Bear in mind that GDP is far more than a technical tool for measuring economic activity. It generates a whole grammar that not only shapes economics but also structures shared ideas of the world – above all, through its close connection to the growth paradigm. So, while economic growth is a highly ambivalent and elusive concept, its semantic core is statistically fixed: it is defined as the annual increase in GDP or per capita GDP and is usually expressed in percentages.

The growth paradigm

The international standardization of statistical measurements of the economy was central to making growth a policy objective. Only through this universalized concept of 'the economy', commensurable over time and space, did it become conceivable to measure what was to grow: the sum of market transactions within national borders. Only then did the idea that long-term, stable, and unlimited growth was at all possible and desirable become established.

In fact, in the political discussions of the early post-war period, the idea of economic growth was conspicuously absent. Rather, the central themes were full employment, stability, and reconstruction. Before 1950, there was almost no interest at all in economic growth as a policy goal in political statements or economic literature.[15] In the following years, however, growth was catapulted to the top of the hierarchy of political goals. At the time, movements for decolonization were arising in former colonies around the world, the Cold War was in full swing, and it became imperative to pacify class struggles in both the Global North and South. Something needed to be done to stabilize Western economic dominance and capitalist class relations. There needed to be a way to show conclusively the progress of capitalist economies. First declared the goal of national economic policy by the chairman of the US Council of Economic Advisers in 1949, it became the globally accepted measure of progress from the mid-1950s onwards. The sociological modernization theories developed by North American and

15 Dale, 'The Growth Paradigm'; Mitchell, 'Economentality'; Schmelzer, *The Hegemony of Growth*.

European white men were framed as an irreversible and unilinear process of economic growth.[16] Cold War competition further fuelled the race for growth, through which governments could show their economic dominance. Growth became the yard-stick for comparing the productivity of capitalist and socialist economies. Emblematic of this crucial phase of the development of the growth paradigm is a 1958 statement by Nikita Khrushchev, chairman of the Council of Ministers of the Soviet Union: 'Growth of industrial and agricultural production is the battering ram with which we will smash the capitalist system.'[17] Nation-states thus entered into competition not for equality, emancipation, or jobs, but for the rising quantity of goods and services they could produce. By the late 1950s, growth had become a central goal of economic policy and the most important indicator, tying growth and welfare together and equating them with the continuous expansion of market transactions. In this constellation, GDP became the first and general indicator of the modernity, prosperity, standard of living, development, and prestige of countries.

The hegemony of growth fundamentally transformed the state's tasks, purpose, and legitimacy, all of which became linked to growth and thus to the economy. This process occurred much earlier than is usually believed. Wendy Brown, for example, situates the threefold economization of the state in the 1980s and links it to the rise of neoliberalism:

> The state secures, advances, and props the economy; the state's purpose is to facilitate the economy, and the state's legitimacy is linked to the growth of the economy – as an overt actor on behalf of the economy. State action, state purpose, and state legitimacy: each is economized by neoliberalism.

16 Arturo Escobar, *Encountering Development: The Making and Unmaking of the Third World* (Princeton, NJ: Princeton University Press, 1995); Ariel Salleh, *Ecofeminism as Politics: Nature, Marx and the Postmodern* (London: Zed Books, 2017).

17 Cited in Schmelzer, *The Hegemony of Growth*, 163; see also Dale, 'The Growth Paradigm'.

A focus on the rise of the growth paradigm, however, shows that already from the 1950s onwards the expansion of the economy became what could be described as the *raison d'état*.[18] Government interventions all over the world became largely focused on maintaining a stable growth path and on creating and maintaining favourable investment conditions. The growth state stood at the centre of the democratic-capitalist constellation of the 'golden age', the long phase of stability and rising prosperity in the second half of the twentieth century.

The growth paradigm has played a key role in transforming the social discourse on how to distribute wealth: from a zero-sum game in which a fixed amount is distributed (so what some win, others lose), to a seemingly positive-sum game in which everyone benefits from the growing economic product and therefore has a common interest in economic growth.[19] Growth promised to turn difficult political conflicts over distribution into technical, non-political management questions of how to collectively increase GDP – an ideology that only partially reflected reality within the capitalist core during the 'golden age', and much less so from a global socio-metabolic perspective.[20]

By thus transforming class and other social antagonisms into so-called win–win situations, it provided what could be called an 'imaginary resolution of real contradictions' and played a key role in producing the stable post-war consensus around embedded liberalism.[21] In the West, growth made it possible to redirect the demands of the workers' movement towards more participation and equality. In the East, it justified the lack of democracy and the failure of revolutionary ambitions. In the 'developing countries' – a category itself developed through the logic of the growth paradigm – it served in combination

18 Brown, *Undoing the Demos*, 64; Schmelzer, *The Hegemony of Growth*.

19 Dale, 'The Growth Paradigm'.

20 Eric Pinault has proposed analysing the 'material trajectory of advanced capitalism as a zero-sum game' during this period. See Eric Pineault, 'The Ghosts of Progress: Contradictory Materialities of the Capitalist Golden Age', *Anthropological Theory* 21, no. 3 (2021): 260–86, 260.

21 Eagleton, *Ideology*; Schmelzer, *The Hegemony of Growth*; Charles S. Maier, 'The Politics of Productivity: Foundations of American International Economic Policy after World War II', *International Organization* 31, no. 4 (1977): 607–33.

with the idea of 'development' as justification for the smashing of subsistence and traditional economies and the implementation of large-scale technical infrastructures after the formal end of colonialism, and further as a way to justify structural adjustment and the stripping of public goods.[22] Growth thus helped to overcome the political focus on equality and redistribution, depoliticizing the economy. As noted by an American economist and advisor to President Eisenhower: 'Growth is a substitute for equality of income. As long as there is growth there is hope, and that makes large income differentials tolerable.'[23]

In fact, growth became presented as the common good, thus justifying the particular interests of those who benefitted most from the expansion of market transactions and capital accumulation as beneficial for all. The historian Charles S. Maier puts it in a nutshell: 'The true dialectic was not one of class against class, but waste versus abundance.'[24] Drawing on the definition of hegemony, as developed by the Italian Marxist Antonio Gramsci, growth appears as an unquestionable, positive value at the centre of a network of ideas and everyday common sense which justifies, and silently coerces people into, contemporary relations of power and hierarchy – including social relations of production such as wage work.[25] As discussed in more detail below, by tightly linking ideas of emancipation and progress to economic growth, the growth paradigm became the normative ideal of modernity – not just in liberal circles, but also in socialist thought. Indeed, the power of this

22 Schmelzer, *The Hegemony of Growth*; Escobar, *Encountering Development*; Wolfgang Sachs, *The Development Reader: A Guide to Knowledge and Power* (London: Zed Books, 1992); Giorgos Kallis, *Degrowth* (Newcastle upon Tyne: Agenda Publishing, 2018).

23 Henry C. Wallich, 'Zero Growth', *Newsweek*, 24 January 1972, 62.

24 Cited in Schmelzer, *The Hegemony of Growth*, 117.

25 The hegemony of growth is thus a comprehensive social practice that not only accepts growth as a necessary prerequisite for improving the living conditions of wage earners, but also sanctions dominant forms of ownership and rule. As we will explore in the third chapter, these power relations include class, race, gender, and South–North uneven development. Antonio Gramsci, *Prison Notebooks*, ed. by Joseph A. Buttigieg, vols. 1–3 (New York: Columbia University Press, 2011). See also Giacomo D'Alisa and Giorgos Kallis, 'Degrowth and the State', *Ecological Economics* 169 (2020): 106486; Schmelzer, *The Hegemony of Growth*.

myth became so strong that it captured most intellectual currents and social movements on the progressive left that wanted to overcome capitalism – which, as put by Eric Pineault, 'have remained imprisoned in the imaginary of growth'.[26]

2.2. Growth as a social process

We can now understand growth as a hegemonic idea that emerged quite recently, discursively tied to GDP. But growth is far more than an increase in GDP, as it is normally defined. In fact, GDP is only the tip of the iceberg, the surface phenomenon of a whole set of social processes related to capitalist accumulation that drive growth, and of ever-increasing biophysical flows that are mobilized by this global economy. To see the whole picture of this world system, we must go much further back than the twentieth century, because this newer ideology of growth is itself rooted in both *social* and *biophysical* processes that go back to the beginnings of capitalism and colonialist expansion. This deeper understanding of the nature of growth distinguishes degrowth from more vague critiques of economic growth, which focus on the pitfalls of GDP alone and are limited to proposing alternative ways of measuring economic output, rather than addressing the roots of growth itself. In the following sections we analyse growth as a social process: a specific set of social relations resulting from capitalist accumulation, which not only drive the reproduction of capitalism but also act as a central stabilizing mechanism in modern society. To understand this aspect of growth, we need to engage with the humanities, social sciences, and political economy. In this section, we begin by discussing how capitalism emerged and analyse how growth led to specific class structures which, in turn, brought about a dynamic relationship between class formations and material growth. We argue that 'dynamic stabilization' is a core feature of modern

26 Pineault, 'The Growth Imperative of Capitalist Society', 32. See also Schmelzer, *The Hegemony of Growth*; Giorgos Kallis, 'Socialism without Growth', *Capitalism Nature Socialism* 30, 2 (2019): 189–206.

societies – where, in order to remain stable and reproduce their social structures, growth societies require continuous economic expansion, technological innovation and escalation, and social-cultural acceleration. Dynamic stabilization explains how and why growth societies are fundamentally dependent on growth.

Unleashing capital: the dynamics of accumulation

The social materialization of capitalist accumulation can be analysed as an economy driven by the production of profit – in which societal wealth 'presents itself as an immense accumulation of commodities'.[27] The annual production of these commodities is, more or less, what GDP measures. Within capitalism, money moves through society and mobilizes machines, resources, and labour power to produce commodities. As will be discussed in more detail in chapter 3, the expansion of the output of this commodified societal wealth rests on capital being invested (the 'input') to increase the capacity to produce and circulate commodities (the 'output').

Many analyses and critiques of capitalism deal with the structural relations, tensions, and contradictions resulting from the dynamics between these factors, mainly capital and labour, and focus on the period when the monetary production economy became dominant with industrialization. However, the analysis of capitalism that has shaped the degrowth debate not only starts much earlier, with the rise of capitalist enterprises in the context of colonialism. It also centres other processes shaping capitalist growth, mainly related to the commodification and appropriation of nature and care, processes of devaluation, cheapening and externalization, and to the dynamic stabilization of capitalist society through growth. While this analysis will further unfold throughout the rest of the book, the following sections

27 Karl Marx, *Capital: A Critique of Political Economy, Volume 1*, trans. Ben Fowkes (New York: Vintage, 1976), 27; Ulrich Brand et al., 'From Planetary to Societal Boundaries: An Argument for Collectively Defined Self-limitation', *Sustainability: Science, Practice and Policy* 17, no. 1 (2021): 265–92; Augusto Graziani, *The Monetary Theory of Production* (Cambridge: Cambridge University Press, 2003).

sketch some historical background that might help illustrate this perspective.[28]

Homo sapiens have lived on this planet for about 200,000 years. For most of human history, all humans have lived nomadically as hunters and gatherers. Agriculture existed for about 10,000 years as a regionally dominant production method, and since then phases of social development have alternated with phases of decay in various regions of the world. However, there was no, or close to no, economic growth in its modern sense. This only started to change with the beginning of colonialism, the rise of capitalist enterprise, and then industrialization.[29] For most of human history, communities' relationships and self-reproduction were based on systems of mutual obligations, power, or wealth, but not on the logic of capitalism, the ceaseless accumulation of capital. Over thousands of years, humans have experimented with a vast array of social formations, some of which included large and complex civilizations organized on surprisingly egalitarian lines, others involving merchants investing in the expansion of trade – yet on the whole, those dealing with capital remained marginal to those societies. This started to change beginning with the emergence of the 'world system' in the sixteenth century.[30]

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28 Jason Hickel, *Less Is More: How Degrowth Will Save the World* (London: William Heinemann, 2020); Pineault, 'The Growth Imperative of Capitalist Society'; Utsa Patnaik and Prabhat Patnaik, *Capital and Imperialism: Theory, History, and the Present* (New York: NYU Press, 2021).

29 Of course, all the problems of GDP accounting discussed in this book multiply when economists try to reconstruct long-term growth trends going back hundreds of years to economies where most work was done outside of markets and wage relations. But – as far as this can be measured retrospectively at all – preindustrial growth of GDP was very slow, with annual per capita rates measured in fractions of a per cent. See Vaclav Smil, *Growth: From Microorganisms to Megacities* (Boston: MIT Press, 2019), chapter 5; Jürgen Osterhammel, *The Transformation of the World: A Global History of the Nineteenth Century* (Princeton, NJ: Princeton University Press, 2014); Desmond C. M. Platt, *Mickey Mouse Numbers in World History: The Short View* (Basingstoke: Macmillan, 1989).

30 David Graeber and David Wengrow, *The Dawn of Everything: A New History of Humanity* (New York: Farrar, Straus and Giroux, 2021); Sven Beckert, *Empire of Cotton: A Global History* (New York: Alfred A. Knopf, 2014); Immanuel

At that time, early venture capital companies, driven by the arms race of the early modern European states and their enormous capital requirements, financed expansionary voyages to the Americas, importing raw materials such as cotton and silver. From these early colonial enterprises, trading companies emerged, which later developed into joint-stock companies whose central purpose was, and remains, the endless accumulation of capital. Increasingly, capitalists started to invest in agriculture and industry, thus permeating the world of human labour with the logic of continuous accumulation and – where they could, as with the plantation regime around cotton – remaking the entire mode of production to their benefit. By appropriating raw materials, based on both slave and wage labour, and by integrating these through trade flows that spanned from Europe to the Africas, Asia, and the Americas, they created a dynamic world system that has since reshaped the entire planet.[31]

This accumulation took place at the expense of people in different parts of the world in different ways. In the Americas, genocides were perpetrated against Indigenous peoples, and millions of people from African regions were sold into slavery. The entire colonial enterprise, so intricately linked to the emergence of capitalism, was justified by racism – the systematic dehumanization of certain groups of people for the benefit of others – which came to form an integral part of the social dynamics of capitalism to this day. Through the privatization of the commons, the rural population in Europe lost the basis for their subsistence production. These enclosures also created the everyday scarcity that is still the basis of capitalist growth today – limiting people's ability to use their surroundings for subsistence and generation of communal wealth. Stripped of the land and their means of subsistence production, people were forced into wage labour – a process of violent 'primitive

Wallerstein, *World-Systems Analysis: An Introduction* (Durham, NC: Duke University Press, 2004).

