Is Automation Liberating? The Flawed Optimism Of Postcapitalist Visions

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Forecasting the eventual demise of capitalism is in one sense uncontroversial. First, such claims of clairvoyance have a long history, extending back into the mid 1800s (Streeck, 2014: 46), and furthermore, history repeatedly demonstrates that few things hold the kind of permanence that we perceive in them. Still, navigating the timeframe, the causes, and the implications of inevitable historical shifts poses an immeasurable task. At the heart of debates surrounding postcapitalist visions of the future is a tension over the extent to which such imaginaries follow inevitably from continued capitalist or technological development, or require the guiding hand of human agency. As a result of this tension, such visions often simultaneously present themselves as premonitions and action plans. Frequently they bear witness to the suggestion that 'the best way to predict the future is to invent it.'[1]

Recent work by Mason (2015) and Srnicek & Williams (2015) display this tension in different ways; the former is generally more optimistic about the inevitability of capitalist collapse while the latter stress the importance of human agency, and the mounting of a counter-hegemonic response to capitalism. Following autonomist thought regarding labour and value, Mason finds in Marx's *Fragment on Machines* a prophesy of postcapitalism. Srnicek & Williams also draw on post-operaist thought in their re-articulation of the mantra, 'within and against' (Negri, 2014), whilst disavowing the accelerationism of their previous work. They recognise the need to overcome certain internal barriers, such as work ethic, by taking "an interventive approach to the human" (2015: 77). Their analysis provides valuable insight into how one should conceive of liberation and its relationship to postcapitalism. Despite their differences, both contend that recent developments in technology, particularly the potential presented by automation, information and transforming labour composition, are encouraging signs of a workless postcapitalist future. Moreover, both feature similar mechanisms and proposals, such as universal basic income (UBI).

Drawing on these two postcapitalist visions in particular, this essay argues that the forecasts regarding automation that they offer are ultimately unconvincing. Whilst their arguments regarding counter-hegemony are more compelling, the role of automation is somewhat minimised here and their reliance on an interventive approach arguably leads to an impoverished, or at least ambiguous, conception of liberation. I first present an overview of recent research examining trends in the labour market and their relationship to automation. This is followed by a discussion of how *The Fragment on Machines* has been utilised in postcapitalist forecasts and the theoretical arguments this opens up. Post-operaist and postcapitalist suggestions of transformations in labour composition due to immaterial labour and informatisation are then addressed. Looking beyond an assessment of postcapitalism's inevitability, questions of liberation, the role of human agency, the social implications surrounding a postwork world, and the problems of thinking about the future more generally, are discussed.

Economic Research regarding Labour Composition and Automation

Srnicek and Williams (2015: 109) argue that a fully automated economy has the capacity to "liberate humanity from the drudgery of work". However, the history of automation among vast swathes of agriculture, manufacturing and services has not led yet to a global slump in employment. Employment in the UK is at its highest since 1975 despite vast numbers of jobs having been automated and a recent recession[2] (ONS, 2017), with similarly healthy figures for the US (BLS, 2017). It would appear that the current economic system, despite automation, is adept at replacing

and creating jobs, 'bullshit' or otherwise (Graeber, 2013). Fears of a jobless recovery to the recent recession due to automation (Siu & Jaimovich, 2013) were in hindsight largely unwarranted.

In terms of labour market composition, the 'hollowing-out' thesis, which states that automation causes an increase in low-paying and high-paying jobs whilst reducing the number of mid-paying jobs, can be shown by statistical analysis to have had only a small effect so far (Butcher, 2013), which is further mitigated if one looks beyond using the standard, but inadequate, method of using the median to examine pay distribution, and takes into account movement in relative wages (Holmes & Mayhew, 2013). By and large, whilst there has been an increase in high-paying jobs, automated mid-paying jobs are replaced by other mid-paying jobs. Research suggests that job insecurity as a whole has "deepened rather than broadened" (Gregg & Gardiner, 2015: 9), including only a moderately increasing trend towards casualization and precarization. This is reflected in the moderate increase in the number of zero hours contracts[3], particularly for younger workers. This suggests that the collapse of capitalism is not imminently predicted by signs in the labour market, either due to widespread unemployment necessitating it, or declining working conditions resulting in workers demanding it.

