

One

Capitalism: A Creation Story

Animism had endowed things with souls; industrialism makes souls into things.

Max Horkheimer and Theodor Adorno

We humans have been on this planet for nearly 300,000 years; fully evolved, fully intelligent, exactly as we are today. For approximately 97% of that time our ancestors lived in relative harmony with the Earth's ecosystems. This is not to say that early human societies didn't change ecosystems, and it's not to say there weren't problems. We know, for example, that certain societies played a role in the demise of some of the planet's ancient megafauna, like woolly mammoths and giant sloths and sabre-toothed cats. But they never precipitated anything like the multi-front ecological catastrophe that we are witnessing today.

It was only with the rise of capitalism over the past few hundred years, and the breathtaking acceleration of industrialisation from the 1950s, that on a planetary scale things began to tip out of balance. Once we understand this, it changes how we think

about the problem. We call this human epoch the Anthropocene, but in fact this crisis has nothing to do with humans *as such*. It has to do with the dominance of a particular economic system: one that is recent in origin, which developed in particular places at a particular time in history, and which has not been adopted to the same extent by all societies. As the sociologist Jason Moore has pointed out, this isn't the Anthropocene – it's the Capitalocene.¹

This can be difficult to wrap our minds around at first. We tend to take capitalism so much for granted that we just assume it has more or less always been around, at least in nascent form; after all, capitalism is about markets, and markets are ancient. But this is a false equivalence. While markets have been around for many thousands of years, in different times and places, capitalism is relatively recent – only about 500 years old.² What makes capitalism distinctive isn't that it has markets, but that it is organised around perpetual growth; indeed, it is the first intrinsically expansionist economic system in history. It pulls ever-rising quantities of nature and human labour into circuits of commodity production. And because the goal of capital is to extract and accumulate surplus, it has to get these things for as cheap as possible. In other words, capital works according to a simple, straightforward formula: take more – from nature and from labour – than you give back.

The ecological crisis is an inevitable consequence of this system. Capitalism has tipped us out of balance with the living world. Once we grasp this fact, new questions come rushing to mind: How did this happen? Where did capitalism come from? Why did it take hold?

The usual story holds that it's in our 'nature' to be self-interested, maximising agents – what some have described as *homo*

economicus – the profit-seeking automatons that we encounter in microeconomics textbooks. We are taught that this natural tendency gradually broke through the constraints of feudalism, put an end to serfdom, and gave rise to capitalism as we know it today. That's our story. It is our Origin Tale. It gets repeated so often that everyone just accepts it. And because the rise of capitalism is cast as an expression of innate human nature – human selfishness and greed – problems like inequality and ecological breakdown seem inevitable and virtually impossible to change. But, remarkably for a story that has become so entrenched in our culture, none of this is true. Capitalism didn't just 'emerge'. There was no smooth, natural 'transition' to capitalism, and it has nothing to do with human nature. Historians have a much more interesting and significantly darker story to tell – a story that reveals some surprising truths about how our economy actually works. Understanding this story helps us grasp the deep drivers of the ecological crisis, and offers important clues as to what we can do about it.

A forgotten revolution

Everyone learns in school that feudalism was a brutal system that produced terrible human misery. And it's true. Lords and nobles controlled the land, and the people who lived on it – serfs – were forced to render tribute to them in the form of rents, taxes, tithes and unpaid labour. But contrary to our dominant narratives, it wasn't the rise of capitalism that put an end to this system. That victory belongs, remarkably enough, to a courageous struggle fought by a long tradition of everyday revolutionaries who have for some reason been almost entirely forgotten.

In the early 1300s, commoners across Europe began rebelling against the feudal system. They refused to submit to unpaid labour, they rejected the taxes and tithes extracted by lords and the Church, and they began demanding direct control over the land they tilled. These were not just petty complaints popping up here and there. It was organised resistance. And in some cases it grew into outright military conflicts. In 1323, peasants and workers took up arms in Flanders in a battle that lasted five years before their defeat by the Flemish nobility. Similar rebellions erupted elsewhere across Europe – in Bruges, Ghent, Florence, Liège and Paris.³

These early rebellions had little success. In most cases they were crushed by well-armed militaries. And when the Black Death struck in 1347 things only seemed to get worse: bubonic plague wiped out a third of Europe's population, triggering an unprecedented social and political crisis.

But in the wake of this disaster, something unexpected happened. Because labour was scarce and land abundant, suddenly peasants and workers had more bargaining power. They were able to demand lower rents for land, and higher wages for their

labour. Lords found themselves on the back foot, and the balance of power tilted in commoners' favour for the first time in generations. Commoners began to realise that this was their chance: they had an opportunity to change the very foundations of the social and political order. They grew more hopeful, more confident, and the rebellions gained steam.⁴

In England, Wat Tyler led a peasants' revolt against feudalism in 1381, inspired by the radical preacher John Ball, famous for his call: 'Now the time is come in which ye may (if ye will) cast off the yoke of bondage, and recover liberty.' In 1382 a revolt in the Italian city of Ciompi succeeded in taking over the government. In Paris, a 'workers' democracy' seized power in 1413. And in 1450 an army of English peasants and workers marched on London in what became known as Jack Cade's Rebellion. Entire regions rose up during this period, forming assemblies and recruiting armies.

By the middle of the 1400s, wars were erupting between peasants and lords across Western Europe, and as the rebels' movement grew their demands broadened. They weren't interested in tweaking the system a bit around the edges – they wanted nothing short of revolution. According to the historian Silvia Federici, an expert in the political economy of the Middle Ages, 'the rebels did not content themselves with demanding some restrictions to feudal rule, nor did they only bargain for better living conditions. Their aim was to put an end to the power of the lords.'⁵

While in most cases the individual rebellions themselves were put down (Wat Tyler and John Ball were executed along with 1,500 of their followers), the movement ultimately succeeded in destroying serfdom across much of the continent. In England, the practice was almost completely eradicated in the wake of the 1381 revolt. Serfs became free farmers, subsisting on their own

lands, with free access to commons: pasture for grazing, forests for game and timber, waterways for fishing and irrigation. They worked for wages if they wanted extra income – rarely under coercion. In Germany, peasants came to control up to 90% of the country's land. And even where feudalistic relations remained intact, conditions for peasants improved significantly.

As feudalism fell apart, free peasants began to build a clear alternative: an egalitarian, co-operative society rooted in the principles of local self-sufficiency. The results of this revolution were astonishing, in terms of the welfare of commoners. Wages rose to levels higher than ever before in recorded history, doubling or even tripling in most regions and in some cases rising as much as sixfold.⁶ Rents declined, food became cheap, and nutrition improved. Workers were able to bargain for shorter working hours and weekends off, plus benefits like meals on the job and payment for each mile they had to travel to and from work. Women's wages shot up too, narrowing what under feudalism had been a substantial gender pay gap. Historians have described the period from 1350 to 1500 as 'the golden age of the European proletariat'.⁷

It was a golden age for Europe's ecology, too. The feudal system had been an ecological disaster. Lords put peasants under heavy pressure to extract from the land and forests while giving nothing back. This drove a crisis of deforestation, overgrazing, and a gradual decline in soil fertility. But the political movement that emerged after 1350 reversed these trends and inaugurated a period of ecological regeneration. Once they won direct control of the land, free peasants were able to maintain a more reciprocal relationship with nature: they managed pastures and commons collectively, through democratic assemblies, with careful rules that regulated tillage, grazing and forest use.⁸ Europe's soils began to recover. The forests regrew.

