

REVIEWS

Paul Mason, *Postcapitalism: A Guide To Our Future*
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THE FREE MACHINE

Paul Mason's *Postcapitalism* is an ambitious book, spanning economic history and theory, the trajectory of socialism, diagnosis of the crisis-prone present and a strategic vision for the future. It is also an unusual one, treating topics typically ceded to left antiquarians with a free spirit that aims to build a grandiose historical-theoretical construction out of insights from Mises and Marx, Luxemburg and Hayek, Preobrazhensky and Gorz. And a best-seller—a notable feat for a work that covers such ground; due in part, perhaps, to Mason's high visibility as economics editor at the BBC and Channel 4. Born in Lancashire in 1960, the son of a lorry driver and a primary school headmistress, Mason claims to have become 'a Marxist at 16, a Trotskyist at 19'. He studied music and politics at Sheffield, starting an academic career in music in the early 1980s before switching to journalism. By the time of the late-90s dot.com bubble he was deputy editor of *Computer Weekly*, then joined *BBC Newsnight* as business editor, his first broadcast discussing the economic fallout of the 11 September attacks. In 2013 he moved to Channel 4. In these posts he has become a household name in Britain, known for his ruffled pieces-to-camera from the frontline of global uprisings. But he has straddled the range of media from TV and radio to newspaper columns, blogs, with a prominent Twitter and Facebook presence, and a novel set in China's Wild West. This year he went freelance to engage with the 'space opening up where the left of social democracy meets the radical left, green and autonomist politics', un beholden to the

constraints of mainstream media, and has been a prominent commentator on the UK's successive crises. Mason's political positions have been oddly ambidextrous: supportive of Corbyn, Occupy and student protests—yet also seeming to call for an upgrade of UK nuclear weapons against the threat of Russian submarines and for the bombing of Assad. If there is a systematic explanation for such eclecticism, he has not yet offered it.

Mason's first book was *Live Working or Die Fighting* (2007), an engaging juxtaposition of episodes from the historic workers' movement with scenes of contemporary class revolt: Peterloo in 1819 and Shenzhen in 2003; Paris in 1871 and Amukoko in 2005. The aim was to furnish alter-globo activists and the newly global working class with a sense of the sweep of the workers' movement the first time around. Without undue optimism or any assumption of mere repetition, Mason nonetheless looked forward to a workers' movement to come. In 2008 his reporting placed him outside Lehman Brothers as it collapsed, and he drew on such experiences in *Meltdown* (2009), again entwining journalism with a longer view. Tracking from Lehman to the beginnings of Eurozone turbulence, Mason dipped into the prehistory of the crisis in deregulation, neoliberal ideology and global imbalances. He identified information technology as the driving force behind the neoliberal moment, and as signalling a rupture in the regular cycles of capitalist growth—a technological theme that gained prominence in *Why It's Kicking Off Everywhere* (2012), which turned again to vivid portraits of social struggles, surveying the 2010–12 global explosion. Mason found his answers in the emergence of educated but disenfranchised youth, newly networked through technologies that enabled spontaneous, horizontal modes of organizing.

Postcapitalism develops these themes into a striking synthesis. Starting again from the collapse of Lehman, the argument is built through ten interlinked chapters, each raising a question for the next, moving from economic-historical panorama, through the effects of an ascendant 'information', to issues of transitions and programmes. What lay at the root of 2008? Neoliberalism's internal contradictions—financialization and wage stagnation; a resulting rupture between lending and saving; global imbalances between import- and export-focused economies—all riding on a fiat currency premised upon the legitimacy of the US state, which enabled the Fed to generate 'wave after wave of false signals from the future'. The situation has been stabilized by bailouts, zero interest rates and \$12 trillion in quantitative easing, with the costs transferred to wage-earners. But since this model increases financial fragility, it has paved the way for the next crisis—without the possibility of comparable bailouts. Real wages are still falling, while the shadow-banking sector has grown, and debt is three times

global GDP. Meanwhile, technology has enabled people to rebel and ‘opened whole areas of economic life to the possibility of collaboration and production beyond the market’.