Looking forward, despite the wealth of interest in the subject, due to the difficulties of prediction, there is a noticeable lack of hard evidence. Whilst Frey & Osborne (2013) predict that 47% of US jobs could be automated in the near future, Arntz et al. (2016) estimate that only 7% of US jobs are at risk. This disparity largely results from differing methodologies, with the earlier study relying on occupation-based analysis and the latter on task-based analysis. It is clear that there is a large amount of uncertainty over the threat automation poses to employment. In particular, 'low-skilled' jobs involving "routine tasks" are thought to be more at risk than 'highly-skilled' jobs requiring "interactive or cognitive tasks" (Arntz et al., 2016: 10, Autour, 2013). Furthermore, as pointed out by Arntz et al. (2016: 7-8), demonstrating that jobs are at risk of automation does not necessarily mean that automation will take place; for example, task substitution may well mitigate or delay automation-induced unemployment.

Postcapitalist visions suggest more qualitative shifts are taking place that fundamentally challenge both capitalism's ability to price commodities correctly and which suggest new forms of social organisation and relationships centred around democratic networks and the abundance of information. Since evidence about the future of automation is uncertain, and because postcapitalist analyses discuss changes that perhaps cannot be captured by quantitative economic research, their visions demand serious attention.

Marx Against Marx

In Marx's *Fragment on Machines,* automation implies "a moving power that moves itself", resulting in "the appropriation of the living labour by objectified labour" (1973). Workers are reduced to being the "conscious linkages" between machines (Marx, 1973: 692). As a result, the autonomy of machines replaces their own autonomy. Postcapitalist thinkers often employ the Fragment, left unpublished by Marx, as evidence of capitalism impending collapse. Marx argued that capitalism, in a fully automated economy, would be unable to price commodities correctly as they would be produced by social knowledge (the 'general intellect') and thus not subject to measurement using concrete labour-time. This analysis has been taken up by postcapitalist theorists such as Mason (2015). The rise of immaterial labour, which typically refers to labour that produces immaterial things, such as information & culture (Lazzarato, 1996), is said to realise Marx's conception of the 'general 'intellect'. Autonomists such as Vercellone (2007: 24) proclaim Marx's labour theory of value obsolete, as immaterial labor cannot be measured by the 'time of the clock and chronometer.' Whilst Mason's analysis is less dramatic, he does suggest that informatisation, and the emergence of a 'general intellect', cannot be supported by the current economic system, and that it will inevitably "blow [capitalism's] foundation sky-high" (Marx, 1973: 706).

One can challenge the *Fragment's* logic by looking beyond Marx's labour theory of value, or, alternatively, by using Marx against himself. Marx later abandoned the conception of value he employs in the *Fragment* due to its theoretical inadequacy in explaining the development of contemporary crises (Heinrich, 2013a, 2013b, Pitts, 2016a, 2016b). Marx arguably realised that concrete labour-time was an incomplete measure of value, and thus synthesized this into an implicit critique of his earlier unpublished work. If abstract labour, understood as deriving from "average social relations" and including the "mass of social labour embodied in the system of machinery…" (Marx, 1990: 548-9), is

taken as the measure of value, instead of concrete labour, then automation may change the dynamic between concrete labour and relative surplus-value, but it does not fundamentally undermine the overarching theory of measure. In conclusion, using this revised theory of value, automation does not necessarily entail a 'crisis of measurability' (Pitts, 2016a, 2016b).

Furthermore, immaterial labour's novelty has been exaggerated, if one considers the historical intransigence of the phenomena it describes (Graeber, 2008: 6-9). Equally, autonomist assertions of immaterial labour reflecting a shift towards 'real subsumption' are confounded by Marx's identification of the latter as a contemporary phenomenon (Caffentzis, 2013: 106). Nevertheless, the trend that the term is associated with, towards self-valorisation, deterritorialisation of production, and networks over hierarchy, is significant (Negri & Hardt, 2001: 294-6). The prevalence of such phenomena may suggest something fundamental; postcapitalist optimism is not totally unfounded. Alongside such developments, however, there exist "new and stable forms of domination" (Virno, 2002) equally traceable to technology and automation, which should not be overlooked.