Backlash

Needless to say, Europe's elites were not pleased with this turn of events. They considered the high wages 'scandalous', and were irritated that commoners would only hire themselves out for short periods or limited tasks, leaving as soon as they had enough income to satisfy their needs. 'Servants are now masters and masters servants,' complained John Gower in *Miroir de l'Omme* (1380). As one writer put it in the early 1500s: 'The peasants are too rich . . . and do not know what obedience means; they don't take law into any account, they wish there were no nobles . . . and they would like to decide what rent we should get for our lands.'⁹ And according to another: 'The peasant pretends to imitate the ways of the freeman, and gives himself the appearance of him in his clothes.'¹⁰

During the revolutionary period from 1350 to 1500, elites suffered what historians have described as a crisis of 'chronic disaccumulation'.¹¹ As national income was shared more evenly across the population it became more difficult for elites to pile up the profits they had enjoyed under feudalism. This is an important point. We often assume that capitalism emerged somehow naturally from the collapse of feudalism, but in fact such a transition would have been impossible. Capitalism requires elite accumulation: piling up excess wealth for large-scale investment. But the egalitarian conditions of post-feudalist society – self-sufficiency, high wages, grassroots democracy and collective management of resources – were inimical to the possibility of elite accumulation. Indeed, this is exactly what elites were complaining about.

What that new society might have grown to look like we will never know, for it was brutally crushed. Nobles, the Church and

the merchant bourgeoisie united in an organised attempt to end peasant autonomy and drive wages back down. They did so not by re-enslaving peasants – that had proved to be impossible. Rather, they forced them off their land in a violent, continent-wide campaign of evictions. As for the commons – those collectively managed pastures, forests and rivers that sustained rural communities – they were fenced off and privatised for elite use. They became, in a word, *property*.

This process was known as 'enclosure'.¹² Thousands of rural communities were destroyed during the enclosure movement; crops were ripped up and burned, whole villages razed to the ground. Commoners lost their access to land, forests, game, fodder, water, fish – all the resources necessary for life. And the Reformation added further fuel to the bonfire of dispossession: as Catholic monasteries were dismantled across Europe, their lands were snapped up by nobles and cleared of the people who lived there.

Peasant communities didn't go down without a fight, of course. But they had precious little success. In Germany, an organised peasant rebellion in 1525 was defeated in a massacre that left more than 100,000 commoners dead – one of the bloodiest slaughters in world history. In 1549, a rebellion led by Englishman Robert Kett managed to take control of Norwich, the country's second largest city, before the military put them down: 3,500 rebels were massacred and their leaders hanged from the city's walls. A rebellion known as the Midland Revolt in 1607 culminated in an insurrection at Newton, where peasants ended up yet again in armed combat with enclosers. Fifty were executed in the defeat that followed.

Over the course of three centuries, huge swathes of Britain and the rest of Europe were enclosed and millions of people removed

from the land, triggering an internal refugee crisis. It would be difficult to overstate the upheaval that characterised this period – it was a humanitarian catastrophe. For the first time in history, commoners were systematically denied access to the most basic resources necessary for survival. People were left without homes and food. We don't need to romanticise subsistence life to recognise that enclosure produced conditions that were far worse; worse even than under serfdom. In England, the word 'poverty' came into common use for the first time to describe the mass of 'paupers' and 'vagabonds' that enclosure produced – words that prior to this period rarely if ever appeared in English texts.

Yet as far as Europe's capitalists were concerned, enclosure was working like magic. It enabled them to appropriate huge amounts of land and resources that had previously been off limits. Economists have always recognised that some kind of initial accumulation was necessary for the rise of capitalism. Adam Smith called this 'previous accumulation', and claimed that it came about because a few people worked really hard and saved their earnings – an idyllic tale that still gets repeated in economics textbooks. But historians see it as naïve. This was no innocent process of saving. It was a process of plunder. Karl Marx insisted on calling it 'primitive accumulation', to highlight the barbaric nature of the violence it entailed.

But the rise of capitalism also depended on something else. It needed labour. Lots of it, and cheap. Enclosure solved this problem too. With subsistence economies destroyed and commons fenced off, people had no choice but to sell their labour for wages – not to earn a bit of extra income, as under the previous regime, nor to satisfy the demands of a lord, as under serfdom, but *simply in order to survive*. They became, in a word, proletarians. This was utterly new in world history. Such people were

referred to at the time as 'free labourers', but this term is misleading: true, they were not forced to work as slaves or serfs, but they nonetheless had little choice in the matter, as their only alternative was starvation. Those who controlled the means of production could get away with paying rock-bottom wages, and people would have to take it. Any wage, no matter how small, was better than death.

All of this upends the usual story that we're told about the rise of capitalism. This was hardly a natural and inevitable process. There was no gradual 'transition', as people like to assume, and it certainly wasn't peaceful. Capitalism rose on the back of organised violence, mass impoverishment, and the systematic destruction of self-sufficient subsistence economies. It did not put an end to serfdom; rather, it put an end to the progressive revolution that had ended serfdom. Indeed, by securing virtually total control over the means of production, and rendering peasants and workers dependent on them for survival, capitalists took the principles of serfdom to new extremes. People did not welcome this new system with open arms; on the contrary, they rebelled against it. The period from 1500 to the 1800s, right into the Industrial Revolution, was among the bloodiest, most tumultuous times in world history.

For human welfare, the consequences of enclosure were devastating. It reversed all of the gains the free peasants had won. According to the economists Henry Phelps Brown and Sheila Hopkins, from the 1500s to the 1700s real wages declined by as much as 70%.¹³ Nutrition deteriorated and starvation became commonplace: some of the worst famines in European history struck in the 1500s, as subsistence economies were ripped up.

The social fabric was left so shredded that between 1600 and 1650 populations across Western Europe actually declined. In England, we can see the imprint of this catastrophe clearly in the historical public health record: average life expectancy at birth fell from forty-three years in the 1500s to the low thirties in the 1700s.¹⁴

We all know that famous quote by Thomas Hobbes, where he says that life in the 'state of nature' was 'nasty, brutish and short'. He wrote those words in 1651. We read Hobbes as describing a putative condition of misery that existed *before* capitalism; a problem that capitalism was supposed to solve. But exactly the opposite is true. The misery he described was created by the rise of capitalism itself. Indeed, at that time Europe was one of the poorest, sickest places in the world; at least for commoners.¹⁵ And what Hobbes didn't know is that it was about to get worse.