31 Ibid.; Amitav Ghosh, *The Nutmeg's Curse: Parables for a Planet in Crisis* (Chicago: University of Chicago Press, 2021); Jason W. Moore, *Capitalism in the Web of Life: Ecology and the Accumulation of Capital* (London: Verso, 2015); Fabian Scheidler, *The End of the Megamachine: A Brief History of a Failing Civilization* (Winchester: Zer0, 2020).

accumulation' (Karl Marx) or incorporation of non-capitalist social worlds (Rosa Luxemburg) that continues in ever-changing forms to this day. States played a key role in all of this – not only in the 'war capitalism' of the earlier period, but also by driving land seizure around the world and by using their powers in the 'cheapening' of key resources, in imperial wars underlying capitalist development, or in guaranteeing the property rights that made capitalist production possible in the first place.[32] As we discuss at length in the next section, the entire dynamism within the world system changed when, beginning in the eighteenth century, the plantation revolution in the Americas was linked with emerging industrial capitalism in Europe, which in turn started to be increasingly powered by a truly revolutionary technology: coal-fired steam engines.[33]

These social and economic changes went hand in hand with the emergence of a set of perspectives and ideas that legitimized, enabled, and even drove the expansion of the world system – and which also laid the foundation for the later development of the modern growth paradigm. To begin with, the idea of the 'development' or 'progress' of human societies in a linear course of time had to be actively produced. Most known cultures of the past – as well as some contemporary communities – had a cyclical understanding of time as 'eternal recurrence', interpreted their present as an abandonment from a mythical ideal past to be restored, or had some other non-linear conception of time. Yet beginning with the Renaissance and building on Christian apocalypticism, which assumed an absolute end point of human societies with the Last

32 Marx, *Capital, Volume 1*, 873; Rosa Luxemburg, *The Accumulation of Capital* (London, New York: Routledge, 2003 [1913]); Silvia Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation* (New York: Autonomedia, 2004); Patnaik and Patnaik, *Capital and Imperialism*; Karl Polanyi, *The Great Transformation* (Boston: Beacon Press, 1944); Moore, *Capitalism in the Web of Life*; Cedric J. Robinson, *Black Marxism: The Making of the Black Radical Tradition* (Chapel Hill: University of North Carolina Press, 2005); Hartmut Rosa, Stephan Lessenich, and Klaus Dörre, *Sociology, Capitalism, Critique* (London: Verso, 2015).

33 Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (London: Verso, 2016); Beckert, *Empire of Cotton*; Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton, NJ: Princeton University Press, 2000).

Judgment, concepts of abstract time and space emerged in Europe, in particular since the seventeenth century. The spread of the mechanical clock promoted changes in the understanding of time as objective, linear, and countable. Geometry and cartography also enabled a new conceptualization of land and territory as abstract, borderless, uniform, and measurable space that can be emptied or filled as needed, clearly demarcated, and traded as a commodity through property rights.[34] Early modern natural sciences not only promoted the idea of abstract nature but also argued that humans could dominate nature. In a mechanistic view of the world, nature and human labour were conceived of as mechanisms governed by laws and flows of energy that could correspondingly be manipulated and controlled (see section 3.6).[35]

Concepts and practices of linear time, abstract space, and mechanical nature became key ideological building blocks of the capitalist colonization of the planet. The practical treatment of all things and living beings as comparable, interchangeable, and tradable, as well as the mechanistic understanding of nature based on linear thinking, were consolidated in colonialism. The plundering of the planet was thus justified by the idea that land, natural resources, the work of women and the colonized, and all life are to serve mankind (and this was usually meant only the white men who claimed ownership of it[36]) and can therefore be possessed, exploited, and changed at will (see sections 3.1 and 3.5).[37] Beginning with the seventeenth century, these ideas

34 Scheidler, *The End of the Megamachine*; Dale, 'The Growth Paradigm'; Malm, *Fossil Capital*; Carolyn Merchant, *The Death of Nature: Women, Ecology, and Scientific Revolution* (San Francisco: Harper and Row, 1980).

35 Merchant, *The Death of Nature*; Joachim Radkau, *Nature and Power: A Global History of the Environment* (Cambridge: Cambridge University Press, 2008); George Caffentzis, *In Letters of Blood and Fire: Work, Machines, and the Crisis of Capitalism* (Oakland: PM Press, 2012).

36 *White* is not a biological property, but rather the privileged position within the dominant structures of racism. Alan H. Goodman, Yolanda T. Moses, and Joseph L. Jones, *Race: Are We So Different?* (Hoboken, NJ: John Wiley & Sons, 2019); Cedric J. Robinson, *On Racial Capitalism, Black Internationalism, and Cultures of Resistance* (London: Pluto Press, 2019).

37 Ghosh, *The Nutmeg's Curse*; Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*

underwent a secularized reformulation: a linear narrative of progress divided people into 'civilized' and 'primitive' based on racist metrics, thus legitimizing colonial expansions. At the height of imperialism and in early 'development' discourse, poor countries were seen to be in need of outside intervention by European or American experts, to speed up their 'development' on a linear path of social and economic improvement. In the twentieth century, the linear narrative was economized, as general social progress was increasingly conflated with the expansion of production.[38] Under capitalism, growth became the secular promise of redemption.

The mechanistic understanding of nature also laid the foundation for eighteenth-century European economists' understanding of 'the economy' as a separate area of social life that is measurable and predictable like clockwork – and which corresponded to changes in the world of work.[39] This sector of the formal economy was characterized throughout the nineteenth century by the spread of gainful employment as a male-dominated sector separate from the rest of life. At the same time, unpaid reproductive work became 'housewifely' – devalued, but necessary for the reproduction of labour power. Thus the invisibility and appropriation of unpaid reproductive work associated with wage labour still characterizes gender relations and the world of work today (see section 3.6).[40] Different disciplinary technologies, manifested in institutions such as factories, the military, prisons, and

(Cambridge: Cambridge University Press, 2010); Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (London: Penguin UK, 2014).

38 Escobar, *Encountering Development*; Walter Mignolo and Catherine E. Walsh, *On Decoloniality: Concepts, Analytics, Praxis* (Durham, NC: Duke University Press, 2018); Gilbert Rist, *The History of Development: From Western Origins to Global Faith* (London: Zed Books, 1996); Schmelzer, *The Hegemony of Growth*.

39 Dale, 'The Growth Paradigm'. For more historical literature, see Giorgos Kallis et al., 'Research on Degrowth', *Annual Review of Environment and Resources* 43 (2018): 291–316.

40 Veronika Bennholdt-Thomsen and Maria Mies, *The Subsistence Perspective: Beyond the Globalized Economy* (London: Zed Books, 1999); Maria Mies and Vandana Shiva, *Ecofeminism* (London: Zed Books, 1993); Moore, *Capitalism in the Web of Life*; Salleh, *Ecofeminism as Politics*.

schools, promoted the proletarianization of labour. This change in work led to the monetarization of more and more spheres of life and was accompanied by the suppression of relationships of reciprocity.[41] This proletarianization of previously subsistence-based communities, rooted in the system of wage labour, created a lock-in effect, where workers, too, depend on growth to satisfy their most basic needs as they are no longer able to survive outside of the capitalist system.[42]

The social implementation of abstract concepts of time and space, a process that took centuries to reach the entire globe, symptomatically stands for the abstract logic of capitalist modernity: the practice of the – scientific, and above all economic – production of equivalences between completely different concrete realities. The fact that labour, land, and many other things were made measurable and comparable, largely by means of an abstract standard of comparison expressed in money, created the conditions for exchanging everything for everything else.[43] Growth, in this sense, is also a process of the relentless and often violent commodification and repeated colonization of natures, life worlds, and reproductive activities, all of which became increasingly shaped by market-mediated social relations – a process that is still ongoing.[44]

Growth as dynamic stabilization

Modern societies dynamically stabilize through a continuous process of expansion and intensification in terms of space, time, and

41 David Graeber, *Bullshit Jobs: A Theory* (New York: Simon & Schuster, 2018); Osterhammel, *The Transformation of the World.*

42 Pineault, 'The Growth Imperative of Capitalist Society'; Adelheid Biesecker and Sabine Hofmeister, 'Focus: (Re)productivity: Sustainable Relations Both between Society and Nature and between the Genders', *Ecological Economics* 69 (2010): 1703–11.

43 Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment* (London: Verso, 1996).

44 Raj Patel and Jason W. Moore, *A History of the World in Seven Cheap Things: A Guide to Capitalism, Nature, and the Future of the Planet* (Berkeley: University of California Press, 2017); Hickel, *Less Is More.*

energy.[45] This means that modern societies inherently rely on growth to stabilize their institutions. These dynamics, while being based on processes of appropriation and exploitation as analysed above, did provide material prosperity to more and more people. While initially largely reserved to *white* men in the middle and upper classes in Europe, these sustained dynamics of growth also enabled successful social and political struggles that made this material standard of living accessible to an increasingly larger part of humanity, especially in the Global North, but also in the middle and upper classes of the Global South. This increasing democratization of material prosperity – from consumer goods such as sugar and tea for European workers in the nineteenth century to larger private homes, household appliances, cars, and travel in the twentieth century – again laid the foundation for the continued acceleration of economic growth. And – as a stabilizing mechanism for capitalism – the promise of rising levels of material prosperity through economic growth served to pacify social conflicts and to create consent for the technocratic, productivist politics of growth societies.[46] This does not only apply to the capitalist core countries. Even the real existing socialist societies of the twentieth century were – albeit under different circumstances – fundamentally productivist growth societies. Under the pressure of competition between the Western and Eastern blocs, they also relied on increasing economic output and growing material prosperity in order to guarantee their social stability.[47] And, as we will explore throughout the book, the promise of a better life through growth also

45 Rosa, Lessenich, and Dörre, *Sociology, Capitalism, Critique*; Radkau, *Nature and Power;* Moore, *Capitalism in the Web of Life*; Hartmut Rosa, *Resonance: A Sociology of Our Relationship to the World* (Cambridge: Polity Press, 2019).

46 Frank Trentmann, *Empire of Things: How We Became a World of Consumers, from the Fifteenth Century to the Twenty-First* (New York: Harper Perennial, 2017); Schmelzer, *Hegemony of Growth*; Kallis, *Degrowth*; Tim Jackson, *Prosperity without Growth: Economics for a Finite Planet* (London: Earthscan, 2016).

47 Radkau, *Nature and Power;* Wallerstein, *World-Systems Analysis;* Ekaterina Chertkovskaya and Alexander Paulsson, 'The Growthocene: Thinking Through What Degrowth Is Criticising', *Entitle Blog*, 19 February 2016, entitleblogdotorg3 .wordpress.com.

legitimized and thus stabilized uneven development globally – the promise of future growth made inequalities seem acceptable.

Furthermore, dynamic stabilization goes beyond material prosperity. In fact, many of the social and political achievements people in modern welfare states have access to today, such as the right to vote, a minimum wage, health care, and a five-day workweek, were fought for by strong social movements and trade unions in the context of expansive and fossil fuel–driven modernity. The power of the strike in the twentieth century, for example, was closely linked to the need for the labour force to operate the facilities necessary for the mining, transport, and processing of coal and, consequently, their ability to effectively paralyse them. To highlight the intimate entanglements between the material properties of coal, which enabled coal workers to become the spearhead of a strong workers movement that successfully fought for welfare and participation, and the resulting mass democracy, the historian Timothy Mitchell has termed modern representative systems 'carbon democracies'.[48] The historian Dipesh Chakrabarty makes a similar argument: emancipation movements went hand in hand with the dynamics of fossil fuel–powered growth and were based on it: 'The mansion of modern freedoms stands on an ever-expanding base of fossil fuel use. Most of our freedoms so far have been energy-intensive.'[49] And similar arguments can be made regarding other modern achievements. Indeed, the public institutions of modern societies – including the welfare state itself, which sought to pacify and constrain capitalism and which emerged from the great emancipatory struggles of the nineteenth and twentieth centuries – stabilize themselves through economic growth: they emerged within, contributed to, and are structurally dependent on expanding economies.[50] This includes institutions such as pension systems, health insurance, unemployment benefits, long-term care insurance, public education systems, universities, and public infrastructures (roads and railways, water and sewage pipelines,

48 Mitchell, *Carbon Democracy*.

49 Dipesh Chakrabarty, 'The Climate of History: Four Theses', *Critical Inquiry* 35, no. 2 (2009): 208.

50 Rosa, Lessenich, and Dörre, *Sociology, Capitalism, Critique*.

electricity and telecommunications networks). Increasing production created surpluses and thus facilitated struggles for the distribution of wealth, the shortening of working hours, and social security systems.[51] As also argued by Thomas Piketty, the structural tendency within capitalism to increase inequality could historically be counteracted in phases of high growth.[52] It must be noted, however, that these achievements, rights, and freedoms were not the direct outcome of capitalist growth, but rather resulted from struggles from below. As the economic historian Stefania Barca points out, '*health, wealth, longevity and security* are not the result of global trade and capital, but of those forces which have opposed them.'[53] Nonetheless, these struggles did occur within the context of economic growth and were fundamentally shaped by it – and this has important implications for a future beyond growth.

In the nineteenth and twentieth centuries, the economic and social model of an expansive modernity, characterized by growth, was thus not only very successful in material terms but also enabled rising and hitherto-unknown levels of social, political, and cultural achievements and rights, mostly within the early industrialized capitalist centres, but in parts also in emerging countries and globally. The fact that key democratic, social, and cultural rights were thus fought for in the context of expansive modernity, and that within the growth paradigm societal progress became conflated with GDP growth, has laid the foundation for a powerful common sense, based on lived experience, that social improvements do indeed require economic growth and the development of the productive forces. This applies in particular to the Fordist regime, which prevailed mainly in industrialized countries from the 1920s to the 1970s. Fordism was a social constellation of production methods and

51 See, for example, Bernd Sommer and Harald Welzer, *Transformationsdesign: Wege in eine zukunftsfähige Moderne* (München: Oekom, 2014); Rosa, Lessenich, and Dörre, *Sociology, Capitalism, Critique*; Imre Szeman and Dominic Boyer, eds., *Energy Humanities: An Anthology* (Baltimore: Johns Hopkins University Press, 2017).