Janus-Faced Info-Capitalism

The Internet can be seen as a massive democratic social structure with no centralised single power, in which goods are commonly held or shared through peer-to-peer networks. For example, Mason sees Wikipedia as a reflection of this in that the website relies on the efforts of 27,000 volunteers, who have, according to Mason, effectively abolished "the encyclopedia business and depriv[ed] the advertising industry of an estimated $3 billion a year in revenue" (2015: 15). Furthermore, the ability to share information, whose reproduction tends towards zero marginal cost, justifiably excites those prophesising or advocating the end of capitalist relations. However, Mason overlooks the fact that Wikipedia relies on the wages of 27,000 volunteers, procured from their employment elsewhere within the capitalist system. Some of these jobs will no doubt be utilising technology in the pursuit of profit and in ways that are equally novel, and perhaps far more premonitory.

Maintaining a distinction between automation and information is useful (Negri, 2014) as the two are by no means synonymous.[4] However, automation is increasingly being integrated into how information is shared and consumed. This includes, for example, how algorithms are used in speculative finance (Terranova, 2014: 381) in ways that even mainstream neo-classical economists call for an end to (see Kay, 2009). Furthermore, the use of automated technology to capture externalities through the information we relinquish on social media and other platforms is commonplace today (Moulier-Boutang, 2011). Market research and online advertising is increasingly becoming the product of "algorithmic automation" (Negri, 2014: 378), and the volume and specificity of data that companies are able to hold on consumers is becoming more total. The fact that each user of Facebook is estimated to be worth £2.88 per quarter to the company in advertising revenue evidences the claim that "capital has *always* relied on 'free gifts' produced outside the capital-form" (Smith 2013: 228).

Statistician Hans Rosling posed the question, "Why do I as a professor from public health speaking about health and demography get invited to Goldman Sachs [and] all these big banks around the world?" (Rosling, 2017) The access to data regarding human behavior and spending is crucial to capitalism's continued ascendency. Foucault's work in the field of biopolitics in the 1970s charted an ascendency of governance over populations, stressing the importance of statistical analysis in exercising regulatory power (Foucault, 2003). Such power may simply employ the "foresight and guidance" that Mason advocates (2015: 322), but it is not necessarily benevolent.

There is little reason to doubt the adaptive capacity of capitalism in response to the rising importance of information, networks and computers. The rise of immaterial labour and service work does not necessarily present a "catastrophic halt" to the onward march of history Caffentzis (1999). In fact, automation may only increase the necessity for capitalism to seek out countervailing mechanisms, through raising the intensity and duration of the working day (Marx 1990: 272-282) or, most likely, simply by increasing production (Nieswandt, 2016). It does so not as an abstraction or as a climatic metaphor (see Dyer-Witherford, 2015), nor "behind our backs" (Mason, 2015: 197), but instead by our own hands. Capitalism's mystique is most likely as banal as the shifting human desire it both fashions and reflects. The mapping of this desire, and its control and modification, occupy central elements in some postcapitalist visions. In particular, they advocate the tearing down of those barriers that we ourselves put up.

Theories of Technology & UBI

Determining automation's role in the path to postcapitalism is difficult without a clear understanding of technology's nature. More nuanced accounts of postcapitalism employ the substantive, or critical, theory of technology, both of which recognise that the latter's design belies the intentions of its inventors and investors, which are never wholly apolitical (Feenberg, 1991: 7). For example, it is important to recognise that automation is driven by technologies that are, for the most part, designed and used in the pursuit of profit (Critisticuffs, 2015). Therefore, to treat technology as instrumental oversimplifies the question of automation's role as a catalyst in postcapitalist visions. Both Srnicek & Williams (2015) and Mason (2015) recognise that technological advance is nondeterministic and therefore recommend fostering certain forms of technology, as evidenced in the former's interest in developing counter-hegemonic technology modelled on Chile's CyberSyn (2015: 149). However, Mason (2015) does occasionally view capitalism as an "organism…operating beyond the control of individuals, governments and even superpowers" which constrains technological advance. Technology is, as a result, often viewed as both shackled by, and a constituent of, capitalism.