The enclosure movement went further in Britain than anywhere else in Europe. The monarchy had initially sought to limit enclosure, worried about the social crises it was creating. But those limits were abolished after the Civil War of the 1640s and the so-called Glorious Revolution of 1688, when the bourgeoisie assumed control of Parliament and obtained the power to do more or less whatever they pleased. Wielding the full force of the state, they introduced a series of laws – the Parliamentary Enclosures – that set off a wave of dispossession faster and more far-reaching than anything that had come before. Between 1760 and 1870, some 7 million acres were enclosed by legal writ, about one-sixth of England. By the end of this period there was almost no common land left in the country.

This final, dark episode in the destruction of the English peasant system coincided exactly with the Industrial Revolution. The dispossessed poured desperate and shell-shocked into the cities,

where they provided the cheap labour that fuelled the dark Satanic mills immortalised in the poetry of William Blake.

Industrial capitalism took off, but at extraordinary human cost. Simon Szreter, one of the world's leading experts on historical public health data, has shown that this first century of the Industrial Revolution was characterised by a striking deterioration in life expectancy, down to levels not seen since the Black Death in the fourteenth century. In Manchester and Liverpool, the two giants of industrialisation, life expectancy collapsed compared to non-industrialised parts of the country. In Manchester it fell to a mere twenty-five years. And it was not just in England; this same effect can be seen in every other European country where it has been studied. The first few hundred years of capitalism generated misery to a degree unknown in the pre-capitalist era.¹⁶

Growth as colonisation

Historians have made big strides in understanding how the rise of capitalism depended on enclosure. But too often this story ignores the patterns of primitive accumulation that were playing out at the same time beyond Europe's shores, as part of the very same process. Across the global South, nature and human bodies were enclosed to an extent that dwarfed what happened within Europe itself.

When Europeans began to colonise the Americas in the decades after 1492, they were not driven by the romance of 'exploration' and 'discovery', as our schoolbooks would have it. Colonisation was a response to the crisis of elite disaccumulation that had been caused by the peasant revolutions in Europe. It was a 'fix'. Just as elites turned to enclosure at home, they sought new frontiers for appropriation abroad, beginning with Christopher Columbus's first voyage to the Americas. These two processes unfolded simultaneously. In 1525, the very year that German nobles massacred those 100,000 peasants, the Spanish king Carlos I awarded the kingdom's highest honour to Hernán Cortés, the conquistador who slayed 100,000 Indigenous people as his army marched through Mexico and destroyed the Aztec capital of Tenochtitlán. The congruence of these two events is no accident. In the decades that inaugurated the rise of capitalism, enclosure and colonisation were deployed as part of the same strategy.

The scale of colonial appropriation was staggering. From the early 1500s through the early 1800s, colonisers siphoned 100 million kilograms of silver out of the Andes and into European ports. To get a sense of the scale of this wealth, consider this thought experiment: if invested in 1800 at the historical average rate of interest, that quantity of silver would today be worth \$165

trillion – more than double the world's GDP. And that's on top of the gold that was extracted from South America during the same period. This windfall played a key role in the rise of European capitalism. It provided some of the surplus that ended up invested in the Industrial Revolution; it enabled the purchase of land-based goods from the East, which allowed Europe to shift its population from agriculture to industrial production; and it funded the military expansion that powered further rounds of colonial conquest.¹⁷

Colonisation also provided the key raw materials that fuelled the Industrial Revolution. Take cotton and sugar, for example. Cotton was the most important commodity in Britain's industrial rise; the lifeblood of Lancashire's iconic mills. And sugar became a key source of cheap calories for Britain's industrial workers. But neither cotton nor sugar grow in Europe. To get them, Europeans appropriated vast tracts of land for plantation agriculture – millions of acres across much of Brazil, the West Indies and North America. By the year 1830, Britain alone was appropriating the equivalent of 25 to 30 million acres of productive land from its New World colonies.¹⁸ And this was not regulated, conscientious extraction. Colonial mining, logging, and plantation monoculture caused ecological damage on a scale that was, up to that point, historically unprecedented. Indeed, what made the colonial frontiers so attractive to capital in the first place was that the land – and the people who lived on it – could be mistreated with impunity.

As for who powered all these mines and plantations: up to 5 million Indigenous Americans were enslaved for this purpose – a process so violent that it wiped out much of the population.¹⁹ But even this was not enough. Another 15 million souls were shipped across the Atlantic from Africa during three centuries

of state-sponsored human trafficking by European powers, from the 1500s to the 1800s. The United States extracted so much labour from enslaved Africans that, if paid at the US minimum wage, with a modest rate of interest, it would add up to \$97 trillion today – four times the size of the US GDP.²⁰ And that's just the United States; it doesn't count the Caribbean and Brazil. The slave trade amounted to an extraordinary appropriation of labour, transferred from Indigenous and African communities into the pockets of European industrialists.

But there were also subtler forms of appropriation at work. In India, British colonisers extracted extraordinary sums of money in the form of taxes levied on farmers and artisans. Between the years 1765 and 1938, they siphoned the equivalent of \$45 trillion out of India and into British coffers. This flow allowed Britain to buy strategic materials like iron, tar and timber, which were essential to the country's industrialisation. They also used it to finance the industrialisation of white settler colonies like Canada and Australia, and to pay for the British welfare system that, after the 1870s, finally started to address the misery generated by enclosure (in the late 19th century, more than half of Britain's domestic budget was funded by money appropriated from India and other colonies).²¹ Today, British politicians often seek to defend colonialism by claiming that Britain helped 'develop' India. But in fact exactly the opposite is true: Britain used India to develop itself.

The point here is that the rise of capitalism in Europe – and Europe's Industrial Revolution – did not emerge *ex nihilo*. It hinged on commodities that were produced by enslaved workers, on lands stolen from colonised peoples, and processed in factories staffed by European peasants who had been forcibly dispossessed by enclosure. We tend to think of these as

separate processes, but they were all part of the same project, and operated with the same underlying logic. Enclosure was a process of internal colonisation, and colonisation was a process of enclosure. Europe's peasants were dispossessed from their lands just as Indigenous Americans were (although, notably, the latter were treated much worse, excluded from the realm of rights, and even humanity, altogether). And the slave trade is nothing if not the enclosure and colonisation of bodies – bodies that were appropriated for the sake of surplus accumulation just as land was, and treated as property in the same way.

It might be tempting to downplay these moments of violence as mere aberrations in the history of capitalism. But they are not. They are the foundations of it. Under capitalism, growth always requires new frontiers from which to extract uncompensated value. It is, in other words, intrinsically colonial in character.