52 Thomas Piketty, *Capital in the Twenty-First Century* (Cambridge, MA: Harvard University Press, 2014).

53 Stefania Barca, *Forces of Reproduction: Notes for a Counter-hegemonic Anthropocene* (Cambridge: Cambridge University Press, 2020), 17.

power relations based on standardized factory labour (largely male bread-winners), rising productivity (based on fossil fuels and standardization), and rising wages (enabling increasing mass-consumer markets to absorb the rising output), which temporarily pacified the conflict between capital and labour mainly in industrialized countries. The very high growth rates of this period helped to create consumer societies built around a work-and-spend ethics and ample markets to increase production, which was key for capital to expand – as put by Henry Ford himself: 'Cars don't buy cars'. At the same time, high growth rates did translate to a certain democratization of prosperity – it was the period in which Western lifestyles of building houses in suburbs, driving cars, and owning washing machines became dominant.[54] Today, even after decades of neoliberal welfare cuts and austerity, social memory of this era still powerfully links hopes of social improvement to growth.

This experience of the democratization of prosperity, which was powerfully associated with growth, became the formative experience of entire generations in industrialized countries. Recently, the term 'imperial mode of living' was introduced to describe how this way of life, which has great capacity to stabilize capitalist centres, requires an uneven, imperial global structure that ensures global access to cheap resources, energy, and labour, while at the same time externalizing its ecological costs to Global South regions and the future. Driven by the global spread of its media representation, the imperial mode of living, with all its fossil fuel–based comforts and capitalist consumer goods, also became a global dream for many, even in the peripheral regions, who had thus far laboured to provide the foundations of this prosperity but were excluded from its benefits (see section 3.7).[55] It is this experience of Fordist democratization of prosperity and its attachment to consumer lifestyles which the critique of growth today has to work its way through, at least in the early-industrializing countries. In fact, the legitimating narrative of the progressive nature of growth and the

54 Eric Pineault, 'From Provocation to Challenge: Degrowth, Capitalism and the Prospect of "Socialism without Growth"; A Commentary on Giorgios Kallis', *Capitalism Nature Socialism* 30, no. 2 (2018): 1–16.

55 Ulrich Brand and Markus Wissen, *The Imperial Mode of Living: Everyday Life and the Ecological Crisis of Capitalism* (London: Verso, 2021).

development of productive forces is so powerful that it also shapes the outlook of parts of the left. And the function of growth as a stabilizing mechanism remains one of its key justifications.

However, this common sense is increasingly eroding: contemporary growth since the 1970s is showing diminishing social returns. In the capitalist core, ever higher economic output has failed to translate into a proportionate increase in well-being; this growth has not led to more equality (except in parts of Asia), because the fruits of growth have largely been captured by a small global elite; and, most importantly, continuous growth and the spread of consumer-oriented lifestyles throughout the world are producing ever more visibly devastating ecological and social effects globally.[56] These make clear that while continuous growth stabilizes social conditions in the core – where the benefits accrue – and has the capacity to mediate contradictions between capital and labour through the redistribution of production and surplus, this constellation becomes increasingly precarious with economic conditions deteriorating for many, even in the centres. And it comes at a price. Such contradictions are actually displaced towards other spheres of life and to the Global South. In effect, the globalization of the 'imperial mode of living' threatens to destroy the very achievements on which its ideological power rests. Growth is a powerful stabilizing mechanism of capitalist modernity – yet it also destabilizes the ecological foundations of human life on this planet.

2.3. Growth as a material process

Growth, we have argued, is a culturally hegemonic idea in modern society. And growth is also a social process driven by accumulation, characterized not only by the relations internal to capitalism, such as capital and labour, exploitation, or alienation, but also by relations that define the *struggles on its frontiers, such as appropriation, externalization, and*

56 Lucas Chancel et al., *World Inequality Report 2022* (Harvard University Press, 2022); Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Greater Equality Makes Societies Stronger* (New York: Bloomsbury Press, 2011).

unequal exchange. Growth, as a social process, dynamically stabilized modern societies. In this section, we discuss growth as a material, biophysical process: the accelerating movement and use of more and more resources, energy, land, consumable goods like food or smartphones, and the resulting waste products and emissions – all of which are considered part of the 'social metabolism' of society. Going beyond critically analysing the ideology of growth and the monetary production economy, a critical theory of growth also includes analysing how growth appears in the material world, as a biophysical process, and how its expansive nature produces socio-ecological contradictions.[57]

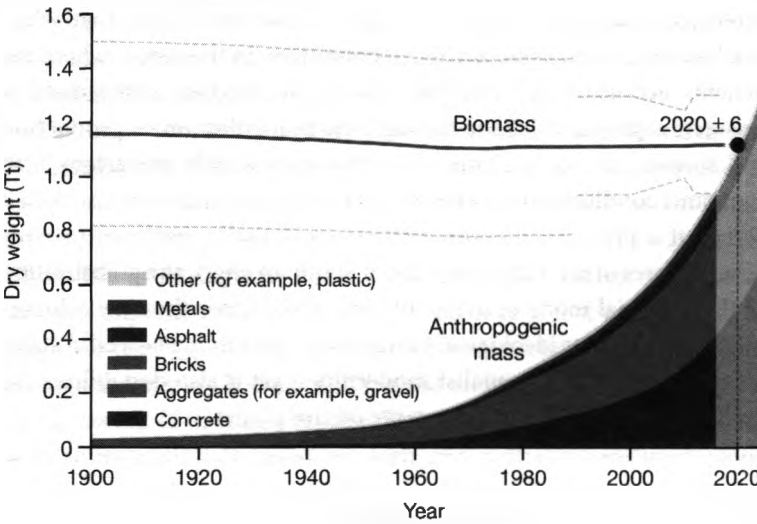

Figure 2.1. Biomass and anthropogenic mass estimates since the beginning of the twentieth century on a dry-mass basis. Source: Emily Elhacham, Liad Ben-Uri, Jonathan Grozovski, Yinon M. Bar-On, and Ron Milo, 'Global Human-Made Mass Exceeds All Living Biomass', *Nature* 588, no. 7838 (2020): 442–4.

57 John Bellamy Foster, *Marx's Ecology: Materialism and Nature* (New York: Monthly Review Press, 2000).

One way to get an impression of this material dimension of growth is through scientific analyses that measure the weight of all the mass of the objects produced by humans – from buildings and infrastructure to plastic bottles and smartphones. This research in industrial and political ecology has generated some striking results: since around 1900, this 'anthropogenic mass', which consists mainly of concrete, aggregates, bricks, asphalt, and metals, has increased rapidly, doubling roughly every twenty years (see Figure 2.1). Today, human-made stuff equal to each person's body weight is produced every single week for everyone alive globally. This 'anthropogenic mass', which at the beginning of the twentieth century accounted for only about 3 per cent of all biomass (all the trees, shrubs, other plants, animal bodies, and so on) on Earth, surpassed the overall biomass around the year 2020. The mass of produced plastics alone is double the mass of all the terrestrial and marine animals, including the bodies of humans.[58] How can we conceptualize this material dimension of economic growth – and what ecological and social repercussions does it have?

Accumulation as biophysical growth

Economic growth not only appears as the 'immense accumulation of commodities' – the ever-expanding stream of commodified things and beings and the social relations making these possible. Growth is also experienced as biophysical and material change and as the accumulation of stuff. This includes transformations in our environments, as – driven by rising demand for energy – coal mines swallow villages and forests in Germany, the oil industry destroys livelihoods in the Niger delta, or rare earth mining in northern China – critical for electric cars – produces radioactive earth dumps, poisoned groundwater, and replaces Indigenous

58 Emily Elhacham et al., 'Global Human-Made Mass Exceeds All Living Biomass', *Nature* 588, no. 7838 (2020): 442–4; see also Fridolin Krausmann et al., 'Global Socioeconomic Material Stocks Rise 23-Fold over the 20th Century and Require Half of Annual Resource Use', *Proceedings of the National Academy of Sciences* 114, no. 8 (2017): 1880–5; Heinz Schandl et al., 'Global Material Flows and Resource Productivity: Forty Years of Evidence', *Journal of Industrial Ecology* 22, no. 4 (2018): 827–38.

populations. Material growth is also experienced through ever larger cities, rising buildings, urban sprawl, or the construction of more highways. Or it appears as diverse agro-economic or pastural systems being continuously replaced by industrial agriculture, factory farming, or monocultural crop production for global agrobusiness.

To understand this biophysical dimension of growth, degrowth offers an analytical apparatus that builds on biophysical and ecological economics (see also section 3.1). Centrally, growth can be analysed as the flows of energy and matter that are passing through societies – extracted in some useful form, put to work or consumed, and eventually emitted as waste. In this metabolic process, these flows are not only sustaining human and non-human bodies, but also the infrastructures and material artefacts that humans have built, which require energy and materials to be sustained and are analysed as 'stocks'. From this ecological and materialist perspective, economic growth necessarily requires increasing throughput of energy and matter – a fact that tends to be disguised by the focus on GDP or 'the economy' in terms of monetary flows.[59] As will be discussed in more detail throughout the book, while efforts to dematerialize the economy through increased efficiency and the use of renewable energy and resources might change the equation somewhat, they cannot escape the necessary materiality of economic growth.[60]

The social metabolism of capitalism relies mainly on non-circular flows of energy and materials that constantly run through 'the economy' and build up as rising stocks or are released as waste. This means that for production to happen, energy and matter must be extracted at

59 Marina Fischer-Kowalski and Karl-Heinz Erb, 'Core Concepts and Heuristics', in *Social Ecology: Society-Nature Relations across Time and Space*, ed. Helmut Haberl et al., *Human-Environment Interactions* (Cham: Springer International Publishing, 2016), 29–61; Herman E. Daly and Joshua C. Farley, *Ecological Economics: Principles and Applications* (Washington: Island Press, 2011); Pineault, 'The Growth Imperative of Capitalist Society', Anke Schaffartzik et al., 'The Transformation of Provisioning Systems from an Integrated Perspective of Social Metabolism and Political Economy: A Conceptual Framework', *Sustainability Science*, 18 (2021).

60 Schandl et al., 'Global Material Flows'.

a 'source', which creates ecological effects such as the depletion of ecosystems. And after the throughput has been transformed and consumed, it is excreted as waste into a 'sink' and must be reintegrated into ecosystems and biological cycles. Again, this causes ecological and biogeochemical effects such as plastic waste polluting oceans or, most critically, carbon emissions driving the climate catastrophe. At sources and sinks, where capitalism encounters nature, the ecological contradictions resulting from accumulation and growth as a material process manifest most clearly – presenting both resistance to capital as well as opportunities for further innovation and renewal. Yet, as will be discussed in depth later, flows are subject not only to economic dynamics, but also to the laws of physics and thermodynamics – which has far-reaching repercussions for the prospects of infinite growth of throughputs, and thus also for the prospects of endless accumulation (see section 3.1).

Within capitalism, the flow of energy and matter through the economy must constantly be kept going or accelerated to increase the output of commodities and thus avert the ever-present spectre of overproduction. As argued by Eric Pineault, to absorb surplus capacity in the form of unused machines (fixed capital) or uninvested profits, output in mass consumer societies is managed in specific ways that allow for more growth:

> Commodities, even the most basic, are designed to maximize output consumption: they don't last long, they are overwrapped, they are disposable or they depend on energy and matter thirsty artefacts that households must collect to enjoy them ... It is not only that the output must be absorbed and consumed, but it must be consumed in such a way as to make room for the absorption of a continuously expanding output. This is growth.[61]

Of course, this material growth, which is driven by competitive efforts to impede the structural crisis of overaccumulation, has disastrous

61 Pineault, 'The Growth Imperative of Capitalist Society', 40. See also Foster, *Marx's Ecology*; Trentman, *Empire of Things*.

effects at both source and sink. New research has calculated the total amount of resources and energy that is wasted due to throughput being directed by accumulation; it concludes that every year the global economy 'mismanage[s] around . . . 49% of the food produced, 31% of the energy produced, 85% of ores and 26% of non-metallic minerals extracted, respectively'. Consequently, natural resources are being depleted, ecosystems are polluted, and livelihoods depending on these are destroyed.[62]

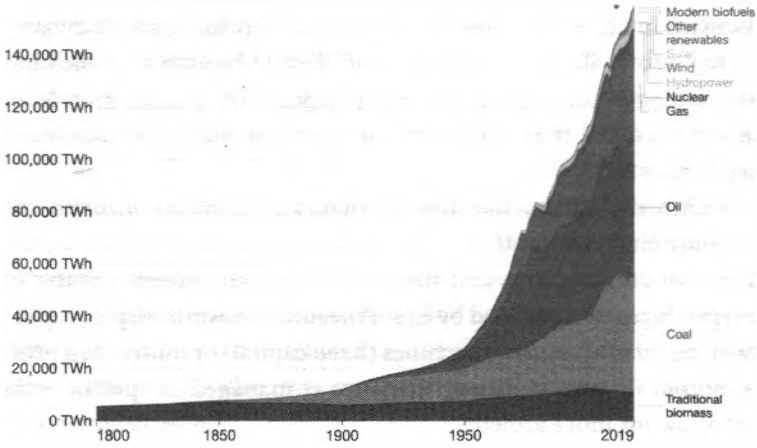

Figure 2.2. Global direct primary energy consumption. Even as renewables increase exponentially, they are dwarfed by increased use of fossil fuels. Source: Vaclav Smil, *Energy Transitions: Global and National Perspectives* (Santa Barbara: Praeger, 2017), and BP Statistical Review of World Energy; Our World in Data, https://ourworldindata.org/grapher/global-primary-energy.

62 Marín-Beltrán et al., 'Scientists' Warning against the Society of Waste', *Science of the Total Environment* (2021), 151359. See also section 3.1.

