Post-Work, Post-Capitalism and the Fourth Industrial Revolution

Abstract The chapter addresses arguments about Italian Workerism, post-capitalism, post-work, universal basic income and the politics of abundance. It moves beyond current conceptualisations of the fourth Industrial Revolution (4th IR) to develop a politically informed analysis that can inform a critical, if not transformative praxis. Labour market analysts refuse the suggestion that labour is being expelled from paid employment. There is a tension between those who experience and bemoan precariousness, intermittent and under-employment and those for whom all of life is centred around work. For some this had led to their expulsion from waged labour, whilst for others it has led to its intensification. The 4th IR is presented as inevitable, silencing the manner in which it relates to the development of capitalism and its articulation with class struggle. The chapter calls for an expansive understanding of both class and vocational education and training.

Keywords Fourth Industrial Revolution • Post-work • Post-Capitalism • Universal Basic Income • Workerism
Introduction

This chapter draws on arguments raised in previous chapters that address the future of work and skill, setting this alongside more radical analyses. Much of the work that addresses the labour market refuses the suggestion that labour is being expelled from paid employment and stands in direct opposition to some of the analyses considered earlier in the book. There is a tension between the experiences of those who bemoan precariousness, intermittent and under-employment and those for whom the whole of life seems to be centred around work. Paradoxically, for some this had led to the expulsion from waged labour, whilst for others it has led to its intensification. In its ideological manifestation the fourth Industrial Revolution (4th IR) is presented as an inevitable development flowing from the first to the current IR. However, what is silenced in these constructions is the manner in which the 4th IR connects to the development of capitalism and its articulation with class struggle. These processes alert us to the way in which technology is entwined with social relations. Consequently, this chapter addresses arguments that engage with Italian Workerism, post-capitalism, post-work, universal basic income (UBI) and, paradoxically, the politics of abundance. It seeks to develop a politically informed analysis that moves beyond current conceptualisations of the 4th IR that are lodged within productivism, which in turn can inform a critical, if not transformative praxis (Anderson 2009; McGrath and Powell 2016; Powell 2012).

The Labour Market

Frey (2019) argues that technology can impact upon the labour market and waged labour in two ways. It can lead to the displacement of labour, technological unemployment or alternatively can augment the labour process resulting in increased productivity and opportunities for employment. In addition, on the basis of an engagement with a wide-ranging literature, Frey argues that there are similarities between the disruptions that ensued following the 1st IR and current conditions which have been
described as the 4th IR (see Fig. 1.1, Chap. 1). In the early years of the 1st IR following mechanisation, workers were displaced from employment leading to a fall in the wages of formerly skilled workers, as did the ranks of those they joined, semi- and unskilled workers. ‘During the first four decades of the nineteenth century, the profit share of national income doubled, as both the share of land and labor declined’ (Frey 2019: 132). Drawing upon Allen (2009), Frey describes this period as ‘Engels’ pause’. Marx and Engels analysis was set within this particular moment of capitalist development with the Marxist critique emphasising the immiseration of the proletariat. For both Allen and Frey this period was followed by the second IR which was characterised by the introduction of technology which served to augment labour power and consequently resulted in increased wages for the working class—that is to say those who laboured in semi- and unskilled work. In an echo of the embourgeoisement thesis these workers were able to attain the life style and material well-being of the middle class. There are at least two points to note. It took something like 40 years for the disruption following the 1st IR to be resolved in favour of the working class with an expansion of the need for semi- and unskilled labour. During this period technology augmented labour enabling workers to be more productive and therefore empowered to enhance not only their wages but also material and social well-being. Whilst Frey is rightly cautious about speculating on the future of work, his argument suggests that we are currently in a conjuncture in which technology is displacing the labour of semi- and unskilled workers in much the same way as occurred during ‘Engels’ pause’. At the same time technology has spawned the need for high skilled, highly educated labour, resulting in an increasing divide between the university and highly educated middle class and the working class. Yet the logic of the argument would seem to suggest that if parallels can be drawn between the 1st and 4th IR, with the 2nd resolving the dislocation caused by the 1st, it would seem likely that after a period of disruption there would be a renewed need for semi- and unskilled labour (and see Autor 2015). That is to say, that in the same way as the 2nd IR sought to augment the labour power of semi- and unskilled workers the future may hold not dissimilar possibilities for those workers who are currently displaced. If this argument is accepted the Keynesian and social democratic settlement that occurred in
the twentieth century should not be considered as exceptional but rather as an aspect of capitalist development. Frey would argue that such a future is far from certain. However, what he would unequivocally claim is that the current moment is one in which technology is replacing the labour of the semi- and unskilled working class with all the negative consequences that flow from that.