Colonial interventions added a final piece to the rise of capitalism. Europe's capitalists had created a system of mass production, but they needed somewhere to sell. Who would absorb all this output? The enclosures provided a partial solution: by destroying self-sufficient economies, they created not only a mass of workers but also a mass of consumers – people wholly dependent on capital for food, clothes and other essential goods. But this alone was not enough. They needed to break into new markets abroad. The problem was that much of the global South, particularly Asia, had their own artisanal industries – often regarded as the finest in the world – and they were uninterested in importing things they could make for themselves. Colonisers solved this problem by using asymmetric trade rules to destroy local industries across the South, forcing the colonies to serve

not only as a source of raw materials but also as a captive market for Europe's mass-produced goods. This completed the circuit. But the consequences were devastating: as European capital grew, the South's share of global manufacturing collapsed, from 77% in 1750 down to 13% by 1900.²²

The paradox of artificial scarcity

In the wake of enclosure, Europe's peasants – those who remained in rural areas rather than migrating to cities – found themselves subject to a new economic regime. They were back once again under the rule of landlords, but this time in an even worse position: at least under serfdom they had secure access to land; now they were granted only temporary leases on it. And these weren't just ordinary leases. They were allocated on the basis of productivity. So to retain their access to land peasants had to devise ways to intensify their production, working longer hours and extracting more from the soil each year. Those who fell behind in this race would lose their tenancy rights and face starvation. This put peasants in direct competition with one another, with their own kin and neighbours, transforming what had been a system of collective co-operation into one organised around desperate antagonism.

The application of this logic to land and farming marked a fundamental transformation in human history. It meant that, for the first time, people's lives were governed by the imperatives of intensifying productivity and maximising output.²³ No longer was production about satisfying needs, no longer about local sufficiency; instead, it was organised around profit, and for the benefit of capital. This is crucial: those principles of *homo economicus* that we assume to be engraved in human nature were *instituted* during the enclosure process.²⁴

The same pressures were at play in the cities. Refugees from enclosure who ended up in urban slums had no choice but to accept work for meagre wages. Because the refugees were many and jobs were few, competition among workers drove down the cost of labour, destroying the guild system that had previously

protected the livelihoods of skilled craftsmen. Faced with the constant threat of replacement, workers were under pressure to produce as much as was physically possible; they regularly worked for sixteen hours a day, significantly longer than they had worked prior to enclosure.

These regimes of forced competition generated a dramatic surge in productivity. Between 1500 and 1900, the quantity of grain extracted per acre of land shot up by a factor of four. And it was this feature – known at the time as 'improvement' – that came to serve as the core justification for enclosure. The English landowner and philosopher John Locke admitted that enclosure was a process of theft from the commons, and from commoners, but he argued that this theft was morally justifiable because it enabled a shift to intensive commercial methods that increased agricultural output.²⁵ Any increase in total output, he said, was a contribution to the 'greater good' – the betterment of humanity. The same logic was used to justify colonisation, and invoked by Locke himself to defend his claims to American lands. Improvement became the alibi for appropriation.

Today, the very same alibi is routinely leveraged to justify new rounds of enclosure and colonisation – of lands, forests, fisheries, of the atmosphere itself; but instead of 'improvement' we call it 'development', or 'growth'. Virtually anything can be justified if it contributes to GDP growth. We take it as an article of faith that growth benefits humanity as a whole; that it is essential to human progress. But even in Locke's time the alibi was clearly a ruse. While the commercialisation of agriculture did increase total output, the only 'improvement' was to the profits of the landowners. While output soared, commoners were hit by two centuries of famine. So too in the factories. None of the gains from the surge in labour productivity went back to the workers themselves; indeed, wages *declined* during the enclosure period.

Profits were pocketed instead by those who owned the means of production.

The essential point to grasp here is that the emergence of the extraordinary productive capacity that characterises capitalism depended on creating and maintaining conditions of *artificial scarcity*. Scarcity – and the threat of hunger – served as the engine of capitalist growth. The scarcity was artificial in the sense that there was no actual deficit of resources: all the same land and forests and waters remained, just as they always had, but people's access to them was suddenly restricted. Scarcity was created, then, in the very process of elite accumulation. And it was enforced by state violence, with peasants massacred wherever they found the courage to tear down the barriers that cut them off from the land.²⁶

This was a conscious strategy on the part of Europe's capitalists. In Britain, the historical record is full of commentary by landowners and merchants who felt that peasants' access to commons during the revolutionary period had encouraged them to leisure and 'insolence'. They saw enclosure as a tool for enhancing the 'industry' of the masses.

'Our forests and great commons make the poor that are upon them too much like the Indians,' wrote the Quaker John Bellers in 1695; '[they are] a hindrance to industry, and are nurseries of idleness and insolence'. Lord John Bishton, author of a 1794 report on agriculture in Shropshire, agreed: 'The use of common lands operates on the mind as a sort of independence.' After enclosure, he wrote, 'the labourers will work every day in the year, their children will be put out to labour early,' and 'that subordination of the lower ranks of society which in the present time is so much wanted would be thereby considerably secured.'

In 1771 the agriculturalist Arthur Young noted that 'everyone but an idiot knows that the lower classes must be kept poor, or they will never be industrious'. The Reverend Joseph Townsend emphasised in 1786 that 'it is only hunger which can spur and goad them on to labour'. 'Legal constraint,' Townsend went on, 'is attended with too much trouble, violence, and noise . . . whereas hunger is not only a peaceable, silent, unremitted pressure, but as the most natural motive to industry, it calls forth the most powerful exertions . . . Hunger will tame the fiercest animals, it will teach decency and civility, obedience and subjugation to the most brutish, the most obstinate, and the most perverse.'

Patrick Colquhoun, a powerful Scottish merchant, saw poverty as an essential precondition for industrialisation:

Poverty is that state and condition in society where the individual has no surplus labour in store, or, in other words, no property or means of subsistence but what is derived from the constant exercise of industry in the various occupations of life. Poverty is therefore a most necessary and indispensable ingredient in society, without which nations and communities could not exist in a state of civilisation. It is the lot of man. It is the source of wealth, since without poverty, there could be no labour; there could be no riches, no refinement, no comfort, and no benefit to those who may be possessed of wealth.

David Hume (1752) built on these sentiments to elaborate an explicit theory of 'scarcity': 'Tis always observed, in years of scarcity, if it be not extreme, that the poor labour more, and really live better.'²⁷ These passages reveal a remarkable paradox. The proponents of capitalism themselves believed it was necessary to *impoverish* people in order to generate growth.

This same strategy was deployed across much of the rest of the world during European colonisation. In India, colonisers tried to pressure people to shift from subsistence farming to cash crops for export to Britain: opium, indigo, cotton, wheat and rice. But Indians were unwilling to make this transition voluntarily. To break their resistance, British officials imposed taxes that plunged peasants into debt, leaving them with no choice but to comply. The British East India Company and later the Raj sought to speed this transition along by dismantling the communal support systems that people relied on: they destroyed granaries, privatised the irrigation systems, and enclosed the commons that people used for wood, fodder and game. The theory was that these traditional welfare systems made people 'lazy', accustomed to easy food and leisure; by removing them, you could discipline people with the threat of hunger, and get them to compete with one another to extract ever higher yields from the land.

