BOOK REVIEW

Digital Capitalism and Distributive Forces Sabine Pfeiffer (2022) 282pp., €56 paperback, Transcript Independent Academic Publishing, Bielefeld, ISBN 9783837658934

'If men define situations as real, they are real in their consequences', wrote William Isaac Thomas and Dorothy Swaine Thomas in 1928 (pp.571–2). Though the immediate context of their work was a discussion of perceptions (including misperceptions and hallucinations), the insight of this theorem easily lends itself to social constructivism. While the claim of social constructivism has been used on occasion to mean contrived and invented, made up and false, Bruno Latour refers to constructivism's concreteness as a witness to the solidity of an institution or practice (Latour, 2005, p.90). Sabine Pfeiffer refers to neither of these texts in her *Digital Capitalism and Distributive Forces*, though the importance of social trust for the continued success of capitalism lingers in the background of the text. Since digital capitalism is not primarily rooted in the too-concrete industrial sector, cordoned off as it seems to be into open-concept workspaces and light-weight netbooks in downtown high rises, the flow of capital remains, to the outside observer, as invisible as the radio waves transferring information from Wi-Fi routers to computers. In this new development, capitalism is more abstract, seemingly less real, and so the questions of what is generating capital and how stable this is are of paramount concern in Pfeiffer's work.

Political Economy and Information and Communication Technologies (ICTs)

Pfeiffer's text is a work of political economy. As such, it does not attend merely to numbers and decontextualized mathematical formulae, though she reinforces her claims with detailed data analysis, especially in examining the economic models of Google, Apple, Facebook, Amazon and Microsoft (GAFAM) in Chapter 8. Nor does her work focus on social forces or actor-networks or other strategies typical of science and technology studies (STS), though she certainly is attentive to motivations and social scientific models that shape economic choices, such as neuromarketing (p.220) or the motivation of startups to sell out (p.211). Rather, her main focus in this work is examining what has changed within the broad operation of capitalism connected to the increasing economic focus given to ICTs and companies that operate within this industry. To achieve this aim, she examines primarily the major movements and functions within capitalism as a system, and how digital technologies interplay with these.

Thus, an important focus of Pfeiffer's work is that it proceeds not from the perspective of technology (e.g., Eubanks, 2018) or society (e.g., Greene, 2021), but from the perspective of capitalism itself. This focus offers useful perspective, though it has its own limitations. Rather than assuming capitalism as a backdrop, or merely a way of expressing pre-existing power relations, Pfeiffer brings it to the fore, investigating how it operates, its internal logics and what has changed about it. Capitalism is not, then, some Marxian bogeyman, a catch-all for explaining inequality and bad actors' motivations, but rather a system that operates upon technological and social development. On the other hand, however, her focus on capitalism results in her subsuming specific technologies and their application into the generic 'digital capitalism'. While she does highlight specific technologies throughout the book, including Enterprise Resource Planning systems (pp.158–65), big data marketing (pp.144–7) and machine learning (pp.242–9), her focus on the larger structure of capitalism leaves the question of a specific technological system or artifact ambiguous. This move may leave STS readers unsatisfied, especially if they are trying to trace the impacts and implications of a

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specific technological artifact, but it subordinates the question of technological development to the logic of the economy, a move often assumed but rarely carefully examined.

Digital Value Generation

How concrete is capitalism? In the end, it remains unclear to this reviewer whether the entire system is a conjurer's illusion or a functioning, though deteriorating, machine. On the one hand, Pfeiffer notes that capitalism is always on the verge of, or in the midst of, crisis; that is, the promise of growth and prosperity obscures the perpetually immanent collapse of the economic order (p.51). On the other hand, she notes well how digitization has given rise to new forms of value realization; that is, new sources of value are created by the insertion of digital technologies into the economic world (p.110).