How did this situation come about? Mason sets himself the task of locating it in ‘a picture of capitalism’s overall destiny’, drawing on the rough fifty-year waves that Soviet economist Nikolai Kondratieff perceived in the 1920s, from technological roll-outs through wars and revolutions to slowdowns, financialization and depression, and which he explained—echoing Marx—in terms of a cyclical need to renew infrastructures. There have, Mason thinks, been four so far: 1790–1848, 1848–mid-1890s, 1890s–1945 and late-1940s–2008, each involving a long upswing, a crisis and a downturn. Mason’s talent for synopsis is exemplified here in his sketch of debates around Kondratieff’s work. Trotsky argued that conjunctural, political factors were more important than economic ones in determining capitalism’s rhythms, and that the real curve to be understood was not waves within capitalist history, but the trajectory of capitalism as such. For the economist V. E. Bogdanov, the problem with Kondratieff’s theory was that it didn’t take account of interactions with the non-capitalist world; for Miron Nachimson, it was a challenge to the Bolshevik faith in capitalism’s imminent doom. Appropriated by Schumpeter and his followers, attacked by Samuelson, Kondratieff waves have been disputed since. Doubt was cast by the discovery that statistical smoothings of even random data produce wave patterns, but Mason appeals to research by Andrey Korotayev and Sergey Tsirel that finds them in unsmoothed GDP figures.

What drives the mutations represented by these waves, and what might finally bring the whole sequence to term? For this, Mason turns to the history of Marxist crisis theory, in which he finds a persistent optimism of the intellect. The usefulness of Marx’s version was limited by transformations after his lifetime, the chiliastic predictions of his immediate followers falsified by the *belle époque* upswing. With electricity, the telephone, steel, cinema, monopolies, price-fixing cartels and investment banks, capitalism assumed a new shape from the 1890s, requiring new theorizations. Though these were duly supplied by Hilferding, Mason argues that his socialist hopes induced a blindness to capitalism’s adaptive capacities—as they did with Luxemburg, Lenin, Bukharin and Varga—but he thinks that Kondratieff’s theory of capitalist renewal offers a remedy. Thus, though he affirms Marx’s crisis theory, grounded in the labour theory of value and the tendency of the rate of profit to fall, he thinks this plays out historically through long-wave cycles, which on each occasion involve broad structural change. And the intrication of specific structures each time means that ‘modern crisis theory has to be macro-economic, not abstract’, taking account of such things as the state, central banks, monopolies and

organized labour. So, as well as falling profit rates in the lead up to 2008, what needs to be explained is the disappearance of the factors previously compensating for this fall.

Mason abstracts a 'distilled essence' from the first three waves, merging it with 'what is rational about the Marxist understanding of crisis': first, falling manufacturing profits mean that capital builds up in the financial system, stimulating a search for new markets and triggering a deployment of new technologies; this surge 'sparks wars and revolutions' before a stabilization of the world market around new arrangements. Next, capital rushes into the new productive sectors, initiating a golden age of growth, opening space for redistribution and promoting social peace. Overall profits rise as the scale of production expands; new workers are absorbed. Over-investment, inflation or hubris then lead to a critical 'break point' at which uncertainty spreads. Downward pressure is applied to redistributive measures and labour through deskilling and attacks on wages, while business models quickly change 'to grab what profit there is'. As capital finally retreats again into finance, crises take an increasingly financial form, prices fall, panic and depression ensue. If Kondratieff thought the cycle was driven by the need to renew infrastructures, and Schumpeterian appropriations tend to focus on innovation, Mason gives class struggle a central role in the downswings, when key adaptations can occur: if workers successfully resist pressure on wages, capital will be driven from production into finance, whence it can be reinvested in the new technologies and business models of the next wave—a process normally organized by the state.