Fossil fuels play a particularly central role in the social metabolism of capitalism.[63] Previous societies were dependent on renewable forms of energy. These are ultimately derived from solar energy concurrently in circulation – mostly biomass and land, but also wind and water, and are limited in their ability to scale up production and cannot easily be transported. Thus, people were primarily dependent on available land, biological processes, the specific temporality of plant and animal life, and unchangeable phenomena such as the weather. Fossil fuels fundamentally transformed all that – by giving access to the stored energy of millennia of past photosynthesis, these underground reserves provided an extremely concentrated, powerful, and cheap form of energy. Thus, the entire dynamic of capitalism changed when, in the early nineteenth century, British industrialists started to systematically use coal to fire steam engines. By creating a powerful 'prime mover' that over time came to power anything from the spinning jenny in the cotton factory to Elon Musk's spacecraft, a particularly dynamic and expansive social formation was unleashed: 'fossil capitalism'.[64]

Fossil fuels made it possible to produce increasingly independently of time and space by enabling a constantly available flow of highly concentrated energy that could be increased almost at will, regardless of the specificities of a location. It thus dramatically increased the power of capitalists over the workforce and the production process, which could move wherever labour was cheap and obedient. It also provided the material and energetic basis not only for the expansion of industrial wage labour, but also a previously unknown increase in productivity, an entire range of new mass-produced materials such as steel, cement, and plastic and new forms of increasingly rapid mobility.[65] During the nineteenth and twentieth centuries, the continuously increasing use of fossil fuels has fundamentally transformed almost all areas of modern societies – from the way we live, fight wars, or grow food to the specific forms of nation-states and

63 Elmar Altvater, 'The Growth Obsession', *Socialist Register* 38 (2009): 73–92.

64 Malm, *Fossil Capital.*

65 Cara Daggett, *The Birth of Energy: Fossil Fuels, Thermodynamics, and the Politics of Work* (Durham: Duke University Press, 2019); Ghosh, *The Nutmeg's* Curse; Osterhammel, *The Transformation of the World*; Radkau, *Nature and Power.*

geopolitics, gender roles, or the prevalent 'carbon culture'.[66] Fossil fuels have powered not only economic expansion during this period, but also the increase in societal throughput and the acceleration of other core variables of the Earth system and related social trends. The capitalism of continuous economic growth that we know is fundamentally a fossil capitalism. And while renewable energy has grown exponentially in recent years, this is still comparatively minor and partly offset by the simultaneous growth of fossil fuel energy – instead of a global energy transition, we are largely seeing energy additions (see Figure 2.2).[67]

The great acceleration and ecological crises

The material and social dynamics ushered in by this economic expansion are often illustrated with the now iconic 'great acceleration' graphs. Scientists have calculated and visualized a series of socio-economic and Earth system trends between the years 1750 and 2010.[68] They show that sustained growth in its various dimensions is a relatively new phenomenon. Only since the nineteenth century have key measurable variables – such as population, water consumption, fertilizer consumption, urbanization, the construction of dams, transport, and so on – begun growing significantly. This process accelerated even more in the middle of the twentieth century, and its trajectory remains largely unbroken to the present day (see Figure 2.3). To understand the trends of the great acceleration, we need to interpret them not only in relation to the physical growth of societies, but as resulting from the dynamics of accumulation as discussed in the previous sections.[69]

66 Cara Daggett, 'Petro-Masculinity: Fossil Fuels and Authoritarian Desire', *Millennium* 47, no. 1 (2018): 25–44; Bob Johnson, *Carbon Nation: Fossil Fuels in the Making of American Culture* (Lawrence, KS: University Press of Kansas, 2014); Mitchell, *Carbon Democracy*.

67 On this aspect, see in particular the works by Vaclav Smil. For example, Vaclav Smil, *Energy Transitions: Global and National Perspectives* (Santa Barbara: ABC-CLIO, 2017); Vaclav Smil, *Growth: From Microorganisms to Megacities* (Cambridge: MIT Press, 2020).

68 Steffen et al., 'Trajectories of the Earth System'. See also Smil, *Growth*.

69 Christoph Görg et al., 'Scrutinizing the Great Acceleration: The Anthropocene and Its Analytic Challenges for Social-Ecological Transformations', *Anthropocene Review* 7, no. 1 (2020): 42–61.

This great acceleration has irreversibly changed human life and planet Earth. The concept of the 'Anthropocene', coined by Paul Crutzen and embraced by natural scientists, ecologists, geologists, and historians, describes the age in which humanity itself has become the dominant geological force on Earth. But it is not the abstract 'anthropos' (human being) who is responsible for ecological changes or who has produced them, but a specific mode of (re-)production based on growth and expansion. Some therefore speak of a 'capitalocene' or 'growthocene'.[70] And despite efforts to delink the growth of GDP from material growth (emissions, material throughput, and energy use), these trends have continued to go up in the aggregate, quickly pushing the global Earth system beyond the limits recommended by scientists.

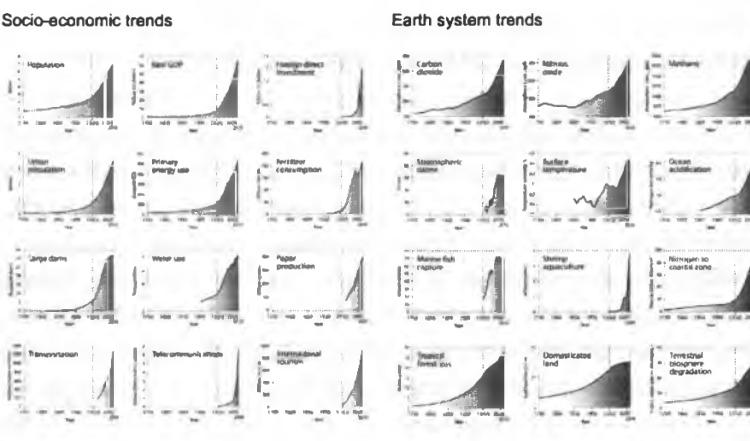

Figure 2.3. The great acceleration. Source: Will Steffen, Wendy Broadgate, Lisa Deutsch, Owen Gaffney, and Cornelia Ludwig, 'The Trajectory of the Anthropocene: The Great Acceleration', *Anthropocene Review* 2, no. 1 (2015): 81–98.

70 Jason W. Moore, 'The Capitalocene, Part I: On the Nature and Origins of Our Ecological Crisis', *Journal of Peasant Studies* 44, no. 3 (2017): 594–630; Andreas Malm and Alf Hornborg, 'The Geology of Mankind? A Critique of the Anthropocene Narrative', *Anthropocene Review*, no. 1 (2014): 62–9; Chertkovskaya and Paulsson, 'The Growthocene'.

Indeed, a multiplicity of studies show clearly that most of these trajectories of material growth cannot continue. Already in 1972, the 'Limits to Growth' report to the Club of Rome used an at-the-time ground-breaking computer model to show that continuous rates of growth of economic and material variables would most likely lead to the depletion of key resources by the 2030s. The material limits to growth, this much-discussed report stated, would also imply limits to economic growth in general. In the decades since, different groups of scientists have repeated the modelling from the report with contemporary data and showed that with the exception of some aberrations, current data map quite accurately to the models from 1972.[71] Since then, more and more scientific evidence has cast doubt on the prospects of continuous biophysical growth over the next decades – the growth of stocks and flows of human-made matter, or of the use of energy. This research strengthened the claim that physical limits will eventually also imply an end to economic growth itself.[72]

In 2009, Johan Rockström's team at the Stockholm Resilience Centre identified nine different 'planetary boundaries' – thresholds which, when crossed, would trigger unpredictable ecological breakdown. Research has since shown that the global economy has already crossed five: *irreversible* climate change, *mass* species extinction, *excessive* land use, the *overburdening* of the nitrogen cycle, and *pollution* by novel entities including plastics and chemicals. The global transformation of nature has already exceeded the 'safe operating space for humanity'. Regarding the other four boundaries – ocean acidification, the depletion of the stratospheric ozone layer, and global freshwater usage – only regional overuse has

71 Tim Jackson and Robin Webster, *Limits Revisited: A Review of the Limits to Growth Debate* (London: All-Party Parliamentary Group on Limits to Growth, 2016); Graham Turner, *A Comparison of The Limits to Growth with Thirty Years of Reality*, Socio-economics and the Environment in Discussion Working Paper Series (Canberra: CSIRO Sustainable Ecosystems, 2008); Gaya Herrington, 'Update to Limits to Growth: Comparing the World3 Model with Empirical Data', *Journal of Industrial Ecology* 25, no. 3 (2021): 614–26.

72 Helmut Haberl et al., 'Contributions of Sociometabolic Research to Sustainability Science', *Nature Sustainability* 2, no. 3 (2019): 173–84; Görg et al, 'Scrutinizing the Great Acceleration'; Schandl et al., 'Global Material Flows'; Jackson, *Prosperity without Growth*; Hickel, *Less Is More*.

occurred thus far, but the situation is deteriorating.[73] Exceeding only two of these planetary boundaries – namely, climate change and the loss of biodiversity – has the potential to fundamentally destabilize the Earth system. However, it must be noted that these planetary 'boundaries' are not absolute barriers whose transgression immediately leads to general ecological catastrophes or the end of growth. In particular, the significance of these boundaries is fiercely contested because they affect people very differently, above all depending on their geographical location and their positions in relations of power and domination. However, they do provide a good indication of which systems we are pushing to their limits, beyond which we end up in a future of uncharted, non-linear tipping points. These scientific, empirically rigorous findings justify the conclusion that it is well past time for wide-scale, assertive, and comprehensive action. And, if they were to be reconceptualized as 'societal boundaries' resulting from capitalist social relations, they demonstrate how societies can react differently to these boundaries, including through self-limitation.[74]

Even just to limit climate change driven by human activity – which alone could endanger the survival of large parts of the future human race and other living beings – greenhouse gas emissions must be reduced to zero in less than three decades. A formidable challenge, given the centrality of fossil fuels to the social metabolism of capitalism discussed above. Yet, even if this were to happen, it is uncertain whether self-reinforcing feedback cycles would not continue to drive the Earth system beyond planetary tipping points, preventing climate stabilization and leading to continuous warming and a 'hothouse Earth'.[75]

But it is not just climate change that we are up against. The great

73 Kate Raworth, *Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist* (White River Junction, VT: Chelsea Green Publishing, 2017); Johan Rockström et al., 'A Safe Operating Space for Humanity', *Nature* 461, no. 7263 (2009): 472–5 ; Linn Persson et al., 'Outside the Safe Operating Space of the Planetary Boundary for Novel Entities', *Environmental Science and Technology* 56, no. 3 (2022): 1510–21.

74 Brand et al., 'From Planetary to Societal Boundaries'.

75 Will Steffen et al., 'Trajectories of the Earth System in the Anthropocene', *Proceedings of the National Academy of Sciences* 115, no. 33 (2018): 8252–9.

acceleration is affecting all aspects of human–nature interactions – from our water systems to the air we breathe, biodiversity, soil health, the sixth mass extinction, and increased risk of zoonosis, where encroachment into animal habitats leads to novel viral strains causing global pandemics. The writer Charles Eisenstein calls this process a 'death of a thousand cuts',[76] where climate change itself is just one aspect of the multi-faceted degradation of global ecosystems.

Of course, these are only some of the most prominent frameworks that analyse how growth as a biophysical process is disrupting biogeochemical natural systems, approaching, or even surpassing dangerous and partly irreversible tipping points. Yet there is clear and mounting evidence that this process of material expansion – which began with the beginning of industrial, fossil fuel–driven capitalism and accelerated in the 1950s, coinciding with the development of the growth paradigm – is today running up against multiple limits. One of the most distinct signs of the approaching limits is the rising social resistance against the ideology of growth, against social dynamics of accumulation, and against their material form – biophysical growth. People all around the world are resisting, as part of a diverse and growing network of movements against environmental injustice: land defenders, peasants, workers, and Indigenous peoples fighting against successive incursions on their land, against extraction of resources, against demeaning and alienating jobs, and for collectively defined self-limitations and a just transition to a dignified and ecologically sustainable economy.[77]

2.4. The end of growth?

What is the future of growth? Of course, no one knows. But the idea that the global economy will continue to grow at 3 per cent each year,

76 Charles Eisenstein, *Climate: A New Story* (Berkeley: North Atlantic Books, 2018).

77 See the Environmental Justice Atlas, at ejatlas.org; John Robert McNeill and Peter Engelke, *The Great Acceleration: An Environmental History of the Anthropocene since 1945* (Cambridge, MA: Harvard University Press, 2016); Brand et al., 'From Planetary to Societal Boundaries'.

thus matching some projections and the expectations of what is considered 'normal' in economics and public discourse, might turn out not only to be a nightmare (ecologically, but also for many other reasons, as discussed in the next chapter) but also a fantasy. Compounding a 3 per cent annual growth doubles the size of the economy every twenty-four years and, by the end of this century, would lead to a global economy eight times larger. How this can be squared with ecological and social limits is difficult to conceive.

However, since the 1970s, economic growth itself has started slowing, beginning in the early industrialized countries. In the US, Europe, and Japan, growth rates have been declining significantly since the 1970s, a process discussed as 'secular stagnation' by economists. The reasons for this are manifold and intertwined. They range from the political structural break from social welfare states towards the neoliberal model, to the tendencies for markets for goods to be saturated, intensified international competition, declining productivity growth, and the financialization of the global economy. Another important factor has been rising resource prices – it is no coincidence that secular stagnation was triggered by the oil crisis of the 1970s. And since the global economy has now become a behemoth, relative growth can only be achieved with ever greater expenditure on materials and energy, which is becoming ever more expensive to provide, in particular with declining rates of productivity.[78] In the long run, the economy does not seem to be developing in the way of the 'hockey stick' we have become accustomed to – stagnating for much of human history and then accelerating into a continuous and almost vertical ascent, like the curve of a 'J'. Instead, the regions in which capitalist industrialization began earliest now show a transition to a trajectory that can be more adequately described as an 'S'-curve, in which acceleration slows down and finally comes to a standstill. It could be that, in the long term, the rapid growth of parts of the world economy between the nineteenth and twentieth centuries turns out to be a historical exception.[79]

78 Robert J. Gordon, *Rise and Fall of American Growth: The U.S. Standard of Living since the Civil War* (Princeton, NJ: Princeton University Press, 2016).

79 Borowy and Schmelzer, *History of the Future of Economic Growth*; Barry

But also in the short term, the future of growth is uncertain – not only given the crisis-tendencies inherent to the social process of accumulation, but also due to the various ecological, social, and material limits of growth. As we look towards the next decades, we will be facing multiple, simultaneous crises, each a result of a global economy based on growth – and increasingly one based on growth in crisis. On the one hand, we are already facing economic stagnation, which is sending tremors through the system of 'dynamic stabilization' and upending the expectations of those enjoying an 'imperial mode of living', leading to new forms of popular reaction in industrialized and middle-income countries, as well as increasing social divisions. On the other hand, our current energy system, based on fossil fuels, is fast causing a breakdown in the stability of the climate – itself a foundational precondition for welfare, prosperity, and even the very existence of complex human societies. Beyond climate change largely caused by carbon emissions, many parts of the world are facing ecological breakdown and public health crises due to ecosystem degradation, pollution, and high levels of toxicity in food and the environment. All these ecological crises hit the poorest – as well as those oppressed by intersectional hierarchies such as race, class, and gender – first and hardest. These multiple crises are the result of a system dependent on, and driven by, growth.