The tension between these two is illustrated quite well by a point Pfeiffer makes early on in her book. In Chapter 2, she draws on the works of Dan Schiller (2014) and Michael Betancourt (2015) to explore the problem of crisis. In examining the claims both authors make in the context of the Great Recession, she treats rather dismissively Betancourt's claim that capitalism is merely a massive Ponzi scheme (p.55). However, later she notes with clarity that capitalism is always on the verge of collapse if the value produced is not properly realized. This problem is impossible to avoid forever because 'the amount of capital available for consumption will always be less than that of productive capital' (p.115). In other words, between the cost of production and the profit made by consumption, there will inevitably be a loss on the side of profit, which will result in economic collapse. It is tempting to read Pfeiffer's dismissal of Betancourt as a distinction without difference, but her point is far more nuanced.

Pfeiffer's focuses on the movement of capital in capitalism primarily through the function of Marx's distinction between use value and exchange value (p.71). 'The value created "at the front" [i.e., through production] can only be extracted "at the back" if it is sold on the market' (p.65). Pfeiffer notes that this amounts to two focuses for capitalism: value creation and value realization. The former is accomplished through the productive forces of capitalism, namely human labor and raw materials (p.97). Karl Polanyi identifies the commodification of these as the fundamental impetus of industrial capitalism (p.95), a metamorphic shift of the market. The change of productive forces, such as the factory, 'a social production relation, an economic category' (p.100), marks the primary focus of early capitalism and its consequences.

The thesis which Pfeiffer contradicts in her book, then, is that digital capitalism's shift is primarily productive. In fact, Pfeiffer finds that very little in the realm of digital capitalism aids the creation of value, and when it does, this is not reflected in capitalist trends, as seen in the licensing of easily distributable software (p.77). But because Pfeiffer maintains that all value (whether it be industrial production or bitcoin mining) is generated by human labor (p.56), then the change that digital capitalism entails must be one of realizing value rather than generating it. Digital capitalism is better, according to Pfeiffer, at ensuring that the use value generated by labor is transformed into exchange value as a commodity. Thus, its primary contribution is distributive rather than productive.

The crux of Pfeiffer's work lies in Chapter 6, where she demonstrates the way digital technologies have transformed capitalism by greater attention to value realization. She identifies three distributive forces which ICTs have made more efficient:

> firstly, *advertising and marketing* … i.e. all efforts and expenditures aimed directly at value realisation in terms of consumption and the market; secondly, *transport and warehousing* … i.e. all efforts and expenditures aimed at ensuring the physical access to markets and value realisation; and, thirdly, *control and prediction* … i.e. all efforts and expenditures aimed at documenting the processes of value generation (production) and value realisation (distribution), rendering them predictable, depicting them in exact figures and representing them as controllable and increasingly predictable in all circulation movements. (emphasis in original; p.141)

Some of these changes are immediately obvious, such as the massive data-driven analysis and advertising programs of such companies as Google and Facebook. The changes in the distributive forces of transport and warehousing and control and prediction are a bit surprising. Pfeiffer details how advances in logistics and transport have been predicated upon increasing computing power to manage and direct large traffic (p.151). Likewise, by employing dedicated enterprise resource planning systems, corporations are able to improve productivity, better monitor profits and losses, and better organize production and distribution (p.161). None of these distributive forces is new, but digital capitalism has made these forces more crucial to the realization of value generated by the productive forces.

Thus, Pfeiffer concludes that it is not a qualitative change that marks digital capitalism apart from previous forms of capitalism, but rather a quantitative one (p.182). The fundamental technological innovation crucial for economic change, she notes, is the infrastructure: 'the railway and the Internet are more important strategically and for the national economy than the steam engine or the computer' (p.188). Without production of commodities, the digital innovations are irrelevant, but the infrastructure of the internet allows better marketing, transport and prediction, which means that other sorts of value production (such as wage differences) or value realization (such as accessing distant markets) are improved.