Thus, when the first, 1790–1848 wave—driven by the factory system, steam power and canal-building—hit its limits in the late 1820s depression, factory owners tried to survive 'by de-skilling the workforce and cutting wages'. But the Chartist movement and the 1842 General Strike forced the state to transform itself into 'a machine for the ruling industrial capitalists', rather than 'a battleground between them and the old aristocracy'. The Corn Laws were abolished, the Bank of England gained a monopoly on the issuance of banknotes, and factory legislation ended 'the dream of replacing skilled male workers with women and children'. The downswing from 1870 of the 1848–mid-1890s wave—which had been based on railways, the telegraph, steam ships, stable currencies and machine-produced machinery—saw the rise of the first mass workers' movements, and successes in resisting automation, forcing a 'strategic change' with the fusion of monopolies and finance, backed by an imperialist, tariff-setting and infrastructure-building state. The 1917–21 downwards tilt of the next wave led to attacks on wages, which could not fall fast enough, precipitating the end of the Gold Standard, the creation of closed trading blocks, and state spending on growth and unemployment.

This pattern has now broken down, however. As the long post-war boom foundered in the 1970s and the US switched to a fiat-dollar system, the pioneers of neoliberalism concluded that ‘a modern economy cannot coexist with an organized working class’ and acted accordingly, with pro-cyclical monetary policy and mass unemployment. The result was that ‘the 1980s saw the first “adaptation phase” in the history of long waves where worker resistance collapsed.’ Thus, instead of being driven into productive new lines of investment, falling real wages, ‘low-value models of production’ and working-class atomization enabled capital to eke out the wave’s declining phases, while advanced-economy public debt ballooned, along with inequality, foreign direct investment, the financial share of profits and the money supply. The ‘sugar rush’ of 1989—the sudden opening up of new ‘outsides’, awaiting capital’s penetration, and the doubling of the global labour supply—further prolonged and distorted the downswing. Info-tech innovations failed to bear the expected economic fruit: the OECD reckons growth in the developed world will be weak for the next fifty years, with inequality rising by 40 per cent, while the dynamism of the developing world will be exhausted by 2060. But if a fifth wave is not on the cards, what might be coming?

To address this question, Mason critically appropriates ideas from various ‘prophets of postcapitalism’, starting with management guru Peter Drucker, who imagined ‘the universal educated person’—a sort of manager-intellectual—as the archetype for the coming society. Mason recasts Drucker’s prophecy in a more plebeian form, finding it realized in ‘networked individuals’, identifiable by their smartphone-immersion. From Chicago economist Paul Romer he takes a theory of information: while data costs something to produce, it tends to be free to copy—like the PDF of an article, for example; duplicated information has ‘zero marginal cost’, and is ‘non-rivalrous’ in the sense that my possession of it does not prevent anyone else from also having it. When this occurs, legal or technical measures imposing scarcity have to be taken for data-based goods to maintain any price at all; ‘imperfect competition’ and monopolies become the norm. From ex-*Wired* editor Kevin Kelly, he takes the insight that networks tend to become more than the sum of individual computers (though he might have credited this to John Gage); from Harvard law professor, Yochai Benkler, the notion of a ‘commons-based peer production’ exemplified in Wikipedia and Linux. Neo-classical economist Kenneth Arrow’s claim that intellectual property in a free-market economy involves an ‘under-utilization of information’ Mason inverts into the suggestion that ‘an economy based on the full utilization of information cannot have a free market or absolute intellectual property rights.’

Mason’s pre-eminent techno-futurist, however, is Marx, whose 1858 ‘Fragment on Machines’ he claims—like the post-*operaisti* before him— as a prophecy of the high-tech economy where information has become

‘the main productive force’; where social knowledge is ‘locked inside the machines’; where inputs to the production process can no longer be valued in the same way as labour and raw materials could; where working hours are tendentially reduced to a minimum. Yet he criticizes the ‘disciples of Antonio Negri’ for overestimating the coherence of contemporary capitalism, with which the emerging peer-production economy is incompatible. If all this boils down to a central contradiction, in classical Marxist terms, between forces and relations of production—‘between the possibility of free, abundant socially produced goods, and a system of monopolies, banks and governments struggling to maintain control over power and information’—Mason is quick to reframe it in terms of a formalism more soothing to those weaned on Gilles Deleuze and Manuel Castells: network vs hierarchy.