From the perspective of agricultural productivity, it worked; but the destruction of subsistence agriculture and communal support systems left peasants vulnerable to market fluctuations and droughts. During the last quarter of the nineteenth century, the height of the British Empire, 30 million Indians perished needlessly of famine in what the historian Mike Davis has called the 'Late Victorian Holocausts'. Needless, because even at the peak of the famine there was a net surplus of food. In fact, Indian grain exports more than tripled during this period, from 3 million tons in 1875 to 10 million tons in 1900. This was artificial scarcity taken to new extremes – far worse than anything that was inflicted within Europe.²⁸

In Africa, colonisers faced what they openly called 'the Labour Question': how to get Africans to work in mines and on plantations for low wages. Africans generally preferred their subsistence lifestyles, and showed little inclination to do back-breaking work

in European industries. The promise of wages was in most cases not enough to induce them into what they considered to be needless labour. Europeans fumed at this resistance, and responded by either forcing people off their land (the Native Lands Act in South Africa shoved the black population onto a mere 13% of the country's territory), or forcing them to pay taxes in European currency. Either course of action left Africans with no option but to sell themselves for wages.

The same process of enclosure and forced proletarianisation played out over and over again during the period of European colonisation – not just under the British but under the Spanish, Portuguese, French and Dutch as well – with examples too numerous to recite here. In all of these cases scarcity was created, purposefully, for the sake of capitalist expansion.

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How odd that the history of capitalism – a system that generated such extraordinary material productivity – is marked by the constant creation of scarcity, scarred by devastating famines and a centuries-long process of immiseration. This apparent contradiction was first noticed in 1804 by James Maitland, the 8th Earl of Lauderdale.²⁹ Maitland pointed out that there is an inverse relation between what he called 'private riches' and 'public wealth', or commons, such that an increase in the former can only ever come at the expense of the latter.

'Public wealth,' Maitland wrote, 'may be accurately defined to consist of all that man desires, as useful or delightful to him.' In other words, it has to do with goods that have an intrinsic use value even when they are abundant, including air, water and food. Private riches, on the other hand, consist 'of all that man desires as useful or delightful to him; which exists in a degree of

scarcity. The scarcer something is, the more money you can extort from people who need it. For instance, if you enclose an abundant resource like water and establish a monopoly over it, you can charge people to access it and therefore increase your private riches. This would also increase what Maitland called the 'sum-total of individual riches' – what today we might call GDP. But this can be accomplished only by curtailing people's access to what was once abundant and free. Private riches go up, but public wealth goes down. This became known as the 'Lauderdale Paradox'.

Maitland recognised that this was happening during the process of colonisation. He noticed that colonisers were burning down orchards that produced fruits and nuts, so people who once lived off the natural abundance of the land would be compelled instead to work for wages and purchase food from Europeans. What was once abundant had to be made scarce. Perhaps the most iconic example of this was the salt tax the British Raj imposed on India. Salt was freely available all along India's coasts – all you had to do was bend down and scoop it up. Yet the British made people pay for the right to do this, as part of a scheme to produce revenue for the colonial government. Public wealth had to be sacrificed for the sake of private riches; commons sabotaged for growth.

The great separation

Enclosure and colonisation were necessary preconditions for the rise of European capitalism. They opened frontiers for the appropriation of cheap resources, destroyed subsistence economies, created a mass of cheap labour, and by generating artificial scarcity set the engines of competitive productivity in motion. Yet, as powerful as these forces were, they were not sufficient to break down the barriers to elite accumulation. Something else was needed – something far subtler but nonetheless equally violent. Early capitalists not only had to find ways to compel people to work for them, they also had to change people's beliefs. They had to change how people regarded the living world. Ultimately, capitalism required a new story about nature.

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For most of our 300,000-year history, we humans have had an intimate relationship with the rest of the living world. We know that people in early human societies were likely to be able to describe the names, properties and personalities of hundreds if not thousands of plants, insects, animals, rivers, mountains and soils, in much the same way people today know the most recondite facts about actors, celebrities, politicians and product brands. Aware that their existence depended on the well-being of other living systems around them, they paid close attention to how those systems worked. They regarded humans as an inextricable part of the rest of the living community, which they saw in turn as sharing the essential traits of humanity. Indeed, the art our ancestors left hidden on stone surfaces around the world suggests that they believed in a sort of spiritual interchangeability between humans and non-human beings.

Anthropologists refer to this way of seeing the world as animism – the idea that all living beings are interconnected, and share in the same spirit or essence. Because animists draw no fundamental distinction between humans and nature, and indeed in many cases insist on the underlying relatedness – even *kinship* – of all beings, they have strong moral codes that prevent them from exploiting other living systems. We know from animist cultures today that while people of course fish, hunt, gather and farm, they do so in the spirit not of extraction but of *reciprocity*. Just as with gifts exchanged among people, transactions with non-human beings are hedged about with rituals of respect and politeness. Just as we take care not to exploit our own relatives, so animists are careful to take no more than ecosystems can regenerate, and give back by protecting and restoring the land.

In recent years anthropologists have come to see this as more than just a cultural difference. It is deeper than that. It is a fundamentally different way of conceptualising the human. It is a different kind of *ontology* – an ontology of inter-being.

This ontology came under attack with the rise of empires, which gradually came to see the world as split in two, with a spiritual realm of gods separate from and above the rest of creation. Humans were given a privileged place in this new order: made in the image of the gods themselves, and thus possessed of the right to rule over the rest of creation. This idea – the principle of ‘dominion’ – grew firmer during the Axial Age with the rise of transcendental philosophies and religions across the major Eurasian civilisations: Confucianism in China; Hinduism in India; Zoroastrianism in Persia; Judaism in the Levant and Sophism in Greece. We can see it spelled out in ancient Mesopotamian texts dating back 3,000 years. And perhaps nowhere is this clearer than in Genesis itself:

And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every thing that creeps upon the ground.

In the fifth century BC this new way of seeing the world received a boost from Plato, who built his whole philosophy on the idea of a transcendental realm separate from an earthly realm. The transcendental realm was the source of abstract Truth and Reality, the ideal essence of things, while the material world was but a poor imitation – a mere shadow. This idea came to inform the Christian notion of a spiritual heaven set in opposition to a worldly realm of mere matter – sinful, decaying and passing away. Indeed, the Church, and the Christian Roman Empire that expanded across Europe, vigorously sponsored the Platonic view, which came to be formalised in the doctrine of *contemptus mundi*: ‘contempt for the world’.

But despite the rise of these new ideas, most people held firm to relational ontologies. Even among philosophers, counter-discourses remained strong. Aristotle, Plato’s most famous student, publicly rejected transcendentalism, insisting that the essence of things lies within them, not in some ethereal elsewhere, and that all beings have souls and share versions of the same spirit. Building on Aristotle, many philosophers regarded the living world itself as an intelligent organism, or even as a deity. Cicero wrote in the second century BC that ‘the world is a living and wise being’: it reasons and feels, and all its parts are interdependent. For the Stoics, who were influential in Athens during the first century, God and matter were synonymous – and therefore matter itself pulsed with divinity. The Roman philosopher Seneca saw the earth as a living organism with

springs and rivers flowing through her like blood through veins, with metals and minerals forming slowly in her womb, and morning dew like perspiration on her skin.³⁰

These ideas remained prominent in so-called pagan cultures across Europe, which rejected the Christian distinction between sacred and profane. They regarded the living world – plants and animals, mountains and forests, rivers and rain – as enchanted, filled with spirits and divine energy. As Christendom expanded through Europe it sought to repress these ideas wherever it encountered them, as in the persecution of the Celtic Druids, but it never succeeded in stamping them out; they remained common currency among peasants. In fact, after 1200 animistic ideas enjoyed a striking revival, as new translations of Aristotle's texts became available in Europe and gave legitimacy to peasant beliefs.³¹ And in the wake of the peasant rebellions, as feudalism collapsed after 1350 and commoners wrested control of the land from feudal lords, these ideas became openly accepted.