Human agency is responsible not only for designing and using technology, but also for what decisions are taken in reaction to it. As Srnicek & Williams argue, "under current conditions, automation is likely to cause more unemployment, with the benefits of new technologies going to their wealthy owners" (2015: 129). UBI is a frequently proposed response to increased automation and expected unemployment, and features in both Mason and Srnicek & William's postcapitalist projects. Whilst Srnicek & Williams (2015: 138) may lament the fact that utopias today "have to be rigorously justified in instrumental terms", damaging criticism of basic income proposals have been leveled on both economic and normative grounds. Despite garnering support from people with a wide variety of political affiliations, some of whom favour it as a simpler, more incentivized replacement of the welfare state, postcapitalist visions usually advocate a basic income that would give citizens enough money to "just exist" (Mason, 2015: 284). UBI has been challenged on the ground of its economic feasibility (Reed & Lansley, 2016), as well as for its misguided, and contradictory, presupposition of the very market relations that produce the poverty which render a basic income necessary (Critisticuffs, 2015). A similar fear is that UBI would inhibit development to a system outside of capitalism, to one in which money and private property do not feature (Taylor & Neary, 1998: 116-117, Dinerstein et al., 2016). Furthermore, despite the fact that it is only a preliminary stage in the development towards postcapitalism, UBI has not been overly popular with the general public. At least, it was overwhelmingly rejected in Switzerland in 2016. Explaining such a result is crucial for postcapitalist visions; a commitment to work ethic is offered as one such explanation.

Human Agency & Work Ethic

The percentage of our lives spent in the labour force has been steadily declining due to a rising starting age of work, increased time spent in education, a largely static retirement age, and increasing life expectancy. This suggests that Keynes' (1930) often-derided prediction regarding the contraction of the working week was not as wrong as has been suggested. Furthermore, disposable income in the UK, for example, has been progressively rising for decades. Trading in a part of this income for a shorter working week has not gained much political traction in the last few decades, suggesting work's progressive depoliticization (Weeks, 2011).

Srnicek & Williams (2015), in discussing the current economic system's failings, note in passing the association between unemployment and suicide. It is clearly implicated that unemployment causes suicide, albeit within an economic system in which 'wageless life' means poverty (Denning, 2010). Given that they advocate, if rhetorically, 'full unemployment', it is unclear what the implications are for people's well being. Whilst work ethic and the psychological effect of unemployment have been show to be culturally specific (Van Hoorn & Maseland, 2013[5]), there is still widespread commitment to work as a truth of social reality. Weber wrote that "…one's duty in a calling, is what is most characteristic of the social ethic of capitalistic culture, and is in a sense the fundamental basis of it" (Weber, 2012: 54).

According to Srnicek & Williams (2015), norms surrounding the idea of work are entrenched and, ultimately, prohibitive to the attainment of a greater, more ultimate, liberation than can currently be imagined.[6] As a result, they

recognise the need to "overturn neoliberal common sense and to rearticulate new understandings of 'modernisation', 'work' and 'freedom'" (2015: 131). However, an aversion to technological advance, as well as entrenched norms surrounding work ethic, directly feed into common conceptions of freedom, and so Srnicek & Williams' proclamation of freedom, but only according to their own rearticulated definition, takes on a shade of circularity. Arguments involving the suggestion of an internalization of neoliberal common sense suffer from an uncomfortable relationship to the notion of false consciousness, and present a difficult theoretical path to tread without resorting to the tyranny of the psychoanalyst; there is a danger here of inadvertently undermining their commendable rejection of "all forms of domination" (Srnicek & Williams, 2015: 27).

Imagining the Future

Imagining the future is difficult and will invariably lead to omissions and oversights. Climate change, for example, is given little more than a passing reference by Srnicek & Williams (2015: 116), but must surely feature heavily in any realistic vision of the future. When we conceive of liberation in the future, it is natural to think in terms of what liberation is to us currently and project this forward. Whilst essentialist arguments about the nature of human desire and need cannot be dismissed, one must equally accept that social truths are contestable and in flux. Given that the end of capitalism will most likely be "a process rather than an event" (Streeck, 2014: 47), discussion of universal emancipation needs to be done from an intergenerational perspective, which is problematic when considering liberation. The development towards postcapitalism, if it is to happen, will most likely lack the immediacy, and the implication of sensuous, lived experience, that must constitute any meaningful definition of liberation.

As Drucker (2011: 157) wrote, "society rearranges itself – its worldview; its basic values; its social and political structure; its arts; its key institutions. Fifty years later there is a new world. And the people born then cannot even imagine the world in which their grandparents lived and into which their own parents were born." As an illustration, Marx's sketch of a communist utopia involved hunting, fishing, rearing cattle and critiquing. Accepting capitalism as not only an economic system but also as the foundation of our social existence, means considering the ways in which postcapitalism would alter our lives.