What explains the ‘zero marginal cost’ tendency? For this, Mason turns to the labour theory of value. To risk distortion in summarizing *Postcapitalism*’s already condensed account: Marx’s key insight was that there can be a quantitative difference between what wages buy for employers—the labour-power of workers—and what those same wages subsequently buy for workers themselves. This difference means that employers can offer a ‘fair’ wage while exploitation occurs across society, enabling the accumulation of a surplus to some. The divergent quantities are measures of labour time, and their socially average levels determine both the underlying values of commodities and the leeway for profits. Labour-saving machines contribute to the value of commodities only insofar as they themselves—as outcomes of the labour-process—have a value which is amortized as they age. And since they make it possible to produce the same goods with less labour, the social averages that determine value are reduced, eating into average profits. Thus the labour theory leads directly to the ‘law of the tendential fall in the rate of profit’. For Mason’s purposes, the merit of this theory is that it can explain what happens when there are *no* labour inputs: it predicts its own redundancy as values, and thus prices, tend towards zero. By contrast, the marginalism of Walras and Jevons—supposed vanquishers of the labour theory, and thereby founders of modern economics—had no way of accounting for goods that have no price, let alone of grasping capitalism as an evolving system.

If the existence of a price hinges ultimately on the fact that *some* labour is socially necessary to reproduce the good in question, then the price of one that can be effortlessly duplicated will drop towards zero. This applies not just to data-based consumption goods like MP3s or ebooks, but also to the software that increasingly forms part of most machines. Marx understood that if a machine did not wear out, or could be replaced for free, its own value would cease to contribute to that of what it produced. One of the most original aspects of Mason’s construction follows from this point: if the value

of a major component of machines used in production tends towards zero, then the value passed on will itself diminish. Thus the values of even physical goods will be affected by a downward pressure from the 'zero marginal cost' tendency of data. Mason supplies a rudimentary model showing such effects spreading through an economy, leading even labour and raw materials costs to drop. Though such developments would presumably promote counter-tendencies—cheapening production costs could boost profit rates—according to Mason the general outcome should be that 'whole swathes of economic activity' are "'stolen" from the normal market framework'.

If the historical surges of capitalist expansion overcame falling profit rates in significant part through the capitalization of ever new areas, as new commodities and new needs were brought into being, the implication here is that there may not be an arbitrary, open-ended list of such things—or that the way in which capital relates to that list can change fundamentally. For Mason it is 'information' that announces such a change:

Information is not some random technology that just came along and can be left behind like the steam engine. It invests all future innovation with the zero-price dynamic: biotech, space travel, brain reconfiguration or nanotechnology, and things we cannot even imagine.

For this reason the rise of information cannot just mean the emergence of a new mode of production which can sit harmoniously alongside an enduring capitalist one—as in Yochai Benkler's visions—or a stable new regime of capitalist accumulation, as in some post-autonomist interpretations, since 'an economy based on information' cannot 'be a capitalist economy'.

The finality of this judgement sits a little awkwardly with Mason's insistence that the transition will have to be implemented by a specific subject. But who should this be? Mason surveys the history of the workers' movement, from rebellion (1900s) and repression (1930s) to co-existence (1950s), arguing that its spontaneous ideology was one of work-place control, solidarity, self-education and 'the creation of a parallel world'. This, rather than trade-union reformism or revolutionary communism, was what the shop stewards who emerged outside unions supporting the First World War to form factory committees and councils, were looking for. But after the mass-slaughter of workers through fascism and war, a settlement came about in which work seemed 'absurd, ridiculous and boring', and from the early 1960s workers could see that a dramatic increase in automation was 'no longer science fiction'.

