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YANIS VAROUFAKIS

Technofeudalism

What Killed Capitalism

VINTAGE

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Technofeudalism

Preface

Some years ago, I decided to write a brief history of capitalism. To temper the task's enormity, and force myself to focus on what capitalism boils down to, I decided to pretend I was narrating capitalism's story to my then twelve-year-old daughter. So, without seeking Xenia's permission (something she will never let me forget!), I began writing the book in the form of a long letter to her. Taking care to use no jargon (not even the word capitalism!), I kept reminding myself that whether or not my narrative made sense to a youngster was a litmus test of my own grasp of capitalism's essence. The result was a slim volume entitled *Talking to My Daughter: A Brief History of Capitalism*. It took as its starting point an apparently simple question of hers: why is there so much inequality?

Even before it was published in 2017, I was feeling uneasy. Between finishing the manuscript and holding the published book in my hands, it felt as if it were the 1840s and I was about to publish a book on feudalism; or, even worse, like waiting for a book on Soviet central planning to see the light of day in late 1989. Belatedly, that is.

In the years after it was published, first in Greek, later in English, my weird hypothesis that capitalism was on the way out (and not merely undergoing one of its many impressive metamorphoses) gathered strength. During the pandemic, it became a conviction, which became an urge to explain my thinking in a book if for no other reason than to give friends

and foes outraged by my theory a chance to disparage it properly having perused it in full.

So, what is my hypothesis? It is that capitalism is now dead, in the sense that its dynamics no longer govern our economies. In that role it has been replaced by something fundamentally different, which I call technofeudalism. At the heart of my thesis is an irony that may sound confusing at first but which I hope to show makes perfect sense: the thing that has killed capitalism is . . . capital itself. Not capital as we have known it since the dawn of the industrial era, but a new form of capital, a mutation of it that has arisen in the last two decades, so much more powerful than its predecessor that like a stupid, overzealous virus it has killed off its host. What caused this to happen? Two main developments: the privatisation of the internet by America's and China's Big Tech. And the manner in which Western governments and central banks responded to the 2008 great financial crisis.

Before saying a little more on this, I must emphasise that this is not a book about what technology *will* do to us. It is not about AI-chatbots that will take over our jobs, autonomous robots that will threaten our lives, or Mark Zuckerberg's ill-conceived metaverse. No, this book is about what has *already* been done to capitalism, and therefore to us, by the screen-based, cloud-linked devices we all use, our boring laptop and our smartphone, in conjunction with the way central banks and governments have been acting since 2008. The historic mutation of capital that I am highlighting has already happened but, caught up in our pressing dramas, from debt worries and a pandemic to wars and the climate emergency, we have barely noticed. It is high time we paid attention!

If we do pay attention, it is not hard to see that capital's mutation into what I call *cloud capital* has demolished

capitalism's two pillars: markets and profits. Of course, markets and profits remain ubiquitous – indeed, markets and profits were ubiquitous under feudalism too – they just aren't running the show any more. What has happened over the last two decades is that profit and markets have been evicted from the epicentre of our economic and social system, pushed out to its margins, and replaced. With what? Markets, the medium of capitalism, have been replaced by digital trading platforms which look like, but are not, markets, and are better understood as fiefdoms. And profit, the engine of capitalism, has been replaced with its feudal predecessor: rent. Specifically, it is a form of rent that must be paid for access to those platforms and to the cloud more broadly. I call it *cloud rent*.

As a result, real power today resides not with the owners of traditional capital, such as machinery, buildings, railway and phone networks, industrial robots. They continue to extract profits from workers, from waged labour, but they are not in charge as they once were. As we shall see, they have become vassals in relation to a new class of feudal overlord, the owners of cloud capital. As for the rest of us, we have returned to our former status as serfs, contributing to the wealth and power of the new ruling class with our unpaid labour – in addition to the waged labour we perform, when we get the chance.

Does all this matter to the way we live and experience our lives? It certainly does. As I'll show in Chapters 5, 6 and 7, recognising that our world has become technofeudal helps us dissolve puzzles great and small: from the elusive green energy revolution and Elon Musk's decision to buy Twitter to the New Cold War between the USA and China and how the war in Ukraine is threatening the dollar's reign; from the

death of the liberal individual and the impossibility of social democracy to the false promise of crypto and the burning question of how we may recover our autonomy, perhaps our freedom too.