Postcapitalist universalism must, contrary to Srnicek & Williams' contestations (2015: 78), involve a flattening of social relations. An effective UBI results in economic homogenisation, and a rejection of folk-political parochialism ultimately points towards Negri & Hardt's (2001) call for global citizenship. In fact, the former necessitates the latter due to the implications regarding the likelihood of states becoming "benefit enclaves" (Weeks & Cruz, 2016). Srnicek & Williams (2015) float the idea of artificial pregnancy as a means to foster gender equality. Moreover, Weeks (2011: 10) notes the strong relationship between work and the maintenance of strict gendered identities. To turn to even more intangible possibilities, the 19th century suggestions of Samuel Butler, who posed the question of machines one day developing consciousness, seem decreasingly absurd; at the very least, machines will result in humans having a very different understanding of what it means to be conscious and alive.

One needn't rehearse here the kind of reactionary hostility that confronts all phenomena that push at the edges of the current value system. In fact, such social developments may be deemed entirely positive. However, it is disingenuous to suggest that embracing the future of technology and social existence is unproblematic; the future invariably challenges us and unsettles our basic relationship to truth.

Conclusion

Several key conclusions can be drawn regarding automation's emancipatory potential with reference to postcapitalist visions of the future. First, research on the future of automation is inconclusive but there is little evidence from an examination of current labour market trends to suggest an imminent existential crisis for capitalism. Second, arguments based around the *Fragment* employ a reading of the labour theory of value that Marx later critiqued for its reductionism. Such arguments can be challenged on theoretical terms.

Third, arguments about informatisation and networks are more compelling in their suggestion of new forms of social relations organically emerging based around abundance rather than scarcity. Of the more prophetic lines of thought,

this offers the clearest route to postcapitalism. However, such novel developments often depend on capitalism indirectly through the wage. Furthermore, automation has also been used to deepen capitalist relations through the autonomous capturing of externalities, such as by extracting market research and through tailored advertising, as well as algorithmic financial speculation. Whilst capitalism's eventual demise is certain, these factors warn against any undue optimism of imminent collapse. As Streeck (2014: 46) argues, "it is a Marxist—or better: modernist—prejudice that capitalism as a historical epoch will end only when a new, better society is in sight."

Fourth, one mustn't assume a workless world is automatically liberating. Discussion of liberation is too often framed by circular, and thus incontestable, arguments implying false consciousness. Equally, subtle shadings of coercion within the postcapitalist counter-hegemonic project reveal a nuanced, but nevertheless emaciated conception of liberation. Furthermore, any wholehearted embrace of the (distant) future as ultimately emancipatory is myopic considering that liberation is both culturally, and therefore temporally, specific.

Finally, inherent within postcapitalist visions of the future is an underlying tension between capitalism as an externally imposed material structure and an internally sustained social construction, occasionally with undue emphasis on the former. Srnicek & Williams (2015) are correct to emphasize the necessary role of human agency and counter-hegemony as, for capitalism, "the most profound form of crisis is the 'No!' of living labour" (Smith, 2013: 231). However, one needn't delight in the kind of radicalism that produced Lyotard's reflections on the *jouissance* of capitalist domination (1974: 111-114) in order to correctly identify a communal (and conscious!) ambivalence towards the realisation of such dramatic postcapitalist visions. In conclusion, the engine of the capitalist system is not itself wholly autonomous, nor does it have an inbuilt obsolescence of the kind suggested by postcapitalist visions of the future, but is rather continuously fueled by the labour of all desiring individuals. It is from the latter that any real transformations will derive.

Bibliography

ARNTZ, M., GREGORY, T. AND ZIERAHN, U., 2016. "The risk of automation for jobs in OECD Countries. A comparative analysis", *OECD Social Employment and Migration Working Papers*, No 189, OECD Publishing, Paris.

BONEFELD, W., 2014. *Critical Theory and the Critique of Political Economy: On Subversion and Negative Reason* . London: Bloomsbury.

BUTCHER, B., 2013. *Hollowing out and the future of the labour market – the myth* . 17 December 2013. http://voxeu.org/article/hollowing-out-labour-market-new-evidence. Last accessed: 15th May 2017.

CAFFENTZIS, G., 1999. The End of Work or the Renaissance of Slavery? A Critique of Rifkin. https://www.dawsonera.com/abstract/9780822394723 Last accessed: 15th May 2017.