We can trace animistic ontologies all the way to the Renaissance, where even then the dominant view regarded the material world as animated, and saw the Earth as a living, nurturing mother. In the fifteenth century, Pico della Mirandola wrote:

All this great body of the world is a soul, full of intellect and of God, who fills it within and without and vivifies the All . . . The world is alive, all matter is full of life . . . Matter and bodies or substances . . . are energies of God. In the All there is nothing which is not God.

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But then something happened. In the 1500s, there were two powerful factions of European society who were worried about

the striking revival of animistic ideas, and set out to destroy them.

One was the Church. As far as the clergy were concerned, the notion that spirit suffused the material world threatened their claim to be the only conduits to the divine, and the only legitimate proxies of divine power. This was a problem not only for priests, but also for the kings and aristocrats who ultimately depended on their sanction. Animistic ideas had to be defeated because they were loaded with subversive implications. If spirit is everywhere, then there is no God – and if there is no God then there is no priest, and no king. In such a world, the divine right of kings crumbles into incoherence.³² And that's exactly what happened. The ideas of Aristotle inspired many of the medieval peasant rebellions that sought to overthrow feudalism. These movements were denounced by the Church as heretical, and the charge of heresy was used to justify brutal violence against them.

But there was another powerful faction that regarded animist ideas as a problem: capitalists. The new economic system that began to dominate after 1500 required a new relationship with the land, with the soils, and with the minerals beneath the surface of the earth: one built on the principles of possession, extraction, commodification and ever-increasing productivity, or, in the discourse of the time, 'improvement'. But in order to possess and exploit something you must first regard it as an object. In a world where everything was alive and pulsing with spirit and agency, where all beings were regarded as subjects in their own right, this sort of possessive exploitation – in other words, property – was ethically unfathomable.

The historian Carolyn Merchant argues that animistic ideas limited the extent to which people considered it permissible to plunder the earth. "The image of the earth as a living organism

and nurturing mother had served as a cultural constraint restricting the actions of human beings,' she writes. 'One does not readily slay a mother, dig into her entrails for gold or mutilate her body . . . As long as the earth was considered to be alive and sensitive, it could be considered a breach of human ethical behaviour to carry out destructive acts against it.'³³

This is not to say that people didn't extract from the land or mine the mountains. They did; but they did so with careful decorum and rituals of respect. Miners, smiths and farmers offered propitiation. They believed they were permitted to take from the earth, as one might receive a gift, but that to take too much, or too violently, would invite calamity. The Roman naturalist Pliny wrote in the first century that earthquakes were an expression of the earth's indignation at being mined out of avarice rather than out of need:

We trace out all the veins of the earth, and yet . . . are astonished that it should occasionally cleave asunder or tremble: as though these signs could be any other than expressions of the indignation felt by our sacred parent! We penetrate her entrails, and seek for treasures . . . as though each spot we tread upon were not sufficiently bounteous and fertile for us!

Those who sought to advance capitalism had to find a way not only to strip humans from the land, but to destroy the animist ideas that enjoyed such prominence – to strip the earth of its spirit and render it instead a mere stock of 'natural resources' for humans to exploit.

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They found their first answer in Francis Bacon (1561–1626), the Englishman celebrated as the 'father of modern science'.

Bacon's legacy is eulogised in school textbooks today, and for good reason: he made significant contributions to the scientific method. But there is a rather sinister side to his story that has largely fallen out of public consciousness. Bacon actively sought to destroy the idea of a living world, and to replace it with a new ethic that not only sanctioned but celebrated the exploitation of nature. To this end, he took the ancient theory of nature-as-female and transformed her from a nurturing mother into what he called a 'common harlot'. He cast nature, and indeed matter itself, as devious, disordered, wild and chaotic – a beast that, to quote his words, must be 'restrained', 'bound' and 'kept in order'.

For Bacon, science and technology were to serve as the instruments of domination. 'Science should as it were torture nature's secrets out of her,' Bacon wrote. And with the knowledge thus gained, 'man' would not 'merely exert a gentle guidance over nature's course', but 'have the power to conquer and subdue, to shake her to her foundations'. Nature must be 'bound into service' and made into a 'slave,' 'forced out of her natural state and squeezed and moulded' for human ends.

Bacon's use of torture as a metaphor here is revealing, as he himself – in his role as Attorney General under King James I – deployed torture against the peasant rebels and heretics of his time, and worked to legitimise the practice as a means of defending the state. Just as Bacon saw torture as a weapon against peasant insurrection, so he saw science as a weapon against nature. Like peasants, nature had resisted domination too long. Science was to break her once and for all.

In Bacon's writing we can also see hints of another idea emerging. Not only is nature something to be controlled and manipulated, it is also transformed from a living organism into inert matter. Nature may appear to be alive and moving, but its

motion should be understood as that of a machine, Bacon said – nothing more than a system of pumps and springs and cogs. But it was in the hands of another man, only a few years later, that this vision of nature-as-machine was formulated into a coherent philosophy: the French thinker René Descartes.

Descartes realised that the domination of nature Bacon called for could only be justified if nature was rendered lifeless. To accomplish this, he reached back to Plato's idea of a world divided in two, and gave it a new spin. He argued that there was a fundamental dichotomy between mind and matter. Humans are unique among all creatures in having minds (or souls), he claimed – the mark of their special connection to God. By contrast, the rest of creation is nothing but unthinking material. Plants and animals have no spirit or agency, intention or motivation; they are mere automatons, operating according to predictable mechanical laws, ticking away like a clock (Descartes was famously enamoured of clocks).

In an attempt to prove the point, Descartes took to dissecting living animals. He nailed their limbs to boards and probed their organs and nerves – including, in one particularly grotesque episode, his wife's dog. While the animals writhed and wailed in agony, he insisted this was only the 'appearance' of pain, just a reflex: muscles and tendons responding automatically to physical stimuli. He urged people not to be fooled by the appearance of sentience or intelligence. It's not the deer or the owl itself that is the appropriate object of analysis, he said: to recognise the mechanical nature of life you have to dig in and peer at the parts, not the whole. What seems like life is really just inert matter. An object.

In Descartes' hands, the continuum between humans and the rest of the living world was sliced into a clear, unbridgeable dichotomy. This vision came to be known as *dualism*, and

Descartes' theory of matter came to be known as mechanical philosophy. It was an explicit attempt to disenchant the world – a direct attack on the remaining principles of animist philosophy. And from the 1630s, these ideas came to dominate science. We often think of the Church and science as antagonists, but in fact the architects of the Scientific Revolution were all deeply religious, and shared common cause with the clergy: to strip nature of spirit.