The main objection to the analyses presented here, which highlights how intricately interwoven the material dimension of growth is with the social process of accumulation, posits that while growth might have been very material and destructive in the past, it is already and can further be dematerialized in the future. The hope is that by shifting to renewable energies, increasing energy and resource efficiency, and through recycling, GDP can be decoupled fast enough from both the use of resources (the 'source' problems) and the creation of waste and emissions (the 'sink' problems). And all of this is already happening in some industrialized countries, the narrative of green, dematerialized, and cyclical growth

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Eichengreen, 'Secular Stagnation: A Review of the Issues', in *Secular Stagnation: Facts, Causes and Cures*, ed. Richard Baldwin and Coen Teulings (London: CEPR Press, 2014), 41–6; Jackson, *Prosperity without Growth*; Schmelzer, *The Hegemony of Growth*.

claims. However, this hope is based on false assumptions and lacks evidence. While research shows how carbon emissions, GDP, and material footprint have become slightly less coupled, they are still all increasing at a critically dangerous rate (see Figure 2.4). As will be discussed in detail throughout the book (in particular, section 3.1), all the signs of dematerialization or decoupling, as welcome as they are, are simply not enough – growth is still sending us over a cliff.

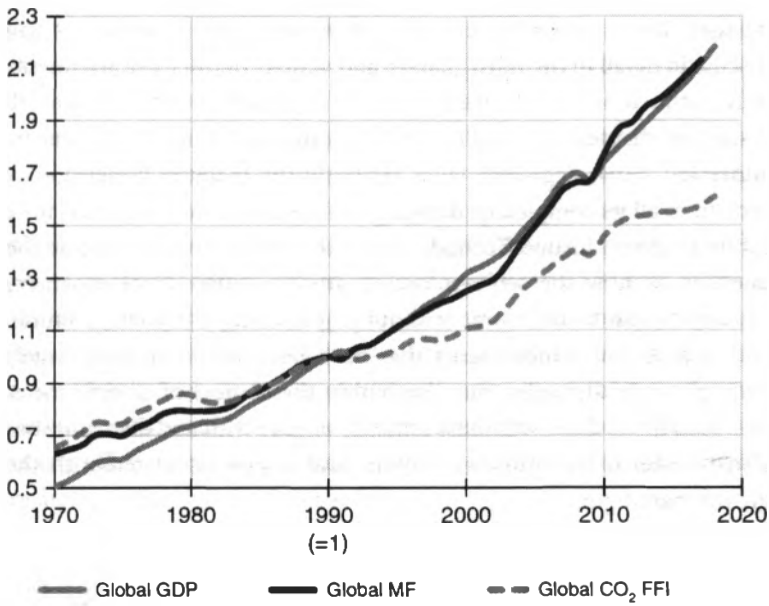

Figure 2.4. Relative change in key global economic and environmental indicators from 1970 to 2017. The graph shows how the global material footprint (MF, equal to global raw material extraction) and global CO_2 emissions from fossil fuel combustion and industrial processes (CO_2 FFI) changed compared with global GDP (constant 2010 USD). Indexed to 1 in 1990. Source: Thomas Wiedmann, Manfred Lenzen, Lorenz T. Keyßer, and Julia K. Steinberger, 'Scientists' Warning on Affluence', *Nature Communications* 11, no. 1 (2020): 1–10.

In this chapter, we have discussed growth as expanding social metabolism of society with nature, which in ever faster rhythms allows more and more resources to flow through 'the economy' and remain as waste and emissions. We have also discussed growth as a social process of mutually reinforcing and dynamically stabilizing forces of acceleration, escalation, and intensification. And we analysed growth as an ideology, focusing on the making and power of the growth paradigm. With regard to each of these, growth ultimately undermines the foundations on which it is based. Yet the hegemony of the growth idea still persists. This is where the critiques of growth come in, which we will discuss in detail in the third chapter and which continue the arguments only outlined here. For a transition to a degrowth society – as we will discuss in chapters 4, 5, and 6 – all three dimensions of growth must be addressed. First, degrowth takes seriously the material dimension of growth in all its complexity, drawing attention to what this means for a future of global justice. Second, degrowth must seriously examine the question of how the self-reinforcing growth dynamics of expansive modernity can be overcome without jeopardizing the social, cultural, and democratic achievements that have been accomplished, largely through social struggles, but also within the context of growth societies. And third, degrowth must critically engage with and dismantle but also transform the promises, myths, and hopes associated with the growth paradigm.

BLOG

Undoing the Ideology of Growth: Hegemony, Path Dependencies and Power in the History of the Growth Paradigm

By: Matthias Schmelzer 07.07.2016

Share on the corporate technosphere

Degrowth aims at undoing growth. Undoing growth both at the level of social structures and social imaginaries. Although the focus is very often on the latter, i.e. the "decolonization of imaginaries" as put by Serge Latouche, the degrowth perspective still seems to lack a comprehensive understanding of the role of ideology, the path dependencies and the power that shape these imaginations. Degrowth and related transition ideas sometimes appear as a rather naïvely idealistic perspectives, in which "we" simply have to understand, reflect and overcome our "mental infrastructures" and our personal addictions to consumerism and material expansion. This, the powerful narrative goes, will enable us to change our ways of seeing the world, to change our personal behaviour, and thus to overcome societies´ dependence on fossil capitalism and economic

expansion.

My recently published book *The Hegemony of Growth. The OECD and the Making of the Growth Paradigm* is an attempt to give more historical and social depth to our understanding of what the undoing of growth would actually entail. Without falling in the opposite trap of entirely disregarding the role of knowledge and collective imaginaries in favor of economic and social structures, I propose to understand the growth paradigm as a historically constructed and powerfully hegemonic ideology. What do I mean by this and what are the key arguments of the book?

Economic growth has become and largely remains what scholars from various fields, including renowned historians, have described as a "fetish" (John R. McNeill) or "obsession" (Barry Eichengreen, Elmar Altvater), an "ideology" (Alan Milward, Charles S. Maier), a "social imaginary" (Cornelius Castoriadis, Serge Latouche), or an "axiomatic necessity" (Nicholas Georgescu-Roegen). However, while growth is at the center of both public and academic debates, the question of how economic growth actually attained its status as an overarching priority in the first place has not received much attention by historians, nor by researchers in other disciplines. Even more striking is the absence of any historical perspective in the various current efforts to overcome the focus on growth. Both the search for new statistical measures "Beyond GDP" and the lively debates about political alternatives to the growth fetish – postgrowth or degrowth – are fundamentally a-historical in that they largely ignore and underestimate the long-term historical roots, path dependencies, and power relations of statistical standards and the growth paradigm more generally.

Why focus on history and the OECD?

I took up this challenge by asking the simple question: How did economic growth come to be almost universally seen as a self-evident goal of economic policy-making and how was this constantly reproduced in changing circumstances? In order to answer this question in a transnational context and grounded in historical and institutional developments, I focused on the emergence and evolution of knowledge about economic growth within the OECD and its predecessor, the Organization for European Economic Co-operation (OEEC), one of the least researched international organizations. I researched the archives of this organization and of some of its key member countries, read texts by key protagonists on growth theory, growth debates and the critique of economic growth, and discussed my arguments with colleagues and fellow activists. Digging deep into history and analyzing growth-thinking at the transnational level and

the interface of academia, national bureaucracies, and international organizations reveals the complex and contested history and politics behind the emergence, functioning, and evolution of what I describe as the "economic growth paradigm."

The resulting book is both profoundly historical – retelling in detail the making and remaking of the growth paradigm in the second half of the twentieth century – and topical for current discussions around inequality, climate change and the end of growth. It argues that the pursuit of economic growth is not a self-evident goal of industrialized countries' policies, but rather the result of a very specific ensemble of discourses, economic theory, and statistical standards that came to dominate policy-making in industrialized countries under certain social and historical conditions in the second half of the twentieth century. Thus, I aim at analyzing the idea of economic growth in its historical genesis in a similar way as this has been done with regard to the idea of "development" by cultural anthropologists of the so-called Post-Development school, focusing on the close nexus of power and knowledge. It rests on the thesis that the exceptional position of economic growth as a core policy goal is based on the hegemony of the growth paradigm and cannot be adequately understood without taking into account the complex structure and historical evolution of this paradigm.

The growth paradigm in the history of capitalism

The making of this core feature of the religion of capitalism has to be situated within longer-term developments that reach back to the onset of intensified capitalist industrialization in the early eighteenth century or even further, to colonial expansions. At that time, a secularized conception of economic progress and a first generation of classical growth theories emerged which, however, fell into oblivion with the rise of econometrics and neoclassical economics in the later nineteenth century. Building on statistical developments in the early twentieth century, it was only in the context of the Great Depression that a renewed interest in macroeconomic questions gave rise to the modern conception of "the economy" and to interventionist economic policies geared toward stability and employment. Yet it was not before the late 1940s and early 1950s that in the context of World War II, European reconstruction and Cold War competition, economic expansion became a key policy goal throughout the world.

The growth paradigm emerged as part of what has been called "high modernism," a system of beliefs and practices aimed at increasing the power of the state in line with what was believed to be scientific ideas in order to reshape societies by maximizing production to

improve the human lot. Four unquestioned allegations were specifically relevant in reinforcing the hegemony of growth and collectively rationalized, universalized, and naturalized the growth paradigm. These assumed that GDP, with all its inscribed reductions, assumptions, and exclusions, adequately measures economic activity; that growth is a panacea for a multitude of (often changing) socioeconomic challenges; that growth is essentially unlimited, provided the correct governmental and inter-governmental policies were pursued; and that GDP-growth is practically the same as or a necessary means to achieve essential societal goals such as progress, well-being, or national power.

Growth as ideology – an "imaginary resolution of real contradictions"

The growth paradigm became hegemonic in the sense of justifying and sustaining a particular perspective – the allegations mentioned above – and the underlying social and power relations as natural, inevitable, and timeless. Growth came to be presented as the common good, thus justifying the particular interests of those who benefited most from the expansion of market transactions as beneficial for all. The hegemony of growth depoliticized key societal debates about what societies value, how they interpret their current position historically and within the globalized economy, and how they conceptualize the good life and future developments. Growth turned difficult political conflicts over distribution and the goals of policy-making into technical, non-political management questions of how to collectively increase the economic output of the nation state. By transforming class and other social antagonisms into apparent win-win situations, it provided what could be called an "imaginary resolution of real contradictions" (Terry Eeagleton).

Economic growth and the superiority of economists

Moreover, by transforming contested and changing societal goals into technical economic problems, growth discourses have deeply colonized our imaginaries: they not only reinforced the dominance of economic thinking and arguments by turning political or social questions into economic problems (what could be called "economism"), but they also strengthened the privileged positions of economic technocrats within modern societies and underpinned the primacy of the economy over politics. Growthmanship was mutually reinforced along with the increasing importance of economic knowledge production as a key justificatory basis for policy-making

within the modern state. The economists' ability to measure, model, and steer growth made them increasingly indispensable for managing modern societies based on growth and thus reinforced the "superiority of economists" just as the expansion of economic approaches also strengthened the growth paradigm. Even though the mid-twentieth century saw the proliferation of growing armies of experts, ranging from international relations theorists to demographers, anthropologists, sociologists to agronomists, economists were the only ones who managed to claim the mastery over what had become a fetish throughout the world: economic growth.

These arguments – and others – are weaved into the various case studies discussed in the chapters of the book. These focus on issues such as the international standardization of national income accounting, the transnational harmonization of growth policies, the development of growth into a universal yardstick, the replication of growth policies in the context of decolonization and the 'development of others,' the OECD-Club of Rome nexus, the birth of environmental politics and social indicators, as well as the more recent turn to neoliberal growthmanship.

To conclude, overcoming the ideology of growth – or what's recently been called the "growthocene" – demands a thorough understanding of what we are up against. The degrowth movement set out to dismantle a paradigm that has deep historical roots and is embedded in and thus supported by powerful institutions and structures such as the nation state, capitalism, established understandings of "the economy", or the power of economists in societies. Most importantly, however, growth has arguably become one of the key justificatory ideologies of capitalism. Not only large scale inequalities – as recently publicized by Thomas Piketty – and the divergence of uneven development between rich and poor nations are justified as of a temporary nature, to be overcome by more growth in the future, but similarly societal cleavages along the lines of class, *race* and gender. With climate change, resource limits, and secular stagnation, this make-believe "resolution of real contradictions" reveals itself as clearly "imaginary." Consequently, in order to dismantle the hegemony of growth, degrowth has to develop a profound and critical understanding of the real societal contradictions, hierarchies and power dynamics shaping capitalism and transform them in new ways.

About the author

Matthias Schmelzer

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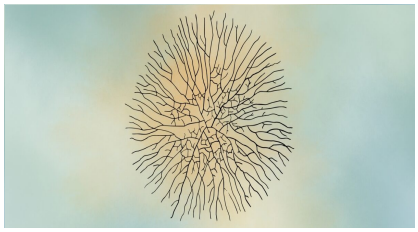
BLOG

Call for the 6th International Degrowth Conference!

The Call for the 6th International Degrowth Conference is now open. The international conferences on degrowth are central landmarks and moments of convergence of the international degrowth intellectual and social movements. They offer an unique opportunity for bringing together scholars with other members of civil society and demonstrating a different way of organizing conferences. A central…

STRATEGY

Degrowth as a metaphor for change



By: Wendy Harcourt

As we look back on 2020 we see how Covid-19 has made it starkly clear to all of us that globally something is deeply, systemically wrong. As Arundhati Roy stated a portal has opened that demands we change our lives. Those of us cocooned at home working on zoomland, or those of us struggling with economic uncertainty and compromised health, have become even more aware of how important relations …

STRATEGY

An Open Letter to the Degrowth Movement

By: Chris Conrad

The degrowth movement should shift trajectories, dramatically, as soon as possible. In what direction? Political science research, and direct organizing. I'm an undergraduate political science student in the US. In the last year, I've consumed a huge chunk of literature on degrowth. I have deep respect and admiration for the work done by the folks at Research and Degrowth (R&D), the …

1

A Lamp Falls

To this day nobody knows exactly what transpired in Selamon on that April night, in the year 1621, except that a lamp fell to the floor in the building where Martijn Sonck, a Dutch official, was billeted.