CAFFENTZIS, G., 2005. Immeasurable Value? An Essay on Marx's Legacy. *The Commoner* #10.

CAFFENTZIS, G., 2013. *In Letters of Blood and Fire: Work, Machines, and Value*, Oakland: PM Press, 2013.

CIPD, 2015. "Policy Report: December 2015", https://www.cipd.co.uk/Images/zero-hours-and-short-hours-contracts-in-the-uk_2015-employer-employee-perspectives_tcm18-10713.pdf Last accessed: 15th May 2017.

CRITISTICUFFS 2015. What is wrong with free money? *Kittens #5*, October 2016

CRUDDAS, J., AND KIBASI, T., 2016. "A universal basic mistake", *Prospect Magazine*, July 2016.

DENNING, M., 2010. Wageless Life, *New Left Review.* Nov-Dec 2010

DINERSTEIN, A.C., TAYLOR, G., & PITTS. F.H., 2016. A post-work economy of robots and machines is a bad utopia for the left. https://theconversation.com/a-post-work-economy-of-robots-and-machines-is-a-bad-utopia-for-the-

left-59134 Last accessed: 15th May 2017

DOOGAN, K., 2009. *New Capitalism?* Cambridge: Polity Press.

DRUCKER, P.F., 2011. *A Functioning Society: Community, Society, and Polity in the Twentieth Century* . London: Transaction Publishers.

DYER-WITHERFORD, N., 2015. *Cyber-Proletariat: Global Labour in the Digital Vortex.* London: Pluto Press.

FEENBERG, A. 1991. *Critical Theory of Technology*. New York, Oxford University Press.

FOUCAULT, M., 2003. *The Birth of Biopolitics. Lectures at the College de France, 1978-1979.* London: Palgrave.

FREY, C. & OSBORNE, M., 2013. "The Future of Employment: How susceptible are jobs to computerisation?" Oxford Martin School, University of Oxford.

GRAEBER, D., 2013. "On the Phenomenon of Bullshit Jobs", *Strike!* 17th August, 2013.

HARDT, M., & NEGRI, A., 2001. *Empire*. Harvard University Press.

HEINRICH, M., 2013a. "The "Fragment on Machines": A Marxian Misconception in the Grundrisse and its Overcoming in Capital" in Bellofiore, R., Starosta, G. and Thomas, P. (eds.) *In Marx's Laboratory: Critical Interpretations of the Grundrisse*. Leiden: Brill.

HEINRICH, M., 2013b. "Crisis Theory, the Law of the Tendency of the Profit Rate to Fall, and Marx's Studies in the 1870s". *Monthly Review*, *64 (11).*

HOLLOWAY, J., 2014. Read Capital: The First Sentence, Or Capital starts with Wealth, not with the Commodity. *Grundrisse: Zeitschrift fur linke theorie und debate*. http://www.grundrisse.net/english-articles/Read_Capital_The_First_Sentence.htm#_ftn1 Last accessed: 15th May 2017.

HOLMES, C. & MAYHEW, K. 2012, "The changing shape of the UK job market and its implications for the bottom half of earners", Resolution Foundation, 1 March. http://www.resolutionfoundation.org/publications/changing-shape-uk-job-market-and-its-implications-/ last accessed: 15th May 2017.

JAIMOVICH, N., SIU, H., 2012. *Jobless recoveries and the disappearance of routine occupations* . 06 November 2012. http://voxeu.org/article/jobless-recoveries-and-disappearance-routine-occupations Last accessed: 15th May 2017.

KAY, J., 2009. "Taming the financial casino", *The Guardian* https://www.theguardian.com/commentisfree/2009/mar/23/recession-globalrecession Last accessed: 15th May 2017.

LAZZARATO M., 1996. "Immaterial Labor" in Virno, P. and M. Hardt, M. (eds.) *Radical Thought in Italy*. Minneapolis: University of Minnesota Press.

LOTZ, C., 2014. *The Capitalist Schema: Time, Money and the Culture of Abstraction*. Lanham: Lexington Books.

LYOTARD, J, 1993. *Libidinal Economy*. Indiana: Indiana University Press.

MACKAY, R., & AVANESSIAN, A., 2014. Introduction. *#Accelerate: The Accelerationist Reader*. Falmouth: Urbanomic.

MARX, K., 1990. *Capital* Vol. I. Trans. B. Fowkes. London: Penguin.