Capitalism and Crisis

Despite this improvement in value realization, capitalism suffers from massively opposed needs: on the one hand, the capitalists must minimize loss, which amounts to lowering wage costs, reducing waste and simplifying processes, but on the other, they must maximize profit, which amounts to increasing their customer base, outproducing their competitors and utilizing all possible avenues for distribution. 'Even the best production and process optimizations are worthless if a prompt and profitable sale cannot be ensured' (p.118). A simple conflict arises, then, when workers are paid wages too low to be consumers. Who will buy the products the capitalist needs to continue his work if his workers cannot afford them? Historically, capitalism has innovated, turning to outsourcing, offshoring and other methods to decrease labor costs while still maintaining its domestic consumer base. However, inevitably the consumer base increases as the labor force expands. The way to thwart the immanent collapse implied by the coalescence of these groups, then, is only possible through 'infinite investment and ubiquitous consumption (p.207). Of course, these are literally impossible to achieve in a limited universe, but digital technologies refine new ways to increase both aspects of these to monstrous proportions.

Through the extremely fitting metaphor of capitalism as a locust, Pfeiffer notes how digital capitalism has changed incrementally and not morphologically (as the caterpillar to a butterfly). The caterpillar digests itself in its transformation, but capitalism 'is not digesting itself (at least ostensibly so), but everything else' as epitomized by the locust (p.184). It is not hard, of course, to see how the latter part of this claim is manifest in capitalism. As Pfeiffer herself notes, the 'immateriality' of digital capitalism belies the reality, noted by other authors, such as Kate Crawford (2021), of the massive physical reality of digital processes, from mining and processing rare earth minerals, to construction of large-scale infrastructure, to transport chains and warehouses, to laborers, to energy consumption, to mountains of e-waste. The glamour of digital capitalism hypnotizes its evangelists (see p.213), leaving them either unwilling or unable to see the devastation wrought by attempts to prop up the collapsing system.

On the other hand, it is not so clear that capitalism is not digesting itself. Indeed, the process of auto-metabolism seems an inherent feature in capitalism. The necessary conflation of the buying class with the laboring class implies inevitable cannibalism. Early industrial textile manufacturers worked their laborers ragged for minimal wages. Proto-socialist Robert Owen criticized the practice of 16-hour workdays, noting that, aside from the obviously inhumane consequences, the practice itself was antithetical to the goal of capitalism since it kept workers in a perpetually exhausted state,

prone to injury and less capable of producing (Owen, 1966). Other practices, such as offshoring and outsourcing, provide temporary relief from this disjuncture, but always-immanent collapse means capitalism must devour all, including itself. The creation of debt on a large scale is one such example which Pfeiffer herself notes (p.127) – capitalism relies on this creation to conjure capital from sources that cannot possibly repay. The consequence is seen in the Great Recession which frames the writings of Betancourt (2015) and Schiller (2014): millions of people working for the capitalist system lost jobs and homes because collateralized debt obligations containing thousands of high-risk mortgages defaulted. Though capitalism cares nothing for the human cost, the economic cost was itself tremendous. If millions lose their jobs, they can no longer contribute to the consumer economy as they did before, and value can no longer be generated. And without generating more and more consumption, the system risks collapsing altogether. Thus, artificial need must be generated to keep the consumers consuming, and some governments (such as the Obama administration with American car manufacturers) are willing to inject capital to maintain the illusion that consumption is stable.

But the most obvious case of self-cannibalization, which Pfeiffer does not address in any detail, is the rise of the so-called 'sharing economy'. Pfeiffer notes only that 'what used to be regarded as the capitalist's indispensable asset in the past [i.e., human labor] is today avoided as far as possible by parts of the platform economy' (p.192). While true, this ignores the auto-metabolic function of this development. Uber's early recruitment model was to encourage people to have a 'side gig'; in other words, to turn their privately owned automobiles (part of the necessary consumption maintaining US industrial capitalism) into a capital-generating resource. In the United States, stagnant wages, far removed from the real cost of living for decades, are a risk to the consumer economy, but the ingenuity of capitalizing leisure provides a stop-gap solution (i.e., until nobody can afford either to take Uber or drive Uber). Airbnb is a more dramatic example still, converting people's 'extra' living space into an opportunity to supplement income. Task Rabbit, Mechanical Turk, Uber Eats, Go Fund Me and so forth all attempt to squeeze every last drop of value out of the massively overstretched consumer base. While Pfeiffer addresses some of these (pp.201–2), she does not ask what happens when these begin to fail. Digital capitalism promises the necessary ubiquitous consumption and infinite investment to maintain capitalism, but Owen's insight about the overworking of the laborer also appears relevant as digital workers begin increasingly to organize and fight for labor protections.