Selamon is a village in the Banda archipelago, a tiny cluster of islands at the far southeastern end of the Indian Ocean.[1] The settlement is located at the northern end of Lonthor, which is also sometimes referred to as Great Banda (Banda Besar) because it is the largest island in the cluster.[2] "Great" is a somewhat extravagant epithet for an island that is only two and a half miles in length and half a mile in width— but then, that isn't an insignificant size in an archipelago so minute that on most maps it is marked only by a sprinkling of dots.[3]

Yet here is Martijn Sonck, on April 21, 1621, halfway around the world from his homeland, in Selamon's *bale- bale*, or meeting hall, which he has requisitioned as a billet for himself and his counselors.[4] Sonck has also occupied the settlement's most vener able mosque— "a beautiful institution," made of white stone, airy and clean inside, with two large urns of water positioned at the entrance for congregants to wash their feet before stepping in. The elders of the village haven't taken kindly to the seizure of

their mosque, but Sonck has brusquely brushed aside their protests, telling them they have plenty of other places to practice their religion.

This is of a piece with everything else that Sonck has done in the short while that he has been on Lonthor Island. He has seized the best houses for his troops, and he has also sent soldiers swarming over the village, terrifying the inhabitants. But these measures are mere preliminaries, intended only to lay the groundwork for what Sonck actually has in mind: he has come to Selamon under orders to destroy the village and expel its inhabitants from this idyllic island, with its lush forests and sparkling blue seas.

The brutality of this plan is such that the villagers have not, perhaps, been able to fully comprehend it yet. But the Dutchman, for his part, has made no secret of his intentions; to the contrary, he has made it perfectly clear to the elders that he expects their full cooperation in the destruction of their own settlement and the expulsion of their fellow villagers.

Nor is Sonck the first Dutch official to deliver this message to Selamon. The villagers, and their fellow Bandanese, have already endured several weeks of threats and shows of force, always accompanied by the same demands: that they tear down the village's walls, surrender their arms and tools— even the rudders of their boats— and make preparations for their imminent removal from the island. The demands are so extreme, so outlandish, that the villagers have, no doubt, wondered whether the Dutchmen are in their right minds. But Sonck has been at pains to let them know that he is in earnest: his commanding officer, none other than the governor- general himself, has run out of patience. The people of Selamon will have to obey his orders down to the last detail.

* * *

HOW MUST IT FEEL to find yourself face- to- face with someone who has made it clear that he has the power to bring your world to an end, and has every intention of doing so?

Over the preceding couple of decades the people of Selamon, and their fellow Bandanese, have resisted the Dutch to the best of their abilities; on occasion they have even been able to drive the Europeans away. But they have never had to face a force as large and as well- armed as the one that Sonck has brought with him. Outmatched, they have tried hard to appease Sonck to the best of their ability: while some villagers have fled into the neighboring forests, a good many have stayed on, perhaps hoping that a mistake has been made and that the Dutch will leave if they manage to hold out.

Those who have remained, many of whom are women and children, have taken care not to give the Dutchmen any excuse for violence. But Sonck has a mission to carry out, one to which he is not particularly well suited— he is a revenue official, not a soldier— and he is probably beset by a feeling of inadequacy. In the villagers' quiescence he senses a seething anger, and he wishes, perhaps, that they would give him an excuse, some pretext for what he needs to do next.

On the night of April 21, when Sonck retires to Selamon's commandeered meeting house with his counselors, his state of mind is very precarious. There is so much tension in the air that the silence seems to augur a seismic eruption.

The atmosphere is such that for someone in Sonck's state it is impossible, perhaps, to see the falling of an object as an ordinary mishap— it has to be a sign of something else, betokening some sinister intent. So when the lamp falls, Sonck jumps instantly to the conclusion that it is a signal, intended to trigger a surprise attack on himself and his soldiers. He and his panicked counselors snatch up their firearms and begin shooting at random.

It is a dark night, "as dark as only an Indies night without moonlight can be." In such conditions, when nothing is visible, it is easy to imagine the seething presence of a ghostly army. Sonck and his counselors keep unloosing barrage after barrage at their invisible enemy, startling even their own guards, who have seen no sign of an attack.

THE BANDA ISLANDS sit upon one of the fault lines where the Earth shows itself to be most palpably alive: the islands, and their volcano, are among the offspring of the Ring of Fire that runs from Chile, in the east, to the rim of the Indian Ocean, in the west. A still active volcano, Gunung Api ("Fire Mountain"), towers above the Bandas, its peak perpetually wreathed in plumes of swirling cloud and upwelling steam.

Gunung Api is one of a great number of volcanoes in this stretch of ocean; the surrounding waters are dotted with beautifully formed, conical mountains that surge majestically out of the waves, some of them rising to heights of a thousand meters or more. The very name of the region, Maluku (which gave birth to the English toponym "Moluccas"), is said to derive from *Molòko*, a word that means "mountain" or "mountain island."[5]

The mountain islands of Maluku often erupt with devastating force, bringing ruin and destruction upon the people who live in their vicinity. Yet there is also something magical about these eruptions, something akin to the pain of childbirth. For the eruptions of Maluku's volcanoes bring to the surface alchemical mixtures of materials which interact with the winds and weather of the region in such a way as to create forests that teem with wonders and rarities.

In the case of the Banda Islands the gift of Gunung Api is a botanical species that has flourished on this tiny archipelago like nowhere else: the tree that produces both nutmeg and mace.

The trees and their offspring were of very different temperaments. The trees were home- loving and did not venture out of their native Maluku until the eighteenth century. Nutmegs and mace, on the other hand, were tireless travelers: how much so is easy to chart, simply because, before the eighteenth century, every single nutmeg and every shred of mace originated in, or around, the Bandas. So it follows that any mention of nutmeg or mace in any text, anywhere, before the 1700s automatically establishes a link with the Bandas. In Chinese texts those mentions date back to the first century before the Common Era; in Latin texts the nutmeg appears a century later.[6] But nutmegs had probably reached Europe and China long before writers thought to mention them in texts. This was certainly the case

in India, where a carbonized nutmeg has been found in an archaeological site that dates back to 400– 300 BCE. The first reliably dated textual mention (which is actually of mace) followed two or three centuries later.[7]

Of this there can be no doubt, at any rate: nutmegs had traveled thousands of miles across the oceans long before the first Europeans reached Maluku.[8] It was these journeys that ultimately brought European navigators to Maluku; they came because plant products like nutmegs had already traveled in the other direction, long before them.[9]

As they made their way across the known world, nutmegs, mace, and other spices brought into being trading networks that stretched all the way across the Indian Ocean, reaching deep into Africa and Eurasia.[10] The nodes and routes of these networks, and the people who were active in them, varied greatly over time, as kingdoms rose and fell, but for more than a millennium the voyages of the nutmeg remained remarkably consistent, growing steadily in both volume and value.

Apart from their culinary uses, nutmegs, cloves, pepper, and other spices were valued also for their medicinal properties.[11] In the sixteenth century, the value of the nutmeg soared when doctors in Elizabethan England decided that the spice could be used to cure the plague, epidemics of which were then sweeping through Eurasia.[12] In the late Middle Ages, nutmegs became so valuable in Europe that a handful could buy a house or a ship.[13] So astronomical was the cost of spices in this era that it is impossible to account for their value in terms of utility alone. They were, in effect, fetishes, primordial forms of the commodity; they were valued because they had become envy- inducing symbols of luxury and wealth, conforming perfectly to Adam Smith's insight that wealth is something that is "desired, not for the material satisfactions that it brings but because it is desired by others."[14]

Before the sixteenth century nutmegs reached Europe by changing hands many times, at many points of transit. The latter stages of their journey took them through Egypt, or the Levant, to Venice, which, in the centuries leading up to the voyages of Christopher Columbus and Vasco de Gama, ran a tightly controlled monopoly on the European spice trade.[15] Columbus

himself hailed from Venice's archrival, Genoa, where the Serene Republic's monopoly on the Eastern trade had long been bitterly resented; it was in order to break the Venetian hold on the trade that the early European navigators set off on the journeys that led to the Americas and the Indian Ocean.[16] Among their goals, one of the most important was to find the islands that were home to the nutmeg. The stakes were immense, for the navigators and for the monarchs who financed them: the spice race, it has been said, was the space race of its time.[17]

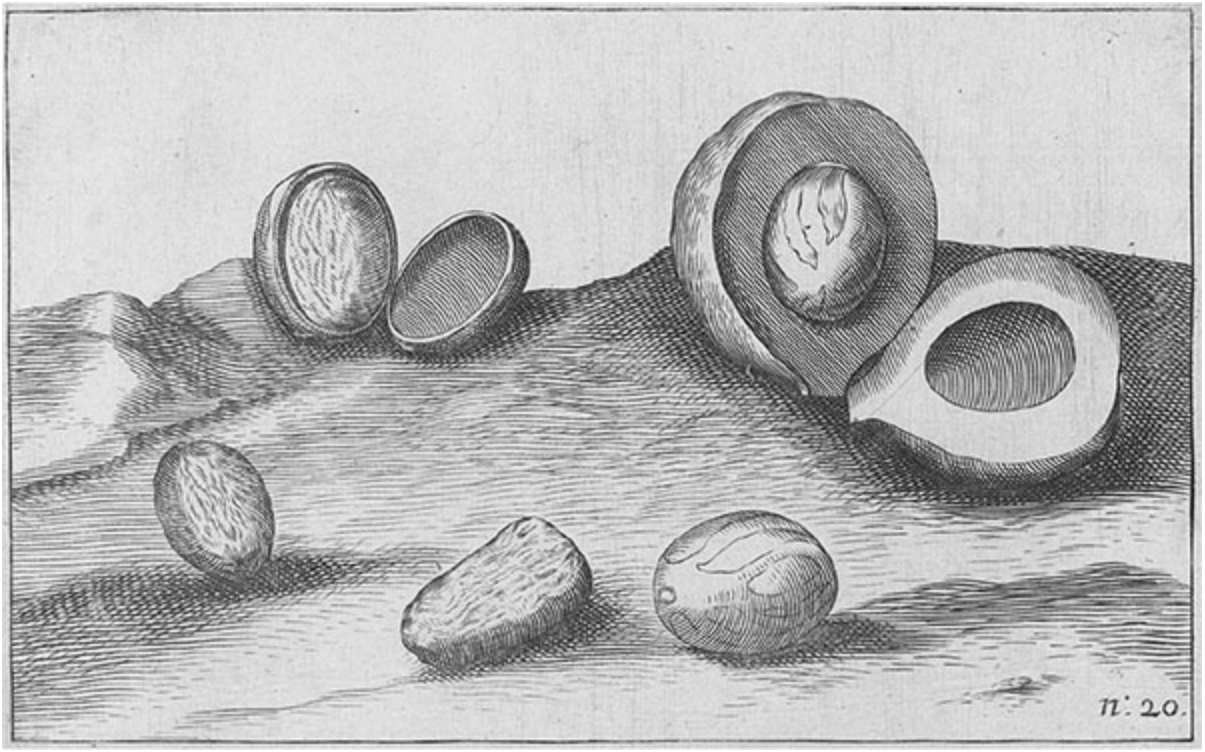


FIGURE 3. Anon., “Banda Islands Nutmeg” (1619). Engraving. Rijksmuseum. Photograph: Wikimedia Commons.

Little wonder then that the nutmeg tree had brought Dutchmen like Sonck halfway around the world to the island of Lonthor.

. . .

Taking a nutmeg out of its fruit is like unearthing a tiny planet.

Like a planet, the nutmeg is encased within a series of expanding spheres. There is, first of all, the fruit’s matte- brown skin, a kind of exosphere. Then there is the pale, perfumed flesh, growing denser toward the core, like a planet’s outer atmosphere. And when all the flesh has been stripped away, you have in your hand a ball wrapped in what could be a stratosphere of fiery, crimson clouds: it is this fragrant outer sleeve that is known as mace. Stripping off the mace reveals yet another casing, a glossy, ridged, chocolate- colored carapace, which holds the nut inside like a protective tropo sphere. Only when this shell is cracked open do you have the nut in your palm, its surface clouded by matte- brown continents floating on patches of ivory.

And should you then break the nut open, you will see inside something akin to a geological structure— except that it is composed of the unique mixture of substances that produces the aroma, and the psychotropic effects, that are the nut's very own superpowers.

Like a planet, a nutmeg too can never be seen in its entirety at one time. As with the moon, or any spherical (or quasi- spherical) object, a nutmeg has two hemispheres; when one is in the light, the other must be in darkness — for one to be seen by the human eye, the other must be hidden.

. . .

THE ISLAND OF LONTHOR is shaped like a boomerang, and it adjoins two other islands: Gunung Api and Banda Naira, a tiny islet that was already, in 1621, the seat of two massive Dutch forts. The three islands are themselves the remnants of an exploded volcano, grouped around its now-submerged crater.[18] Between them lies a stretch of sheltered water that is deep enough to accommodate oceangoing ships. Anchored there on the night of April 21 is the fleet that has brought Martijn Sonck to the Banda Islands.

On still nights sounds carry easily across this stretch of water. The rattle of agitated musket fire on Lonthor is clearly heard on the *Nieuw- Hollandia*, the flagship of the commander who has brought this fleet to the Bandas: Governor- General Jan Pieterszoon Coen.