By late 2021, armed with these convictions, and egged on by a pandemic that strengthened them, the die had been cast: I would sit down and write a brief introduction to technofeudalism – the far, far uglier social reality that has superseded capitalism. One question remained: whom to address it to? Without much thought, I decided to address it to the person who had introduced me to capitalism at a ridiculously young age – and who, like his granddaughter, once asked me an apparently simple question that shapes almost every page of this book. My father.

For the impatient reader, a word of warning: my description of technofeudalism does not come until Chapter 3. And for my description to make sense, I need first to recount capitalism's astounding metamorphoses over the preceding decades: this is Chapter 2. The beginning of the book, meanwhile, is not about technofeudalism at all. Chapter 1 tells the story of how my father, with the help of some metal fragments and Hesiod's poetry, introduced my six-year-old self to technology's chequered relationship with humanity and, ultimately, to capitalism's essence. It presents the guiding principles on which all of the thinking that follows is based, and it concludes with that seemingly simple question Father put to me in 1993. The rest of the book takes the form of a letter addressed to him. It is my attempt to answer his killer question.

1. Hesiod's Lament

My father was the only leftie I know who failed to understand why calling Maggie Thatcher 'The Iron Lady' was somehow derogatory. And I must have been the only child raised to believe that gold was iron's poorer cousin.

My catechism in iron's magical qualities began in the winter of 1966, which I recall as a bitterly cold one. In their haste to leave behind the cramped rented apartment where we were staying while our home in Paleo Phaliro, a coastal Athenian suburb, was being rebuilt, my parents moved us back into the not-quite-completed house in the midst of winter, before any central heating had been installed. Thankfully, Dad had insisted that our new living room feature a decent red-brick fireplace. It was there, in front of its warm glow, that over the course of several winter nights he introduced me, one at a time, to his friends, as he called them.

Father's friends

His friends arrived in a large grey sack that he brought home one evening from the 'factory', the steel plant in Eleusis where he would work as a chemical engineer for six decades. They were mightily unimpressive. Some looked like shapeless rocks, lumps of ore as I was to learn later. Others were equally uninspiring rods and metal plates of various shapes. If it weren't for the loving manner in which he laid out each

one of them on a folded white, hand-embroidered tablecloth in front of the fireplace, I would never have thought of them as special.

Tin was the first friend he introduced me to. After giving me a piece to hold, to feel its softness, he placed it in an iron bowl which he then rested on the roaring fire. As the tin began to melt and the metallic liquid filled up the bowl, Dad's eyes lit up. 'All that is solid melts into liquid and, then, given enough heat, turns into steam. Even metals!' Once he was confident I had appreciated the great transition from solid to liquid state, together we poured the liquid tin into a mould, immersed it in water to cool it down, and then broke the mould open so that I could, once again, take the tin in my hands to ascertain that our friend was back to normal – that it had been returned to its initial state.

The following night we experimented with another friend: a longish rod made of bronze. This time there was no great transition, as bronze's melting temperature is at least five times that of tin. Still, the rod began to glow a brilliant orangey red and Dad showed me how to give whatever shape I wanted to its hot tip with the help of a small steel hammer. Once I'd had enough, we immersed it in cold water also to return it, cool and unchanged, to its original, malleable, state.

On the third night, Dad seemed more excited than ever. He was about to introduce me to his best friend, iron. To add tension to the moment, he removed his gold wedding ring from his finger and showed it to me. 'See how gold gleams?' he said. 'Humans have always fallen for this metal because of its looks. What they don't realise is that it is just that: flashy – not special.' If I wanted, he would be happy to demonstrate that when gold is heated up and then immersed in water to

cool it down again, it returns, like tin and bronze, to its prior state. Glad that I did not insist on a demonstration, he moved on to his favourite part.

Holding up a piece of iron ore and gazing at the insipid lump like Hamlet contemplating Yorick's skull, Dad pronounced: 'Now, if you want a truly magical substance, this is it: iron. The Wizard of Materials.' And then he proceeded to back up his claim by subjecting an iron rod to the same torture we had inflicted on the bronze rod the previous night, but with a couple of crucial differences.

Before heating up the iron, I was given a chance to hammer at its tip, to ascertain that it was soft and almost as malleable as bronze. Once in the fireplace, a small bellows helped us fan the flames until the iron's glow had turned the dimly lit living room scarlet. We took the rod out of the fireplace and, with the little hammer, shaped it into something that, in my boyish eyes, looked like a sword. Lowering it into the cold water made the iron hiss as if in triumph. 'Poor Polyphemus!' Father remarked mysteriously.

