b6bc-4587-ad4e-f1f91217ecb6> [Accessed 8 August 2023].
- ² See World Bank promotion video for MFD: <https://www.worldbank.org/en/news/video/2018/04/10/maximizing-finance-for-development> [Accessed 23 September 2024].

Chapter 8

- ¹ See the White House briefing, ‘Fact sheet: partnership for global infrastructure and investment at the G7 summit’, Available from: <https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/20/fact-sheet-partnership-for-global-infrastructure-and-investment-at-the-g7-summit/> [Accessed 16 January 2024].
- ² Reported in ‘G20: EU and US back trade corridor linking Europe, Middle East and India’, *The Guardian*, 9 September 2023, Available from: <https://www.theguardian.com/world/2023/sep/09/g20-eu-and-us-back-trade-corridor-linking-europe-middle-east-and-india> [Accessed 3 October 2024].
- ³ ‘Khorgos: the biggest dry port in the world’, *South China Morning Post*, Available from: <https://multimedia.scmp.com/news/china/article/One-Belt-One-Road/khorgos.html> [Accessed 12 February 2024].
- ⁴ See, for example, the official website of the CPEC Secretariat: <https://cpec.gov.pk/> [Accessed 29 April 2024].

Chapter 9

- ¹ G. Petro, statement on X, 15 October 2023, Available from: <https://x.com/petrogustavo/status/1713621633812791383> [Accessed 29 May 2024], translated on Google translate.

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