Meanwhile, various 'decline theorists'—Bell, Marcuse, Mills, Gorz—concluded that the class had relinquished its radical role. In the short term, this was falsified by events; but, Mason claims, while 'We, the militants of the mid-1970s and 80s, derided those who had declared the old forms

of working-class struggle dead', it was in fact 'they who had glimpsed the future'. In the advanced-capitalist countries the affective bonds of working-class culture had been eroded through 'the injection of formal knowledge into working-class life', and a new kind of worker was emerging even as the 1970s upturn in struggles approached. After the defeats of the 1980s the workforce was stratified into the privileged and the insecure, while the developed world reoriented towards services. But even in the developing world, industry accounts for only about 20 per cent of the workforce, and 'any idea that globalization has simply transported the Fordist/Taylorist model to the global South is illusory.' Meanwhile the wage share of GDP is decreasing globally, driving workers into 'financialized behaviour'. Yet if automation threatens more jobs, and technological erosions of the distinction between work and leisure have eroded the 'bond between wages and working time', smartphones have placed powerful organizational tools 'in every Chinese worker's overall pocket'. This signals the emergence of 'networked humanity', or 'the working class "sublated"'—a new revolutionary subject to replace the proletariat of old. Mason again echoes Castells: 'the main faultline in the modern world is between networks and hierarchies.'

But how will this new subject break out of a faltering capitalism? Mason revisits the question of transition in both its classical senses: into and out of capitalism. Joining the current surge of interest in Alexander Bogdanov—a Bolshevik rival to Lenin, systems-theory pioneer and Proletkult founder—he finds in the 1909 novel *Red Star* a fitting utopia of abundance and spontaneous cooperation enabled by technology; Bogdanov also appears as the teacher of a familiar lesson: 'do not take power in a backward country.' The reality of the Soviet transition was Stalin's brutal appropriation of the Left's programme, suppressing the *kulaks* and forcibly hiking growth through reallocations of resources to industry. This was merely extensive growth, Mason argues, not driven by productivity increases, and Soviet planners were 'flying blind', unable to know what they were doing. Anti-socialist participants in the early 20th century Calculation Debate had a point: the market is a 'calculating machine' for the allocation of scarce resources, and without it—as Mises insisted—'there is only groping in the dark'. Yet Hayek conceded that the state might stand in for the market, given the requisite information and calculating capacity—a possibility some are entertaining once more, as giant data centres dot the cooler parts of the planet. Indeed, planning is already a reality of capitalist life, though there is no need to fantasize some monolithic central plan for everything.

Viewed in terms of the presuppositions of the Calculation Debate, transition became a merely technical matter of allocating scarce resources. But the labour theory provided an alternate framing, exemplified in the thinking of the Left Opposition: labour was a universal metric of value that

would be gradually overcome, along with the market, as productivity was forcibly increased—with the aid of feedback obtained through workplace democracy—in the transition to a state of abundance. This was transition as dynamic process rather than technical problem, and it provides the closest precedent for what Mason imagines today, albeit with a crucial difference: the central planning prescribed in Hilferding's time is no longer tenable—if it ever was—since it would have to deal with a society vastly more complex, and with a large, unmeasured peer-to-peer economy. Mason looks to Shakespeare's early-modern history plays to help him conceptualize the process as something of comparable social depth and contingency to the emergence of capitalism. In such a shift, 'we are never comparing like with like.' So we should not expect what replaces capitalism to be 'based on something as purely economic as the market, nor on something as clearly coercive as feudal power.'