During the Enlightenment, dualist thought became mainstream for the first time in history. It gave sanction to the enclosure and privatisation of common land, as land was rendered but a thing to be possessed. And it was enclosure, in turn, that enabled dualism's rise to cultural dominance: only once commoners were alienated from the land and severed from forest ecosystems could they be convinced to imagine themselves as fundamentally separate from the rest of the living world, and to see other beings as objects.

Of course, the fallacies of mechanical philosophy couldn't last long. Within a century the notion of inert matter was debunked, as it became clear to scientists that animals and plants and other organisms are in fact alive.³⁴ But the damage was done. Dualism had taken hold in European culture. It became entrenched because it satisfied the need of powerful groups to divide the world in two. Once nature was an object, you could do more or less anything you wanted to it. Whatever ethical constraints remained against possession and extraction had been removed, much to the delight of capital. Land became property. Living beings became things. Ecosystems became resources.

Writing in the late 1700s, Immanuel Kant, one of Western philosophy's most celebrated ethicists, wrote: 'As far as non-humans are concerned, we have no direct duties. They are there merely as the means to an end. The end is man.'

The body as 'raw material'

European elites leveraged Descartes' dualism to change people's beliefs about nature. But they also took it one step further, and sought to change people's beliefs about labour, too.

During the revolutionary period, peasant work followed a rhythm that from the perspective of industrialists appeared to be irregular and undisciplined: it depended on weather and seasons, on festivals and feast days. Life was organised around the principles of sufficiency and desire: people would work as much as they needed, and the rest of the time they spent dancing, telling stories, drinking beer . . . having *fun*. As the sociologist Juliet Schor puts it:

The medieval calendar is filled with holidays . . . not only long 'vacations' at Christmas, Easter and midsummer but also numerous saints' and rest days. In addition to official celebrations, there were often weeks' worth of ales – to mark important life events (brides' ales or wake ales) as well as less momentous occasions (scot ale, lamb ale and hock ale). All told, holiday leisure time in England took up probably one-third of the year. And the English were apparently working harder than their neighbours. The *ancien regime* in France is reported to have guaranteed fifty-two Sundays, ninety rest days and thirty-eight holidays. In Spain, travellers noted that holidays totalled five months per year.³⁵

According to the English historian E.P. Thompson, these festivals and carnivals 'were, in an important sense, what men and women lived for'.³⁶

All of this posed a problem for the ruling class in the 1500s. Elites complained bitterly about the peasants' festivals, and castigated

them for 'licentious behaviour and liberty'.³⁷ Peasant lifeways were incompatible with the kind of labour that was required for capital accumulation. Labour needed to go well beyond need; it needed to become a total way of life. Yes, enclosure helped solve this problem to some extent, by putting peasants at the mercy of hunger and forcing them to compete with each other. But it was not enough. In the wake of enclosure, Europe filled up with 'paupers' and 'vagabonds' – people who had been pushed off the land but either couldn't find work or otherwise refused to submit to the brutal conditions of the new capitalist farms and factories. They survived by begging, hawking and stealing food.

This problem preoccupied European governments for some three centuries. To deal with it, and assuage elite fears that the growing underclass might come to pose a political threat, states began to introduce laws forcing people to work. In 1531, England's King Henry VIII passed the first Vagabonds Act, describing 'idleness' as 'the mother and root of all vices' and ordering that vagabonds should be bound, whipped, and forced to 'put themselves to labour'. A series of other vagabond acts followed, each harsher than the one before. In 1547, Edward VI decreed that at the first offence vagabonds should be branded with a 'V' and subjected to two years of forced labour. The second offence was punishable by death.

These laws unleashed an extraordinary outpouring of state violence against the dispossessed. In England, as many as 72,000 'idle persons' were hanged during the reign of Henry VIII, according to one account. In the 1570s, up to 400 'rogues' were executed each year.³⁸ The goal was to fundamentally change people's beliefs about labour. Elites had to literally whip people into becoming docile, obedient, productive workers. During this time, philosophers and political theorists developed a peculiar fascination with the body, which they came to see as the repository of

hidden labour-power, the key engine of capitalist surplus. The question was how to most efficiently extract the value that lay slumbering within.

Here too, Descartes came to the rescue. Dualism had established a clear divide between humans and nature, subject and object. But it was not only nature that was objectified in this new system. It was also the body. The body was recast as part of nature. In *Treatise of Man*, Descartes argued that humans are divided into two distinct components: an immaterial mind and a material body. The body – just like nature – was but brute matter, and its functions were like that of a machine. Descartes became enamoured of the anatomy theatre, where bodies were laid out in public and dissected, exposed as being mere flesh, profaned, devoid of spirit, composed of what amounted to ropes and pulleys and wheels. ‘I am not my body,’ Descartes insisted. Rather, it is disembodied thought, or mind, or reason, that constitutes the person. Thus the phrase by which we all know him: ‘I think, therefore I am.’

Descartes succeeded in not only separating mind from body, but also establishing a hierarchical relationship between the two. Just as the ruling class should dominate nature and control it for the purposes of productivity, so the mind should dominate the body for the same purpose.

During the 1600s, Descartes’ views were leveraged to bring the body under control, to defeat its passions and desires, and impose on it a regular, productive order. Any inclination towards joy, play, spontaneity – the pleasures of bodily experience – was regarded as potentially immoral. In the 1700s, these ideas coalesced into a system of explicit values: idleness is sin; productivity is virtue. In the Calvinist theology that was popular in Western Christianity at the time, *profit* became the sign of moral

success – the proof of salvation. To maximise profit, people were encouraged to organise their lives around productivity.³⁹ Those who fell behind in the productivity race and slipped into poverty were branded with the stigma of sin. Poverty was recast not as the consequence of dispossession, but as the sign of personal moral failing.

These ethics of discipline and self-mastery became central to the culture of capitalism. The ‘workhouses’ that were built by parishes across Britain to absorb the ‘idle’ poor functioned partly as factories and partly as cultural re-education camps, rooting out any residual spirit of resistance while instilling the values of productivity, time and respect for authority. In the 1800s, factories developed timetables and the assembly line, with the purpose of squeezing maximum output from each worker. The early 1900s gave us Taylorism, with every tiny motion of a worker’s body reduced to the most efficient possible movement. Work was progressively stripped of meaning, pleasure, talent and mastery.

There is nothing natural or innate about the productivist behaviours we associate with *homo economicus*. That creature is the product of five centuries of cultural re-programming.

Descartes’ theory of the body made it possible to think of human labour as something that can be separated from the self, abstracted, and exchanged on the market – just like nature. As with land and nature, labour too was transformed into a mere commodity; a notion that would have been unthinkable only a century earlier. The refugees that enclosure was producing came to be seen not as subjects with rights, but as a mass of labour to be disciplined and controlled for the sake of capitalist growth.

Cheap nature

The 1600s gave rise to a new way of seeing nature: as something 'other', something separate from society – not just land, soils, forests and mountains, but also the bodies of human beings themselves. This new world view allowed capitalists to objectify nature and pull it into circuits of accumulation. But it also did something else. It allowed them to think of nature as 'external' to the economy. And because it was external it could be made cheap.