An accountant by training, Coen, at the age of thirty- three, has served as the governor- general of the East Indies for three years already. A man of immense energy, competence, and determination, he has risen through the ranks of the Dutch East India Company like a jet of volcanic ash. Known, behind his back, as De Schraale ("Old Skin and Bones"), he is a blunt, ruthless man, not given to mincing his words.[19] In a letter to the Seventeen Gentlemen who preside over the Company, Governor- General Coen once observed: "There is nothing in the world that gives one a better right than power."[20]

Now the most powerful proconsul of the world's mightiest commercial company, Coen is no stranger to the Banda Islands.[21] He was here twelve

years earlier, as a member of a Dutch force that came to negotiate a treaty with the Bandanese.[22] During the negotiations a part of that force was ambushed on the shores of Banda Naira and forty- six Dutchmen, including the leading officer, were slaughtered by the Bandanese.[23] Coen was among those who got away with his life, but his memories of this episode have shaped his view of the Dutch mission in the Banda Islands.[24]

Ever since the first Dutch ships came to the archipelago it has been the aim of the venerable East India Company—the Vereenigde Oostindische Compagnie, or VOC— to impose a trade monopoly on the Bandanese.[25] But this goal has proved elusive because the concept of a trading monopoly, although common in Europe, is completely foreign to the commercial traditions of the Indian Ocean.[26] In these waters entrepôts and maritime states have always competed with each other to attract as many foreign merchants as possible. It was in this spirit that the Bandanese welcomed the first party of Europeans to visit their islands: a small Portuguese contingent that included Ferdinand Magellan. That was back in 1512; in the years since, the Bandanese have discovered (to their cost) that the Europeans who come to their shores, no matter of what nationality, all have the same thing in mind: a treaty granting them an exclusive right to the islands' nutmegs and mace.[27]

But such a right is impossible for the Bandanese to grant. How can they refuse to trade with their accustomed business partners, from shores near and far? The islanders depend on their neighbors for food and much else.[28] Besides, the Bandanese are themselves skilled traders, and many of them have close links with other merchant communities in the Indian Ocean; they can hardly turn their friends away empty- handed.[29] Nor would that make commercial sense, since the Europeans often don't pay as well as Asian buyers. And the Bandanese, like most Asians, don't find European goods particularly desirable: what are they, with their warm climate, to do with woolen cloth, for instance?[30]

It would have been easier for the Dutch if the Bandanese had had a powerful ruler, a sultan who could be coerced into compliance, as had happened on other islands in Maluku.[31] But the Banda Islands have no

single ruler who can be threatened and bullied into forcing his subjects to obey the foreigners' demands.[32] "They have neither king nor lord" was the conclusion of the first Portuguese navigators to visit the islands, "and all their government depends on the advice of their elders; and as these are often at variance, they quarrel among themselves."[33]

This is not the whole truth, of course. The Bandanese have aristocratic lineages, as well as merchant families that possess great wealth and many servitors. It is a combative society, divided into walled settlements that sometimes fight pitched battles against each other.[34] But no single settlement or family has ever subdued the entire archipelago; the islanders seem to have a deep- seated distaste for centralized, unitary rule.

Bandanese tradition has it that the islands were once ruled by four kings.[35] But by the time the first Dutch ships came to the archipelago, the only figures of authority there were a few dozen elders and *orang- kaya*, which means literally "men of wealth."[36] A few of these elders carry the title of harbormaster, or Shahbandar, but neither they nor any of the *orang- kaya* possess the political authority to enforce a treaty on the entire archipelago, tiny though it is.[37]

Yet the Europeans— first the Portuguese and Spanish, and then the Dutch — have for more than a hundred years insistently pursued the goal of establishing a monopoly over the islanders' most important products: nutmeg and mace.[38] The most relentless of all are the Dutch; they have sent fleets to the islands again and again, with the intention of forcing treaties on the inhabitants.[39] The islanders have resisted as best they could, often accepting help from other Europeans.[40] But the Bandanese are too few in number— there are only about fifteen thousand of them altogether— to fight the world's most powerful navy.[41] With great reluctance their elders have signed several treaties, sometimes without knowing what they said (the documents were in Dutch).[42] But covertly they have continued to trade with other merchants, and whenever possible they have also resisted with arms, as they did in 1609, when they ambushed the party of Dutchmen that included the future governor- general, Jan Pieterszoon Coen.[43]

In the aftermath of that slaughter Coen has come to believe— as had some of his predecessors— that *die Bandaneezen* are incorrigible and that the Banda problem needs a final solution: the islands must be emptied of their inhabitants. Unless that is accomplished the VOC will never be able to establish a monopoly on nutmeg and mace. Once the Bandanese are gone, settlers and slaves can be brought in to create a new economy in the archipelago. This will be a departure from the usual Dutch practice, which is to focus on trade and avoid territorial acquisitions.[44] But since the nutmeg trade is synonymous with the Bandas, it can't be helped.[45] And the sooner it's done, the better: the English, who have been snapping at the heels of the Dutch from the Americas to the East Indies, have recently established a toehold in the Bandas, on a tiny island called Run.[46] Coen is determined not to allow them to expand their footprint in the archipelago.

Writing to the directors of the VOC, Coen has noted: "It would be best in my opinion to completely chase all the Bandanese from the land"— and it is with exactly this in mind that he has come to the Banda Islands now.[47] To get the job done as efficiently as possible he has added a contingent of eighty Japanese mercenaries to his forces: they are *ronin*, or masterless samurai. Not only are they cheaper and hardier than European soldiers, they are also professional swordsmen and highly skilled executioners, experts in the arts of decapitation and dismemberment.[48]

* * *

THE MYSTERY OF Selamon's lamp probably wouldn't have taken hold of my mind to the extent that it did, if it were not for an uncanny intersection between human and nonhuman forms of agency.

I began writing this chapter in early March of 2020, at just the time when a microscopic entity, the newest coronavirus, was quickly becoming the largest, most threatening, and most inescapable presence on the planet. As cars and people vanished from the streets of Brooklyn, where I live, a peculiar sense of dislocation set in. Reading the notes I had made on my

visit to the Banda Islands in November 2016, I sometimes had the eerie sense of having returned incorporeally to the archipelago.

On that visit I had stayed in a hotel built by a man called Des Alwi, who had once been known as the Raja of the Bandas. A member of one of the most prominent families in the islands, Alwi, who died in 2010, is remembered by everyone who knew him as an unusually charismatic, larger- than- life presence. An author and diplomat, he had established a foundation dedicated to the preservation of the islands' heritage. Apart from restoring many crumbling colonial buildings, the foundation had also printed a few books and pamphlets, among them an introduction to the history of the islands written by a friend of Des Alwi's, an American historian called Willard A. Hanna. It was in this book, titled *Indonesian Banda: Colonialism and Its Aftermath in the Nutmeg Islands*, that I first read about the lamp that fell in Selamon on the night of April 21, 1621.

The detail was mentioned only in passing, but it haunted me. Why had such a simple, everyday mishap caused so much panic amongst Sonck's contingent of Dutch soldiers?

During the stillness of those Brooklyn nights, when the silence was broken only by the sirens of speeding ambulances, it was possible to imagine that a sudden and unexpected sound might remind everyone of the invisible nonhuman presences that surround us, intervening in everyday life in ways that completely transform the meaning of ordinary events.

Not far from my house is one of Brooklyn's largest hospitals. At that time Covid- 19 was claiming so many lives that the bodies of the dead were being stacked outside, in refrigerated trucks. When I stepped out of my house I could sense fear seething in the streets around me, and this induced a sense of kinship with the terror-struck villagers of Selamon, as they lay huddled in their homes, wondering if the fall of the lamp was a portent of worse things to come.

I wanted to know more about the fall of that lamp. But how? The difficulties of throwing light on a moment four centuries in the past become vastly greater when the setting is a place as remote and forgotten as the Banda archipelago. Few indeed are the scholars who have written about the

Bandas, so the events of 1621 are shrouded in obscurity, skimmed over even in most histories and ethnographies of the region.[49] Where then had Hanna found this detail? As I combed through his book, it became clear that his main source was a monograph called *De Vestiging van het Nederlandsche Gezag over de Banda-Eilanden (1599–1621)* (The establishment of Dutch rule over the Banda Islands). The author's name was J. A. van der Chijs, and the book was published in Batavia (Jakarta) in 1886.

At this point in New York City's lockdown I, like many others, was in a somewhat dazed, fugue- like state. In the preceding months, propelled by the spiraling acceleration of the Before- Covid Time, I had been traveling constantly. The sudden cessation of movement had created a sensation of breathlessness, as though a speeding car had been brought to a screeching halt on an expressway.

My wife, Debbie, who is known to her readers as Deborah Baker, was away in Charlottesville, Virginia, researching a book and spending time with her family. Earlier in the year, in January 2020, the same month in which we had celebrated our thirtieth anniversary, she had lost her ninety-year- old mother, Barbara. The loss had sent her eighty- nine- year- old father into a downward spiral, so she needed to be in Virginia for a while. I had meant to follow but changed my mind when infection rates in New York suddenly began to soar; the risk of carrying the contagion with me made it seem irresponsible to venture out of the city. Nor, in that disorienting moment, did I feel much inclined to leave the familiarity of Brooklyn, where my son and daughter also live. So it happened that an uncanny conjunction of circumstances ensured that I was on my own, spending even longer hours in my study than I usually do.

If it were not for the strangeness of that locked- down time, I don't think I would have done what I did next: I searched the internet for a pdf of Van der Chijs's book— and to my surprise one turned up! I downloaded it unthinkingly; I don't know why because I don't read Dutch. But there it was in front of me, a treasure trove of secrets, and all I could do was stare at it, as though it were a rune- stone or petroglyph.

One day, while waiting for New York's daily 7 p.m. ritual of thanking the city's first responders by clapping, cheering, and (in my case) banging pots, I started to scroll randomly through the text of Van der Chijs's book. Soon enough I came to some familiar names and words— the word "lamp," I discovered, has the same meaning in Dutch and English. On an impulse I typed a Dutch sentence into a widely used online translation app— and somewhat to my surprise, it produced a string of words that made sense: "About midnight from the 21st to the 22nd of April [1621], a lamp fell in the *bale- bale*, where Sonck slept with his counselors, an insignificant event [but] enough to cause panic among the Europeans, who were always and everywhere seeing treason."[50]

After that it was impossible to stop. I forgot about the potbanging ritual and instead began to feed Dutch sentences into the app, one after another— and there were just enough glimmers of sense behind the often-garbled results to draw me deeper and deeper into the text.

I quickly discovered that I had been lucky with that first sentence: with some passages the app's results were complete gibberish. But those chunks of nonsense had one thing in common: most of them were within quotes. It was these passages that seemed to confound the app, which was clearly built to translate modern Dutch.

Putting two and two together, I realized that much of Van der Chijs's account consisted of direct quotations from seventeenth-century sources. I would learn later that Van der Chijs had worked as the *landsarchivaris*, or head archivist, of the Dutch colonial administration in Batavia; he therefore had direct access to all the relevant seventeenth- century documents, and it was on these that he had based his book— which was fortunate, since many of those documents have since disappeared.[51]

As I puzzled over the strings of nonsense that the translation app was churning out, I began to wonder whether the spellings of certain common Dutch words might have changed since the seventeenth century— as is the case, for instance, with the English words "hath" and "has."

I happen, fortunately, to be acquainted with one of the great Dutch historians of Asia, Dirk Kolff, whose knowledge of seventeenth- century

Dutch archives, especially those of the VOC, is unmatched. I wrote to him explaining my dilemma, and he very kindly sent me a list of changed spellings. The list worked like magic: when I gave seventeenth- century words their modern spellings, the app's renditions became much clearer.

So, with more and more ambulances shrieking past the window of my study, in what had once been the Dutch village of Breukelen, I began to type entire pages into the app, sentence by sentence, paragraph by paragraph. Soon it was as if two nonhuman entities, the internet and the coronavirus, both operating at a planetary scale, had come together to create a ghostly portal to transport me, through the spirit of a long- dead Dutchman, to the Banda Islands on the night of April 21, 1621.

. . .

WHAT POSSIBLE BEARING could the story of something as cheap and insignificant as the nutmeg have on the twenty- first century?

After all, what happened in the Banda Islands was merely one instance of a history of colonization that was then unfolding on a vastly larger scale on the other side of the Earth, in the Americas. It might be said that the page has been turned on that chapter of history: that the twenty- first century bears no resemblance to that long- ago time when plants and botanical matter could decide the fate of human beings. The modern era, it is often asserted, has freed humanity from the Earth, and propelled it into a new age of progress in which human- made goods take precedence over natural products.

The trouble is that none of the above is true.

We are today even *more* dependent on botanical matter than we were three hundred years (or five hundred, or even five millen-nia) ago, and not just for our food. Most contemporary humans are completely dependent on energy that comes from long- buried carbon— and what are coal, oil, and natural gas except fossilized forms of botanical matter?

As for the circulation of goods, in that too fossil fuels vastly outweigh any category of human- made goods. In the words of two energy

economists: “Energy is the most important commodity in the world today. And by almost any metric, the energy industry is impossibly large. Yearly energy sales at over 10 trillion dollars dwarf expenditures on any other single commodity; trade and transport of energy is immense with over 3 trillion dollars in international transactions driving product deliveries through 2 million kilometers of pipelines and 500 million deadweight tons of merchant shipping; 8 of the 10 largest global corporations are energy companies; and a third of the global shipping fleet is occupied shipping oil. Given these figures it may not be surprising that world energy consumption takes the energy equivalent of over 2800 barrels of oil per second to quench.”[52] If we were to add up the sum total of all goods that were moving along the sea and land routes of the Middle Ages, we would probably find that manufactured articles, like porcelain and textiles, accounted for a greater proportion of trade then than they do now.

If we put aside the myth- making of modernity, in which humans are triumphantly free of material dependence on the planet, and acknowledge the reality of our ever- increasing servitude to the products of the Earth, then the story of the Bandanese no longer seems so distant from our present predicament. To the contrary, the continuities between the two are so pressing and powerful that it could even be said that the fate of the Banda Islands might be read as a template for the present, if only we knew how to tell that story.

2

"Burn Everywhere Their Dwellings"

The fleet that Jan Coen has brought with him is the largest ever to come to the Bandas; it consists of more than fifty vessels, including eighteen Dutch ships, and more than two thousand men.[1] Although Coen has come fully prepared for bloodshed, he begins his campaign of expulsion by trying to persuade the Bandanese to leave their homes peacefully. To that end Dutch soldiers and officials are sent from village to village, to order the inhabitants to quietly surrender their arms, demolish their fortifications, and submit to deportation.

But the plan doesn't go smoothly; instead of surrendering, large numbers of islanders flee into the forests.[2] The business of flushing them out drags on for weeks, adding to the expenses of the expedition. The delay brings Coen to a fine edge of frustration, and he decides to ratchet up the pressure: he appoints Sonck governor of Lonthor, and sends him to Selamon to explain to the elders that they have run out of time; if they fail to comply now they will themselves be treated as enemies.

On the night of April 21, when the sound of ragged gunfire reaches Coen on his flagship, he immediately assumes that Sonck and his party have met with an ambush, like the one he himself survived on his first visit to the

Banda Islands. He loses no time in ordering four companies of soldiers to rush to Sonck's aid on Lonthor.