There is, nonetheless, a linear historical process articulating the sequence of modes of production, represented in global population and GDP figures, climbing exponentially towards abundance from around 1800. Mason has Keynes harmonizing with Marx: 'one day there will be enough goods to go around and the economic problem will be solved.' But if the transition from feudalism was driven by entwined endogenous and exogenous factors, the next will be similarly complex. Mason pairs causes from each transition—stagnating feudal agriculture with stalled fifth Kondratieff wave; emergence of banking with emergence of 'information'; conquest of the Americas with discovery of new kinds of info-tech-based wealth; Black Death with climate change, demographic ageing and migration; Gutenberg press with information technology. Rather than a 'forced march' approach, the point would be to shape this process through a 'gradual, iterative and modular project'.

Given the scale of the current crisis, however, it will nonetheless require willingness to wield governmental power 'in a radical and disruptive way'. Measures would include breaking up or socializing tech monopolies; taking over carbon industries and forcibly reducing emissions; socializing the financial sector while maintaining a space for finance to 'return to its historic role' of allocating capital; support for co-ops and mutual banking; public provision of utilities; a universal basic income of £6,000 a year and a minimum wage of £18,000, to enable a shorter working week and allow people to refuse 'bullshit jobs'. These strategies would enable the market to function as a transmitter of the 'zero marginal cost' effect, hastening the transition towards postcapitalist abundance, while the state would become the 'wiki-state', nurturing peer-production and collaborative work.

The figure of 'the network' here represents the alternative to Bolshevism's command and control, though Mason finds this prefigured in Preobrazhensky's 1926 call for a 'complex and ramified nervous

system of social foresight and planned guidance'. If this figure conventionally signals an inclination towards anarchistic formalisms, here it's more a matter of the Left Opposition blended with some cybernetics and IT project-management methodology: testing small and scaling up; modular, distributed, disruptive. Mason's concluding chapter would—according to the author—be better written 'as post-it notes on a whiteboard' and revised by 'the wisdom of angry crowds'. If the immediate interests of workers in 1917 clashed with those of the state, represented by the Party hierarchy, and thus needed to be suppressed, next time around the network will enable us to smooth out such contradictions by 'modelling alternatives' and 'arguing things out'. But the network is also the 'temporary swarm': a new kind of actor, distinct from parties and states. Complex economic modelling and the coming Internet of Things will facilitate economic and ecological regulation, socializing knowledge and amplifying 'the results of collective action' as we 'decentralize control'. The Leninist cathedral becomes the techno-libertarian bazaar.

There has been a wealth of writing on capitalism's limits since the financial crisis, with the emergence of a veritable genre that would have been unimaginable before 2008. Notable contributions include Wolfgang Streeck's *How Will Capitalism End?* and Gopal Balakrishnan's 'Speculations on the Stationary State'. Other recent works—for example, Nick Srnicek and Alex Williams's *Inventing the Future*, or Martin Ford's *Rise of the Robots*—have espied the end of capitalism in its hi-tech consummation and attempted to forge from this a strategic vision for the left through measures such as universal basic income. But Mason's *Postcapitalism* surpasses them as an attempt to situate the present crisis historically. Its combination of a panoramic, long-run conceptualization of capitalism's dynamics with a striking synthesis of value theory and tech criticism, and a serious attempt to think through the elements of a transitional programme, has produced a powerful and original work, buoyed up by a confident style and well-paced narrative. Mason's lively intellectual curiosity and gift for bringing historical debates to life is at times reminiscent of Hobsbawm. How should this ambitious construction be assessed?

As for many other thinkers over recent decades, 'the network' has for Mason become something of a master concept, referring to a social subject; an organizational form; communications infrastructure; relations between people; cybernetic planning systems; space for deliberation. In a topological sense, any set of relations—including hierarchical ones—can be conceptualized as a network; the abstraction of the concept enables many valences. If one of the major outcomes of modern capitalist development has been the girding of the Earth with layer upon layer of infrastructure, crystallizing the social itself in railways, roads, pipes, cables, satellites and data centres,

there is perhaps a reason for this concept's blurring of technology and relations between people. The acceleration of that developmental process in the post-war era is mapped closely by the take-off of this term. The coming of the internet was the emergence of a universal standard under which the communicative aspects of this process could be ranged, as its unfurling gathered pace—a qualitative shift towards a general unification of communications and computing infrastructures, and thus of society. The power of 'the network' lies in seeming to capture the implications of this process—after rocketing agricultural productivity, perhaps contemporary capitalism's greatest outcome.