Another Problem of Value

Pfeiffer's work addresses two blind spots in much of the research on digital capitalism. The first is that value is tied to human labor (Chapter 3). Without focusing on the way value is created, any analysis of capitalism will fail. She sees this as a major shortcoming of Betancourt (2015) and Schiller (2014), who seem to assume value is generated without human labor. The second blind spot, which is more generically ignored by various authors, is the realization of value through distributive forces. By reappropriating the work of Karl Marx, Pfeiffer seeks to highlight these as incontestably essential for capitalist analysis.

Perhaps two further blind spots should be added. One hinted at by Pfeiffer is the imagination of capitalism as a perpetual motion machine. The impossible gap between labor cost and value realization cannot be overcome by technology. Even if AI improves many aspects of either productive or distributive forces far beyond where they are now (a dubious claim that rests more on hype than on fact), the value generated by AI still relies on consumers having wages to consume. Unless the AI can somehow operate on negative capital, there will inevitably be loss. This is why 'the economic logic of production in capitalism inevitably enforces expansion: first, that of production itself, then that of markets and consumption' (p.118). Without this perpetual growth, the deficit catches up – the bubble pops (or, if Betancourt (2015) is correct, the Ponzi scheme collapses). However, there are absolute limits to this to which Pfeiffer alludes but never makes explicit. Infinite

growth is impossible in an entropic universe. The discovery of the second law of thermodynamics, a result of industrial efforts to maximize steam engine efficiency, decrees that there will always be loss. But the logic of capitalism is the illusion of endless growth. The result of this, as Pfeiffer makes clear in her concluding chapter, is that the productive forces of capitalism are offset by its destructive forces, especially to the ecosystem and natural resources of the earth (pp.238–42). Pfeiffer shows little confidence that the necessary actors will abandon the illusion of infinite growth before it is absolutely too late: 'It's easier for most people to imagine the end of the planet than to imagine the end of capitalism' (p.236).

The last blind spot is one that even Pfeiffer seems to be blind toward, though it rears its head occasionally in her text. In her dismissal of Betancourt and Schiller, she emphasizes that value must be generated by human labor. However, she notes in passing that 'the finance economy has long been decoupled from the real economy' (p.57). This parallels a passing comment on Marx's description of 'the fetish character of the commodity value' (p.98). The notion of the fetish, as Lacan (2020) and Žižek (1989) point out with parallels to psychoanalysis, is that an object has become abstracted from its original meaning. The finance economy, repackaging collateralized debt obligations as investments, selling derivatives and continually trying to invent such new monetary instruments as cryptocurrencies, seems to create value out of nowhere. Indeed, what distinguishes the GAFAM companies most from any other digital companies she could look at (and occasionally does) is that they have held onto top spots among largest companies by market cap for years. It is notable that when she compares GAFAM companies, she includes Tesla, but not Foxconn (p.203). Tesla has been an unprofitable company until quite recently and has both lower revenue and lower employee count than Foxconn (which has the largest workforce in the world). However, Tesla has long been one of the most valued companies on the stock exchange, which saw its CEO declared the richest man in the world in 2021. The reality is that Elon Musk could liquidate much of his stock and realize value, value which is based on the speculation of investors, not on human labor.

This, ultimately, leads to a question which Pfeiffer neither answers nor considers, but which bothers this author: if finance capitalism does not rely on the real economy, and if commodities themselves are so fetishized that destruction of clothes is often cheaper than returning them (p.132), then does value truly correspond in any meaningful way to labor? Phenomena such as inflation, stagnation, wage differences and so forth challenge the straightforward claim of Pfeiffer that 'value created at 'the front' must be extracted through the market' (p.65). In the end, the text suggests two possibilities. The first, which is Pfeiffer's stated position, is that capitalism is, in fact, a real system of exchange, a true transformation of value from laborer to consumer and that digital capitalism has not fundamentally changed any of this. The consequence of this view, however, is that capitalism is always on the verge of collapse because of the loss that occurs between the cost of labor and the amount of available capital for value realization. The other possibility, which Pfeiffer denies vehemently despite occasional reference to it, is that the entire system itself relies on society's common agreement and nothing more. Here capitalism is still on the verge of crisis, as trust in the system must be maintained, and realization of value must be accomplished to maintain the illusion of the concreteness of the capitalist system.