MARX, K. 1973. *Grundrisse*. London: Penguin.

MASON, P., 2015. PostCapitalism: a Guide to Our Future. London: Allen Lane.

MOULIER-BOUTANG, Y., 2011. *Cognitive Capitalism*. Cambridge: Cambridge University Press.

NEARY, M., & TAYLOR, G., 1998. In *Money and the Human Condition*. London: Macmillan.

NEGRI, A. 2014. "Reflections on the Manifesto" in Mackay, R., Avanessian, A. (eds.*), #Accelerate#.* Falmouth: Urbanomic.

NIESWANDT, K., 2016. Basic income after automation? That's not how capitalism works! *The Conversation*, 7th October 2016 .

NOYS, B., 2012. *The Persistence of the Negative: A Critique of Contemporary Continental Theory* . Edinburgh: Edinburgh University Press.

OFFICE OF NATIONAL STATISTICS, 2017. *UK labour market: Apr 2017* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/apr2017 Last accessed: 15th May 2017.

PITTS, F. H., 2016a. Beyond the Fragment: The Post-operaist Reception of Marx's Fragment on Machines and its Relevance Today. School of Sociology, Politics and International Studies Working Paper Series, 2016-02. University of Bristol.

PITTS, F.H., 2016b. A Crisis of Measurability? Critiquing Post-operaismo on Labour, Value and the Basic Income. *Capital and Class.*

ROSLING, H., 2017. "Hans Rosling, population prophet: Five final thoughts", BBC News. http://www.bbc.co.uk/news/world-39211144. Last accessed: 15th May 2017.

SMITH, T., 2013. "The 'General Intellect' in the *Grundrisse* and Beyond" in Bellofiore, R., Starosta, G., and Thomas, P.D. (eds)*, In Marx's Laboratory In Marx's Laboratory Critical Interpretations of the Grundrisse. Boston: Brill.*

SRNICEK, N., & WILLIAMS, A., 2013. *"#Accelerate: Manifesto for an Accelerationist Politics", http://criticallegalthinking.com/2013/05/14/accelerate-manifesto-for-an-accelerationist-politics/ Last Accessed: 15th May 2017.*

SRNICEK, N., & WILLIAMS, A., 2015. *Inventing the Future: Postcapitalism and a World Without Work.* London: Verso.

STREECK, W., 2014. "How Will Capitalism End?", *New Left Review 87, May-June 2014.*

TERRANOVA, T., 2014. "Red Stack Attack!" in Mackay, R., and Avanessian, A. (eds.) *#Accelerate: The Accelerationist Reader*. Falmouth: Urbanomic.

TWAITES, R., GRIFFITHS, B., & LEWIS-MORGAN, P., 2016. "Universal Basic Income: The Great Escape?"*The Project: A Socialist Journal*. 14th August, 2016.

VERCELLONE, C., 2007. "From Formal Subsumption to General Intellect: Elements for a Marxist Reading of the Thesis of Cognitive Capitalism, in Historical Materialism". *Historical Materialism 15 (1),* Brill Academic Publishers.

VIRNO, P., 2001. “General Intellect” in Zanini and Fadini (eds), *Lessico Postfordista*. Milan: Feltrinelli.

WEBER, M., 2012. *The Protestant Ethic and the Spirit of Capitalism*. New York: Dover Publications.

WEEKS, K., 2011. Introduction: The Problem with Work. *The Problem With Work*. Durham: Duke University Press.

WEEKS, K., & CRUZ, K., 2016. A feminist case for Basic Income: An interview with Kathi Weeks. *Compass*. 25th August, 2016.

Notes

[1] This phrase has been attributed to a variety of people, including Peter Drucker.

[2] However, the recession itself may well indicate increased crises ahead (see Streeck, 2014, 2016).

[3] Interestingly, despite the popular narrative surrounding zero hours contracts, those on them self-report similar job satisfaction as those on other contract types and are in fact more likely to be satisfied with their work-life balance (CIPD, 2015: 37-8).

[4] Dyer-Witherford (2015) notes that both automation and networks are offshoots of cybernetics.

[5] Their research confirmed Weber’s theses on the protestant work ethic, but also noted that other, extensive research on the subject has been inconclusive.

[6] This argument refutes their earlier claim that “all of us want to work less” (Srnicek & Williams, 2013).

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