This unification, however, has accompanied—and is surely in part responsible for—an erosion of pre-existing forms of community grounded in physical proximity. In this sense it might be linked to the foundering of the workers' movement in Mason's fourth wave, as well as the subsequent emergence of new antagonistic subjects. It has also accompanied a growth of distinctly non-horizontal relations, as wealth divides have yawned between states and within developed countries, while 'network effects'—where the utility of a network grows exponentially the larger it gets—have helped tech companies to become towering edifices, wielding despotic power within their own realms and granting dominant states unprecedented surveillance capacities. If the network signifies a unification of the social, it has so far been that of deeply unequal, divided societies. It is time to query this figure. Can 'networked humanity' really identify a 'sublation' of the old Lukácsian subject-object of history, when it encompasses the Twitter accounts of NATO and the State Department, whose followers vastly outnumber those of most individuals? If so, the emphasis must fall more on negation than preservation.

If radical movements now are necessarily 'networked', their enemies—of course—are all the more so. The technological lens tends to capture such political distinctions in soft focus, and the operations of power are not grasped here with a level of insight comparable to Mason's economic analyses. He hopes for solutions where there is something for everyone; even alienated CEOs will find themselves 'poorer but happier' once liberated by the 99 per cent. In Mason's transition, unspecified 'governments' are tasked with suppressing finance, taking charge of Big Oil, breaking up Big Tech, handing Central Bank policy to electorates and imposing a handsome minimum wage. Yet all operative ruling parties in the developed world are committed to large-scale support for private finance at the expense of social spending; as Mason acknowledges, Syriza's inestimably more modest proposals were crushed 'as white blood cells attack a virus'. 'Networked humanity' is at most a placeholder for an answer to the question of how the requisite social force could be obtained to substantially challenge the current

consensus, let alone implement transitional measures of the order we find in *Postcapitalism*.

Mason's 'networked individual' might be read more as a figure of the future, an incarnation of the 'social individual' that Marx meditated upon in the 1844 'Notes on James Mill': developed yet suppressed by capitalist reality, an individual no longer separated from the social means of reproducing her own life, and able to appropriate finally—in a formulation from the *Grundrisse*—'all the powers of science and of nature' and of 'social combination and social intercourse' that it has hitherto been capital's task to develop. For now those powers remain largely locked in opaque technical infrastructures that someone else owns, scholarly literature in gigantic silos accessible only to those with the requisite affiliations. But it cannot be denied that recent decades—in which the web has greatly increased the free availability of basic information, and the percentage of tertiary educational enrolments has tripled globally—have seen a dramatic deepening of Marx's 'general intellect'. Nevertheless, we should be cautious about identifying the general intellect with the 'information' of information theory, which emerged as the object of automated processes from the late 19th century, to reach its apotheosis in the internet. In Mason's eagerness to claim the 'Fragment on Machines' as prophecy, the general intellect becomes something that has 'upgrades', and in which knowledge is 'stored and shared'. It seems more likely that Marx had existing technologies in mind: the 'automatic system of machinery', set in motion by 'a moving power that moves itself', that is a focus of these notes, is surely the self-driven machine sought by early industrialists. Even the early 19th century hydraulic cotton factories might be viewed in Marx's terms as great applications of science, issuing in a production-process to which labour was tendentially marginal. The self-acting mule and the power-loom were probably the Fragment's exemplary technologies, and the knowledge to operate them, spreading from workplace to workplace, was already the growth of the general intellect (though admittedly the Jacquard loom's pattern cards were a germ of the programmable computer). The development of universal structures for the communication, storage and processing of information in general is a step change in this longer-term process.