By the time the reinforcements reach Sonck the next morning, the tensions of the night have subsided in Selamon. But the sudden arrival of the musketeers creates panic in the village, and fighting breaks out. Some villagers flee to the adjoining slopes with musketeers in hot pursuit. But the terrain is difficult, with steep paths winding through dense forests. The Dutch party is forced to turn back.

In the meantime, Coen decides to speak to the Bandanese elders himself. A number of them are brought to his flagship, where he subjects them to a long rant, reminding them of broken treaties, the ambush of 1609, and many other acts of resistance. After he finishes, he is answered in fluent Dutch by one of the Bandanese elders, the Shahbandar of Lonthor, who goes by the name of Joncker Dirck Callenbacker and is probably of mixed ancestry.[3] Callenbacker explains to the *Heer Generael* that he and the other *orang-kaya* cannot be held responsible for all Bandanese, because they are not rulers as such, but merely respected men. Besides, he reminds the governor-general, the Dutch have not always kept their word about how much they would pay for nutmeg and mace, so the islanders have sometimes had no option but to sell to other partners. As for past hostilities, when blood was spilled it was in clashes where both sides were fighting for what they believed to be right.

Having said all this, the Shahbandar then tries to strike a conciliatory note, and offers the elders' most sincere apologies, assuring Coen that they will do their best to meet his demands. But this is not enough for Coen, who insists on a further surety: he demands that the elders surrender their sons to his forces, to ensure that they will keep their word. The elders accept these terms and comply with his last demand as soon as they are allowed to leave. A boatload of their male children are sent over from Lonthor to a warship called the *Dragon*.

The next day Callenbacker and some of the other elders go to Selamon and gather together a large party of men, women, and children. They too are

sent to the *Dragon* to prove that the elders are now ready to evacuate their village.

But Coen remains unconvinced; he still does not believe that the Bandanese will keep their word and leave their islands peacefully. On April 24, two days after his meeting with the Bandanese elders, he announces to his council that he has learned that the people of Lonthor have decided to perish rather than surrender, so it is now necessary to consider whether to "ruin the remaining places, remove the people from the land, catch them and [do] whatever we like with [them]."[4] The council gives its unanimous agreement; a resolution is passed and signed by twenty- one members, declaring that Dutch forces will be sent "to burn everywhere their dwellings, to take away or destroy their remaining boats and to leave the Bandanese no choice but to come to us or depart from the country."[5]

After this, for a week, the records fall silent; no accounts exist of what happened over the following days, and of exactly how the Bandanese were left with "no choice but to come to us," as ordained by the council's resolution. Subsequent events prove, however, that the directions issued by Coen and his council have been carried out to the letter, and that Dutch forces have systematically destroyed villages and settlements across the islands, capturing as many of their inhabitants as they could and killing the rest. The captives— old men, women, and children alike— are enslaved and sent to Java; they include 789 members of the families of the *orang-kaya*. Some of the slaves end up as far away as Sri Lanka.[6]

. . .

IN THE ABSENCE of written firsthand accounts, it is impossible to know how the events of that fateful week unfolded in the Bandas— but a phrase in the Council's resolution, "burn everywhere their dwellings," provides a clue. It suggests a tactic, burning peasant villages to the ground, that was widely used during the Thirty Years' War, which was then raging in the Netherlands. Known as *brandschattingen* in Dutch, the tactic was the military practice that was most feared by the farmers of the region.[7]

A very large number of the soldiers who fought in the Low Countries during the Thirty Years' War— between a quarter and almost a third— were English mercenaries.[8] Many of these soldiers went on to fight in America, and they took the tactic of *brands-chattingen* with them, turning it into a means of eliminating entire tribes. Incendiary attacks figured prominently, for instance, in the Pequot War of 1636– 1638, which was fought between the English settlers of New England and the Pequot, an Algonquian tribe of what is now Connecticut. The conflict has been described as "the first deliberately genocidal war conducted by the English in North America."[9]

The Banda Islands may be on the other side of the planet from Connecticut, but in the seventeenth century the two locations were, in fact, closely linked to each other, as the two farthest poles of the Dutch seaborne empire. Although the Dutch played no part in the Pequot War, the site of the worst massacre— Mystic, Connecticut— lay right upon the border of New Netherland, the Dutch colony that had its seat in New Amsterdam, on the island of Manhattan; the Dutch too had extensive dealings with the Pequot, and competition over trade was one of the factors that precipitated the conflict.[10]

The massacre at Mystic occurred in 1637, when a company of English soldiers and their Indian allies used the cover of night to attack a fortified Pequot settlement while hundreds of people were asleep inside. The attack was directed by two English soldiers who had both served as mercenaries in the Netherlands: John Mason and John Underhill (the latter was actually born in Holland and had a Dutch wife). John Mason led the attack, and it was he who had the idea of burning down the settlement, with a torch that he had seized from a Pequot dwelling.

John Mason and John Underhill both wrote accounts of the attack, and their descriptions are vivid enough to convey a sense of what might have happened in the Bandas during that fateful week. The passage below is from John Mason's *A Brief History of the Pequot War*.

> The Captain [Mason himself] said WE MUST BURN THEM; and immediately stepping into the *Wigwam* where he had been before, brought out a Fire- Brand, and putting it into the Matts with which they were covered, set the *Wigwams* on Fire . . . and when it was

> thoroughly kindled, the *Indians* ran as Men most dreadfully Amazed. . . . And indeed such a dreadful Terror did the ALMIGHTY let fall upon their Spirits, that they would fly from us and run into the very Flames, where many of them perished . . . many of them gathering to windward, lay pelting at us with their Arrows; and we repaid them with our small Shot: Others of the Stoutest issued forth, as we did guess, to the Number of *Forty*, who perished by the Sword. . . . Thus were they now at their Wits End, who not many Hours before exalted themselves in their great Pride. . . . But GOD was above them, who laughed at his Enemies and Enemies of his People to Scorn, making them as a fiery Oven: thus were the Stout Hearted spoiled, having slept their last Sleep, and none of their Men could find their Hands: Thus did the LORD judge among the Heathen, filling the Place with dead Bodies.[11]

This is John Underhill's account of the same event:

> Captain Mason entering into a Wigwam, brought out a fire- brand, after he had wounded many in the house, then he set fire on the West- side where he entered, my self set fire on the South end with a train of Powder, the fires of both meeting in the center of the Fort blazed most terribly, and burnt all in the space of half an hour . . . there were about four hundred souls in this Fort, and not above five of them escaped out of our hands. Great and doleful was the bloody sight to the view of young soldiers that never had been in Warre, to see so many souls lie gasping on the ground so thick in some places, that you could hardly pass along.[12]

The two near- contemporary massacres, one in the Bandas and one in what is now Connecticut, are linked by haunting continuities. Both occurred in the context of heightened Anglo- Dutch rivalries, and against the wider backdrop of the wars of religion that were then raging in Europe. In both, large numbers of captives were enslaved and transported overseas to work on plantations; and both these massacres were intended to extinguish the existence of a people.[13] In the case of the Pequot, their extinction was made official by the treaty that ended the war: the survivors were forbidden to use the very name "Pequot."[14] Celebrating this triumph, a Puritan historian wrote: "the name of the Pequots (as of Amalech) is blotted out from under heaven, there being not one that is, or (at least) dare call himself a Pequot."[15]

If the victors assumed that they had the right to formally extinguish a tribe, it was because European doctrines of empire had indeed evolved in that direction. These doctrines found their fullest articulation in the work of the philosopher, polemicist, and Lord Chancellor of England, Sir Francis Bacon. In his *An Advertisement Touching an Holy War*, which was written

around the time of the Banda massacre and published shortly before the Pequot War, Bacon lays out in some detail the reasons why it was lawful, in his view, for Christian Europeans to end the existence of certain groups: "For like as there are particular persons outlawed and proscribed by civil laws of several countries; so are there nations that are outlawed and proscribed by the law of nature and nations, or by the immediate commandment of God." These wayward countries, Bacon argues, are not nations at all, but rather "routs and shoals of people, as have utterly degenerated from the laws of nature." Such being the case, it was both lawful and godly for any nation "that is civil and policed . . . [to] cut them off from the face of the earth."[16] This doctrine was formalized by Emer de Vattel, one of the jurists who codified international law in the late eighteenth century: "nations are justified," he ruled, "in uniting together as a body with the object of punishing, and even exterminating, such savage peoples."[17]

This argument effectively conferred on Christian Europeans a God- given right to attack and extinguish peoples who appeared errant or monstrous in their eyes. It is in this "crucial thought," argue Peter Linebaugh and Marcus Rediker, that "genocide and divinity cross. Bacon's advertisement for a holy war was thus a call for several types of genocide, which found its sanction in biblical and classical antiquity."[18]

Bacon's reasoning may appear archaic, but it continues to animate the workings of empire to this day. In essence he was making the argument that a well- governed country ("any nation that is civil and policed") has an absolute right to invade countries that are "degenerate" or in violation of the "laws of nature and nations." This is, of course, the fundamental doctrine of "liberal interventionism," and it has been invoked many times in recent decades to justify "wars of choice" launched by Western powers.

. . .

THE MASSACRE ORDERED by Coen was so effective that within seven days it was declared, at a council meeting on his flagship, that "all towns and

fortified places of Banda had, by God's grace been taken, erased, burned down and about 1200 souls caught."

On May 6, Coen reported to his superiors, with no little satisfaction, that his forces had "utterly destroyed and burned down" the major settlements of Lonthor, and that the remnants of the islands' population had fled into the mountains, where they had been joined by fugitives from other parts of the archipelago. "In this way all towns and places of the whole of Banda were taken (possession of) and destroyed."[19]

Yet, on the heights of Lonthor Island, where thousands of Bandanese had taken shelter, the resistance continued. The steep terrain and bad weather made it difficult for the Dutch to subjugate them; Dutch attacks were repulsed several times. This caused even greater annoyance to Coen, who was now impatient to be gone but did not want to leave until he had brought "complete tranquility" to the islands.

In the meantime, as people were being butchered and enslaved across the islands, Jan Coen was still intent on uncovering the meaning of the fallen lamp. To that end the hostage sons of the *orang- kaya* were subjected to interrogations that probably included a form of torture that was much in favor amongst the VOC's functionaries: called the water torture, it was a prototype of what is now known as waterboarding. It involved repeatedly pouring water over a suspect's cloth- bound head, bringing him close to suffocation. Another method was to place a cone "around the victim's neck above his mouth and nose; water was then poured in, forcing him to gulp water to avoid drowning, which not only choked him but caused his tissues to swell out of all proportion from excess water in the body, causing severe agony; this torture was supplemented in some cases by burning the victim's armpits, feet, and hands with a candle or pulling out his fingernails."[20]

The intention was to expose a conspiracy, and the methods did not fail to bear fruit: a "confession" was duly extracted from a boy, a nephew of Dirck Callenbacker's, who said that he had been present at a meeting of elders where it was decided that a surprise attack would be launched on the Dutch on the night when the lamp fell; the ultimate intention, the confession went, was to kill Sonck, and Coen himself.

It seems never to have occurred to either Coen or Sonck that if the Bandanese were planning an attack they would hardly have spoiled the surprise by signaling their intent with a falling lamp. Nor do they seem to have asked how an inanimate object could be made to fall from afar, at a precisely timed moment.

Once the boy's forced testimony had been recorded, Jan Coen set up a tribunal with three members, Sonck being one, to ascertain whether the "confession" was valid or not. On the orders of the tribunal several dozen elders were brought to the *Dragon*, and to another ship called the *Zuiderzee*, for questioning. They were then tortured so "rigorously" that two of them died on the rack, and a third jumped overboard and drowned.

According to a Dutch officer who later wrote an anonymous account of these events, none of the Bandanese elders admitted to a conspiracy; they all protested their innocence. Coen, on the other hand, would claim that they had indeed admitted to plotting an attack. The truth was irrelevant anyway, for a guilty verdict was a foregone conclusion.

The elders were taken into custody and orders were given for the construction of a circular enclosure, with bamboo stakes, a little way beyond the grim stone walls of Fort Nassau, on Banda Naira. On May 8, 1621, forty- four elders were led into this enclosure with their hands tied.[21] Eight of them "who were the most guilty according to the judges" were placed apart, while the others milled about in confusion "like a flock of sheep."

It was raining hard that day. In the midst of the downpour the elders were read the sentence of their execution, for conspiracy, and for violating their treaties with the Dutch. Then six Japanese swordsmen were sent into the enclosure to carry out the sentence.

The first to be butchered were the eight elders who had been singled out as the ringleaders of the conspiracy. They were beheaded and then quartered. None of them resisted, although one elder, perhaps Callenbacker, was heard to say, in Dutch: "Sirs, have you no mercy then?"

No mercy was shown: the remaining thirty- six elders were also beheaded and quartered. The severed heads and dismembered body parts

were impaled on stakes.

According to local tradition, the remains of the forty- four elders were later thrown into a nearby well.

. . .

JAN COEN LEFT the Bandas two months after he had arrived, leaving behind a large force under Sonck's command. Their orders were to suppress all resistance and to ensure the removal of all remaining Bandanese.

Over the next couple of months the Dutch forces continued to encounter pockets of resistance, especially along the heights of Lonthor, where groups of Bandanese were still holding out. Some fugitives even managed to escape, in hidden boats or in rescue vessels sent from neighboring islands like Seram and Kei. But hundreds also died at sea while trying to escape, and thousands perished of starvation and disease in the forests of Lonthor.[22]

Some two months after the start of the butchery, a Bandanese runaway surrendered to the Dutch and told them that the remaining fugitives had no gunpowder or ammunition and were starving. The informant then led Sonck and a force of several hundred Dutch soldiers to the fugitives' encampment in the mountains. The Bandanese had only stones and spears to defend themselves with and were quickly defeated. This marked the end of the resistance. The remaining villages surrendered quietly and their inhabitants were taken captive and deported, to be sold as slaves.

In short, within a few months of the falling of that lamp, the Bandanese, once a proud and enterprising trading community, had ceased to exist as a people. Their world had been brought to an end in a span of less than ten weeks.

. . .

MANY YEARS AFTER the Bandanese had been "cut off from the face of the earth," Anglo- Dutch rivalries would once again link the fate of the Bandas to New Netherland. In 1667, the Treaty of Breda transferred the island of Run "permanently to the Dutch as part of a wider settlement that also