'Heat it up again,' he said. I put the rod back into the fire. 'This time immerse it in the water *before* it glows.' Excited by the hissing iron, I was glad that we repeated the 'quenching' process, as metallurgists call it, three or four times. Before I got a chance properly to admire my new sword, Dad announced that the moment of truth had arrived. 'Pick up the hammer and deliver an almighty strike on the sword's tip,' he instructed.

'But I don't want to ruin it,' I protested.

'Go on, do it, you'll see. Don't spare your strength!'

I didn't. The hammer struck the sword's tip and bounced right back. I struck it again and again. It made no difference. My sword was impervious to the blows. Hardened.

A child's introduction to historical materialism

Father could not contain himself. What I had witnessed, he explained, was not a mere great transition – as with the tin that melted – but a great transformation. True, copper had facilitated our deliverance from prehistory: its ability to alloy with arsenic and tin to make the harder metal bronze gave the Mesopotamians, the Egyptians and the Achaeans new technologies, including new ploughs, axes and irrigation, allowing them ultimately to produce the large agricultural surpluses that funded the construction of splendid temples and murderous armies. But for history to accelerate sufficiently to bring about what we now call civilisation, humanity needed something much harder still than bronze. It needed its ploughs, its hammers and its metal structures to have the hardness of my sword's tip. It needed to learn the trick I had seen in our living room: how to transform soft iron into hardened steel by 'baptising' it in cold water.

Bronze Age communities that did not learn how to baptise iron perished, he insisted.

The swords of their ironclad enemies sliced through their bronze shields, their ploughs failed to cultivate the less fertile soils, the metal braces holding together their dams and temples were too weak to fulfil the ambitions of forward-thinking architects. In contrast, communities that mustered the *techné*, the art, of 'steeling' iron thrived in the fields, on the battlefields, at sea, in commerce, in the arts. Iron's magic underpinned the new role of technology as the driving force that led to civilisation and its discontents.

Lest I doubted the cultural pertinence of our little experiment – and of the arrival of the Iron Age – Father

explained his earlier reference to 'poor Polyphemus', the one-eyed giant who, according to Homer, imprisoned Odysseus and his men in a cave, taking his time to devour them one by one. To set them and himself free, Odysseus waited for Polyphemus to fall into a drunken stupor, heated up a wooden stake in the cave's open fire and, aided by his comrades, shoved it into Polyphemus' sole eye. 'Remember the sound of the hissing iron?' Dad asked. Well, Homer must have been equally impressed by it, judging by the verse in *The Odyssey* that captures the cruel moment:

And as when a smith dips a great axe or an adze in cold water amid loud hissing to temper it – for therefrom comes the strength of iron – even so did his eye hiss round the stake of olive-wood.¹

Odysseus and his contemporaries preceded the Iron Age and could not have known how iron's hissing heralded a molecular hardening of historic significance. But Homer, who lived a couple of centuries after the Trojan War, was a child of the Iron Age, and thus came of age in the midst of the technological and social revolution that steel had wrought. In case I thought Homer was an outlier, Dad pointed to the lasting influence of iron's magic by quoting Sophocles, who four centuries later described a soul as 'hardened like immersed iron'.

Prehistory gave its place to history, Father said, when bronze displaced stone tools and weapons. Once bronze became widespread after 4000 BC, powerful civilisations emerged in Mesopotamia, Egypt, China, India, Crete, Mycenae and elsewhere. But, still, history was counted in the millennia. To be counted in the centuries, we had to discover the magic of iron. Once the Iron Age got going, around the ninth century BC,

three different and remarkable eras emerged in quick succession, within no more than seven centuries in total: the geometric period, the classical era and the Hellenistic civilisation.

From the glacial speeds of the Bronze Age, humanity had been propelled to the breathless developments of the Iron Age. But for a long time, iron and steel remained too difficult to produce, too expensive. Even after the Industrial Revolution, the first steamships were mostly wooden, with steel providing only the essential components (boiler, chimney, joints). Enter another one of my father's great heroes, Henry Bessemer, who invented a technique for producing large quantities of steel cheaply by blowing air through molten pig iron to burn off the impurities. It was then, according to Dad, that history accelerated to speeds with which we are familiar today. Coupled with the taming of electromagnetism, which we owe to another Victorian, James Maxwell, Bessemer's technique gave us the Second Industrial Revolution – the period of rapid technological innovation from 1870 onwards, as distinct from the arrival of the factories earlier that century in the First Industrial Revolution – its wonders and horrors wrapped tightly together.