Whatever the future holds for waged labour, it will in part be shaped by political and social processes that coalesce around an expansive notion of class struggle as well as by the affordances offered by technology, be it enabling or displacing workers. It is also important that we acknowledge that technology comes from somewhere and is never innocent or neutral. It derives from particular socio-economic circumstances and the balance of power between labour and capital, seeking to address particular problems and issues. An expansive notion of class struggle will incorporate intersectionality not only of the workless and unwaged but also members of the middle class (Avis 2019). It also calls for a re-imagining of what constitutes vocational education and training (VET) in conditions of worklessness, the salience of unwaged labour and the significance of the informal economy, particularly in the social formations of the global south (McGrath and Powell 2016; Powell 2012).

Whilst the spectre of technological unemployment may appear to be exaggerated, it is vital to consider the type of employment that is available to displaced workers, in terms of skill, duration and remuneration. I am somewhat uneasy with the use of the terms semi- and unskilled work. Whilst it is the undoubtedly the case that the formerly well-paid factory workers of the Keynesian era have been displaced, and more often than not find themselves in what are considered low-skilled and low-waged routine jobs as janitors, care and service workers and so on, nevertheless we need to interrogate the way skill is understood in these contexts. One way to do this is to think about the skills of the professional middle class and what we might describe as really useful labour, or indeed that which is productive, that is to say, embodying use value. This raises a range of questions about the way in which we understand these terms which I address below.
Thinking About Skill

Earlier in this book, I examined the relationship between skill, expertise and by default connoisseurship. I argued that skill is not so much a feature of the individual but rather a collective accomplishment and it is for this reason that expertise would be a better term as it embodies a developmental and dynamic trajectory. Not only is expertise continuously developed it is also situational, contingent and will involve the exercise of judgement and connoisseurship that develops over time whereby the practitioner gains a deep and almost intuitive understanding of the field of practice. However, the enactment of expertise will nevertheless be constrained not only by the immediate but also by the broader socio-economic context in which it is placed.

In recent years much has been made of the skills required by the ‘knowledge’ or digital economy. The World Economic Forum (WEF 2018) in its report *The Future of Jobs* surveyed senior executives to ascertain the top ten key skills currently required and those they anticipated would be in demand in 2022. The main point to be made is that alongside the proficiency in new technologies it was anticipated that there would be a significant demand for soft, human and cognitive skills.

| 2018                                      | 2022                                      |
|-------------------------------------------|-------------------------------------------|
| Analytical thinking and innovation        | Analytical thinking and innovation        |
| Complex problem-solving                   | Active learning and learning strategies   |
| Critical thinking and analysis            | Creativity, originality and initiative    |
| Active learning and learning strategies   | Technology design and programming         |
| Creativity, originality and initiative    | Critical thinking and analysis            |
| Attention to detail, trustworthiness      | Complex problem-solving                   |
| Emotional intelligence                    | Leadership and social influence           |
| Reasoning, problem-solving and ideation   | Emotional intelligence                    |
| Leadership and social influence           | Reasoning, problem-solving and ideation   |
| Co-ordination and time management         | Systems analysis and evaluation           |