Conclusion

This text will not be accessible to everyone. In her writing, Pfeiffer frequently tells the reader what she will argue or repeats what she has already argued. The structure of the book is also a bit frustrating: she concludes her argument in Chapter 6, but three more chapters follow. Chapter 7 goes into more elaborate Marxian theory than has already been covered (Chapter 4). Chapter 8 would have served better as an appendix as it provides detailed data about GAFAM and especially Amazon. The last chapter serves as her conclusion, but introduces many ideas and issues that she never addresses well, such as whether AI really constitutes a new movement apart from 'digital capitalism'.

More importantly, it is hard to know who exactly her audience will be. STS scholars interested in digital capitalism are probably more likely to be interested in questions of how technologies change the economy or redistribute capital. Pfeiffer is not focused on these questions, so she does not engage with bootstrapping (Greene, 2021), weapons of math destruction (O'Neil, 2017) or the future of work (Daugherty and Wilson, 2018). But while Pfeiffer is not trying to highlight inequality (Eubanks, 2018) or injustices entwined in digital capitalism (Noble, 2018), neither is she an evangelist for new technology and capitalism (p.213).

Ironically, in the view of this social ethicist, this is what makes Pfeiffer's book worth reading. Her dispassionate analysis of the development of digital capitalism and her non-normative use of Marxian economic theory provide nuanced critique of digital capitalism which should interest even the most cold-hearted capitalist. While critical sociology has its place challenging the ideologies, social forces and consequences of the inseparable amalgamation of ICTs and late capitalism, there is also dire need for analysis from the perspective of political economics. Those who wish to engage with economic critiques of ICTs, and especially of Big Tech, will benefit from Pfeiffer's careful argument. Given the growth of interest in this subject in STS, Pfeiffer's book will be of great value for highlighting alternative methodologies to those most popular (e.g., postphenomenology) and for viewing the problems of technology and society from the initial position of economics rather than either technology or society.

References

Betancourt. M. (2015) *The Critique of Digital Capitalism: An Analysis of the Political Economy of Digital Culture and Technology*, Punctum Books, Brooklyn NY.

Crawford, K. (2021) *Atlas of AI: Power, Politics, and Planetary Costs of Artificial Intelligence*, Yale University Press, New Haven CT.

Daugherty, P. and Wilson, H. (2018) *Human + Machine: Reimagining Work in the Age of AI*, Harvard Business Review Press, Boston MA.

Eubanks, V. (2018) *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*, St Martin's Press, New York.

Greene, D. (2021) *The Promise of Access: Technology, Inequality, and the Political Economy of Hope*, MIT Press, Cambridge MA.

Hacking, I. (1999) *The Social Construction of What?,* Harvard University Press, Cambridge MA.

Lacan, J. (2020) *The Object Relation: The Seminar of Jacques Lacan, Book IV* (tr. Price, A.), Polity Press, Cambridge.

Latour, B. (2005) *Reassembling the Social: An Introduction to Actor-Network-Theory,* Oxford University Press, Oxford.

Noble, S. (2018) *Algorithms of Oppression: How Search Engines Reinforce Racism*, New York University Press, New York.

O'Neil, C. (2017) *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, Crown Press, New York.

Owen, R. (1966) *A New View of Society and Other Writings*, Dent, London.

Schiller, D. (2014) *Digital Depression: Information Technology and Economic Crisis*, University of Illinois Press, Urbana IL.

Thomas, W. and Thomas, D. (1928) *The Child in America: Behavior Problems and Programs*, Knopff, New York.

Žižek, S. (1989) *The Sublime Object of Ideology*, Verso, London.

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