In order to generate profits for growth, capital seeks to appropriate nature as cheaply as possible – and ideally for free.⁴⁰ The elites' seizure of Europe's commons after 1500 can be seen as a massive, uncompensated appropriation of nature. So too with colonisation, when Europeans grabbed huge swathes of the global South; vastly more land and resources than Europe itself contained. Silver and gold from South America, land for cotton and sugar in the Caribbean, Indian forests for fuel and ship-building, and – during the scramble for Africa that got under way after 1885 – diamonds, rubber, cocoa, coffee, and countless other commodities. All of this was appropriated virtually for free. By 'free' here I mean not just in the sense that they didn't pay for it, but also in the sense that they gave nothing back. There was no gesture of reciprocity with the land. It was pure extraction; pure theft. In a system where nature is 'external', the costs of plundering it can be externalised.

Enclosure and colonisation enabled the appropriation of cheap labour too. And while capital paid wages, however meagre, to Europe's proletarian workers (mostly males), it did not pay for the (mostly female) labour that reproduced them: the women who cooked their food, cared for them when ill, and raised the

next generation of workers. Indeed, it was enclosure that first produced the figure of the housewife that remains with us today, by cutting women off not only from the means of subsistence but from wage labour too, and confining them to reproductive roles. In the new capitalist system, a mass of hidden female labour was appropriated by elites virtually for free. Descartes' dualism was recruited for this task too. Within the dualist framework, bodies were set out on a spectrum. Women were regarded as closer to 'nature' than men. And they were treated accordingly – subordinated, controlled and exploited.⁴¹ No need for compensation. As with everything shunted into the category of 'nature', the costs of extraction were externalised.

Something similar was playing out in the colonies, but there it was taken further still. During the colonial period, the peoples of the global South were routinely cast as 'nature': as 'savages', as 'wild', as less-than-human. Tellingly, the Spaniards referred to Indigenous Americans as *naturales*. Dualism was recruited in order to justify the appropriation not only of land in the colonies, but of the bodies of the colonised themselves. This played out clearly in the European slave trade. After all, in order to enslave someone, you first have to deny their humanity. Africans and Indigenous Americans were cast as objects in the European imagination, and exploited as such. As the Martiniquan writer Aimé Césaire put it, colonisation is, at base, a process of *thingification*.⁴²

But there was also something else going on. The colonised were cast as 'primitive' precisely because they refused to accept the principles of human-nature dualism.⁴³ In the writings of European colonisers and missionaries we see they were dismayed that so many of the people they encountered insisted on seeing the world as alive – seeing mountains, rivers, animals, plants, and even the land as sentient beings with agency and spirit.

Europe's elites saw animist thought as an obstacle to capitalism – in the colonies just as in Europe itself – and sought to eradicate it. This was conducted in the name of 'civilisation.' To become civilised, to become fully human (and to become willing participants in the capitalist world economy), Indigenous people would have to be forced to abandon animist principles, and made to see nature as an object.

We all know that the violence of colonisation was justified, by its perpetrators, as part of a 'civilising mission'. What we tend not to grasp is that one of the key goals of this mission was to eradicate animist thought. The object was to *turn the colonised into dualists* – to colonise not only lands and bodies, but minds. As the Kenyan writer Ngũgĩ wa Thiong'o has put it: 'Colonialism imposed its control of the social production of wealth through military conquest and subsequent political dictatorship. But its most important area of domination was the mental universe of the colonised, the control, through culture, of how people perceived themselves and their relationship to the world.'⁴⁴

Retweeting Descartes

We are all heirs of dualist ontology. We can see it everywhere in the language we use about nature today. We routinely describe the living world as 'natural resources', as 'raw materials', and even – as if to emphasise its subordination and servitude – as 'ecosystem services'. We talk about waste and pollution and climate change as 'externalities', because we believe that what happens to nature is fundamentally external to the concerns of humanity. These terms roll off our tongues and we don't even think twice about them. Dualism runs so deep that it wriggles into our language even when we're trying to be more conscientious. The very notion of 'the environment' – that thing we're supposed to care about – presupposes that the living world is nothing more than a passive container, a backdrop against which the human story plays out.

'Environment'. The strangeness of this innocent-seeming term becomes even clearer when we translate it into Spanish: *ambiente*. In the language of the conquistadors, the living world is cast as nothing more than mood lighting. From the perspective of animist ontology, this would be equivalent to regarding your mother and siblings as mere decorative portraits adorning the wall. It would be unthinkable.

These ideas didn't end with Bacon and Descartes. They have been retweeted and refined by a long parade of philosophers. Dualist assumptions show up even in postmodernist thought. Postmodernism prides itself on critiquing the hubris of Mind and Self and Truth, and on questioning grand metanarratives of human progress. And yet in the end all it does is take dualism to new extremes. The world, reality, doesn't really exist; or it does exist but it doesn't matter what it is, in itself, since reality is

whatever humans construct it to be. Nothing really exists until it has been *realised* by humans, constituted in human language, given names and meaning, and inserted into our symbolic world. Reality outside our own experience literally dwindles into insignificance. Postmodernists may critique modernism, but only after accepting its basic terms.⁴⁵

It's no wonder that we react so nonchalantly to the ever-mounting statistics about the crisis of mass extinction. We have a habit of taking this information with surprising calm. We don't weep. We don't get worked up. Why? Because we see humans as fundamentally separate from the rest of the living community. Those species are *out there*, in the *environment*. They aren't in here; they aren't part of *us*.⁴⁶ It is not surprising that we behave this way. After all, this is the core principle of capitalism: that the world is not really alive, and it is certainly not our kin, but rather just stuff to be extracted and discarded – and that includes most of the human beings living here too. From its very first principles, capitalism has set itself at war against life itself.

Descartes claimed that the purpose of science was 'to make ourselves the masters and possessors of nature'. Four hundred years later this ethic remains profoundly entrenched in our culture. We not only regard the living world as other, we regard it as an *enemy* – something that needs to be fought and subdued by the forces of science and reason. When Google executives created a new life sciences company in 2015, they named it 'Verily'. Asked to explain this odd name, Verily's CEO Andy Conrad said it had been chosen because 'only through the truth are we going to defeat Mother Nature'.

Two

Rise of the Juggernaut

Capitalism can no more be 'persuaded' to limit growth than a human being can be 'persuaded' to stop breathing.

Murray Bookchin

I still remember when I first learned about the history of capitalism in school. It was a happy story that started with the invention of the steam engine in the eighteenth century and worked its way through a parade of technological innovations, from the flying shuttle all the way up to the personal computer. I remember marvelling at the glossy pictures in the textbook. As this story would have it, economic growth is like a fountain of money that springs forth from technology itself. It's a wonderful tale, and it leaves us with the hopeful impression that with the right technology, we should be able to get growth more or less out of thin air.

But when we think about the longer history of capitalism, it becomes clear that something is missing from this story. Enclosure, colonisation, dispossession, the slave trade . . . historically,