Looking back to those few winter nights of 1966, it is now clear to me that I was being inducted in 'historical materialism' – the method of understanding history as a constant feedback loop between, on the one hand, the way humans transform matter and, on the other, the manner in which human thinking and social relations are transformed in return. Thankfully, Father's historical materialism was nuanced, his enthusiasm for technology tempered by judicious doses of angst about humanity's infinite capacity to mess things up, to turn miraculous technology into living hell.

Iron, like all revolutionary technologies, had sped up history.

But in which direction? For what purpose? With what effect on us? As Dad explained, from the very start of the Iron Age there were those who foresaw its tragic consequences. Hesiod was composing poetry at around the same time as Homer. His *Works and Days* had a salutary cooling influence on Dad's enthusiasm for iron and, more generally, technology:

I wish I did not have to live among the people of the Fifth Age [the Iron Age], but either had died earlier or been born later. For now truly is a generation of iron who never rest from labour and sorrow by day or from perishing by night . . . But, notwithstanding the good mingled with their evils . . . [this generation] will know no favour for those who keep their oath or for the just or for the good . . . strength shall be right . . . the wicked will hurt the worthy . . . bitter sorrows will be left for us mortals, and there will be no help against evil.²

According to Hesiod, iron hardened not only our ploughs but also our souls. Under its influence, our spirit was hammered and forged in fire, our brand-new desires quenched like the hissing metal in the smith's cauldron. Virtues were tested and values destroyed just as our bounty burgeoned and our estates expanded. Strength begat new joys but weariness and injustices too. Zeus would have no choice, Hesiod foretold, but to one day destroy a humanity incapable of restraining its own, technologically induced, power.

My father wanted to disagree with Hesiod. He wanted to believe that we humans could become the masters of our technology rather than enslave ourselves and one another with it. When Prometheus stole fire, symbolising the white heat of technology, from Zeus on humanity's behalf, he did so in the hope that it would lighten up our lives without

burning down the Earth. My father wanted to believe we could make Prometheus proud.

From heat to light

An innate optimism was only one reason Dad remained hopeful that humanity would not waste the magical powers he had introduced me to in front of our fireplace. Another was his encounter with the nature of light.

One time, as I was removing an iron rod from the fire, Dad asked: 'Can you guess what leaves the heated-up metal to reach your eye so that you can see its red glow?' I had no idea. Happily, I was not alone.

For centuries, light had divided the best minds, he said. Some, like Aristotle and James Maxwell, thought of light as a kind of disturbance in the ether, a wave that spreads outwards from an initial source – like sound does. Others, such as Democritus and Isaac Newton pointed out that, unlike sound, light cannot bend round corners – something waves do by their very nature – and thus it must be made of tiny things, or particles, travelling in a straight line before hitting our eye's retina. Who was right?

My father's life changed, or so he told me, when he read Albert Einstein's answer: they were *all* right! Light is, at once, a stream of particles *and* a series of waves. But how could that be? Particles differ fundamentally from waves. They are located at only one point at any particular moment in time, they have momentum, and they move only in a straight line unless and until something gets in their way. Waves, by contrast, are oscillations of a medium, which is what allows them to turn corners and transport energy in many different

directions at once. To prove, as Einstein had done, that light was both particles and waves was to admit that something can be two utterly contradictory things at once.

For Dad, the dual nature of light was the gateway to recognising the essential dualism underlying all of nature, and also in society. 'If light could be two very different things at once,' he wondered in a letter he wrote as a young man to his mother, 'if matter is energy and energy matter,' as Einstein had also discovered, 'why must we cast life either in black-and-white terms or, even worse, in some shade of grey?'

By the time I was twelve or thirteen, it was clear to me from our ongoing conversations that Dad's love for iron's magic – technology – and for Einstein's physics – the contradictory duality of all things – had something to do with his left-wing politics, for which he had spent several years in prison camps. My hunch was confirmed when I came across the text of a speech delivered by the same person who had first formulated the notion of historical materialism: Karl Marx. It was as if Dad had been speaking the words:

In our days, everything seems pregnant with its contrary: Machinery, gifted with the wonderful power of shortening and fructifying human labour, we behold starving and overworking it; The newfangled sources of wealth, by some strange weird spell, are turned into sources of want; The victories of art seem bought by the loss of character.³

The power to shorten human labour and make it fruitful resulted from the great transformation of matter Father had been so keen to demonstrate for my benefit: iron turning to steel in our fireplace, heat turning to kinetic energy in James Watt's miraculous fire engine, the minor miracles occurring