But if, for the sake of argument, we accept what we might term Mason's 'value theory of information' as offering a diagnosis for the present dismal growth prospects—as the value of machines and goods declines and the peer-to-peer economy grows—a natural question to ask is how we might weigh this against other factors, such as the reorientation of advanced economies towards services, shifts to 'shareholder value' models that deter productive investment, or the drag from demographic ageing. Is the informationalization of production itself sufficiently pronounced to offset

growth possibilities from expansions of productive labour in smartphone and tablet assembly, for example? Since the suggestion that a growing part of the economy is now outside of the market—and is thus unmeasured—brings with it the implication that such a balance may actually be unknowable, we are perhaps conveniently relieved of such a task. But how then might we judge whether appeals to the rise of ‘information’ as a major factor in preventing a fifth Kondratieff wave are not unjustified assertions? Is there perhaps some non-monetary proxy that might be looked to instead? For all the importance of the Free Software Movement in developing and maintaining some of the fundamental infrastructures on which the world now runs, the time devoted freely to such activities is surely still minuscule compared to the paid-labour hours spent on such things as proprietary algorithms. Especially now that the wild web has largely been herded into commercial pens, can we be sure that the peer-to-peer economy is actually growing? If a virtue of the labour theory over marginalism here is that it predicts its own redundancy, by the same token it must still fall short of accounting for what lies beyond it. The theory risks becoming a sort of signpost merely pointing at a technological sublime.

It’s not clear at which point Mason’s postcapitalist transition would definitively issue into a stable new mode of production. The logic of his argument suggests that this would be when the information-based exacerbation of falling profit rates had led to a world in which not just information, but *everything* had zero marginal cost. If labour is the measure of value, such a state would be a hi-tech Cockaigne of ‘full automation’, where everything from foodstuff production to infrastructure maintenance required no labour inputs at all. Could this be the economics of abundance that Keynes and Preobrazhensky alike looked forward to from the 1930s, and that some thought imminent in the 1960s? We might doubt whether there is really a determinate, achievable ‘everything’ here. Or, if a new mode of production could be fully actualized before such a point, what would be the deciding factor? And what, finally, might prevent related counter-tendencies, such as cheapening labour and materials costs, from stimulating capital anew? As for Henryk Grossman in his 1929 *Zusammenbruchstheorie*, a key question for Mason to answer is whether capitalist accumulation might not curve downwards asymptotically without ever reaching its terminus.

The drama of the impact of info-tech is often the basis for another kind of curve. With the remarkable expansion of computing power and storage, a certain mysticism of the exponential has become a standard trope amongst Silicon Valley’s organic intellectuals: Martin Ford imagines a car accelerating in line with ‘Moore’s Law’ to a current speed of 671,000,000 miles per hour; Ray Kurzweil retells an old Indian story about grains of rice doubled for each square of a chessboard, reaching 18 quintillion on the final square. The

exponential here represents quantity-into-quality transformation, radical historical rupture—though not with capitalism. But calling Marx and Keynes to his side, Mason asks us to imagine postcapitalism similarly as the point where GDP growth lines ‘go vertical’. What could this mean in a world of increasingly free goods? Without monetary values, there would be no measure of GDP growth; doesn’t Mason’s rather ‘accelerationist’ imagining thus cancel itself out into no line at all? The mysticism of the exponential hinges upon an assumption that the growth curve will hit no limit, yet even Moore’s Law itself is now running out of steam. Demographic growth famously tends to level off after urbanized industrial development. Might something similar be anticipated for productivity? Imagining so does not hinge upon any atavism or orientation to an ethics of ‘degrowth’, for capitalist productivity gains would be a precondition of our being able, in Adorno’s words, ‘out of freedom, to leave possibilities unused’; just as Mumford imagined—at the onset of the Great Depression—technological unemployment inverted into a ‘social unemployment of machines’, as the very achievements of technology enabled its more selective use. Perhaps this, rather than the chimera of full automation, would be the economic problem ‘solved’, or the emergence of a genuinely postcapitalist mode of production.