(Derived from WEF 2018: 12)

Interestingly and perhaps unsurprisingly these key skills articulate with those which are putatively associated with the professional middle class.
Amongst these skills are those that involve a commitment to lifelong learning, analytic thinking, creativity, critical thinking, problem-solving, the use of emotional intelligence and leadership skills that can be used to secure influence. There is a clear echo not only with Reich’s (1992) ‘symbolic analyst’ but also with the flexible, adaptive, enterprising subject of neo-liberalism who constantly refreshes their skills—the high flying graduate employee. These highly skilled individuals will constitute the type of knowledge workers that Brown et al. (2011: 81) describe as developers, top performers who are given ‘permission to think’. Importantly these knowledge workers are placed alongside others, who Brown et al. (2011: 81) describe as demonstrators and drones, terms which themselves reflect the de-skilling and routinisation of knowledge work. This labour lends itself to the mobilisation of artificial intelligence (AI) which results in the hollowing out of middle-level knowledge work.

There are several additional arguments to be addressed not least amongst which is the way in which those with social and economic power use this influence to attribute to themselves rare and remarkable skills which sets them apart from the rest of us (see e.g. Davis and Moore 1945). Both historically and contemporaneously this over-valuation of particular forms of labour and skill has rested alongside the devaluation of other types of service work. This devaluation has frequently been applied to the ‘care’ work carried out by women as well as other marginalised groups, ethnic minorities, immigrants and so on in wider society. Care work because of its complexity and demand for emotional intelligence is difficult to automate and requires a number of the key skills that the World Economic Forum suggests are not only essential in 2018 but likely to be needed in 2022. Many business leaders consider these skills are expected to emerge in the near future and, in the WEF’s terms, are ‘trending’. We could think about analytic and critical thinking, active learning, creativity, problem-solving, emotional intelligence and reasoning—all of these skills could be mobilised by a care worker attempting to administer to the complex and demanding needs of an elderly person suffering from dementia. We could think of this as ‘really useful labour’ as it contributes to the well-being of those it caters for and therefore has ‘real’ use value. The importance of the nursing and social care workforce has been strongly evidenced during the COVID-19 pandemic. However,
it should not be overlooked that care work has been commodified and is subject to the disciplines of the capitalist labour process whereby its aim is to generate surplus value rather than to meet the needs of those it serves. In this way care work could be thought of as productive labour in the sense that it serves to generate profit. To the extent that care work contributes to well-being this is frequently in spite of the capitalist relations in which it is set and is undertaken at some cost, both emotionally and economically, to the care worker. Thus in contradiction to the previous point this labour nevertheless could be considered productive in the sense that it develops use value and well-being.

The evaluation of work is in part dependent on who labours and the social location in which this arises which in turn constitutes a value judgement. Jeremy Corbyn, the then leader of the Labour party, in his speech launching the 2019 election campaign stated:

And the big question of this election is: whose side are you on? Are you on the side of the tax dodgers ... The dodgy landlords ... The bad bosses ... The big polluters ... The greedy bankers ... The billionaire media barons ..., whose empire pumps out propaganda to support a rigged system.

You know whose side Labour’s on—a Labour government will be on your side. Together, we can pull down a corrupt system and build a fairer country that cares for all.

Interestingly Corbyn’s invective was directed at the corruptions of the capitalist system. This is a theme that is present in much of the writing of those who support capitalism but who bemoan its excesses (Rajan 2019; Stiglitz 2019) and who anticipate the development of a fairer and more caring form of capitalism. There is an echo here of social democracy and Nordic egalitarian capitalism (Kenworth 2004). However, the logic of capitalism is that it will endlessly seek to accumulate capital and develop new markets, as can be seen in the privatisation of parts of the welfare state (Harvey 2014: 23–24). At times when labour is in ascendance and wields greater power the excesses of capitalism will be constrained through class struggle. However, at other times such as in recent decades in which neo-liberalism has gained ascendancy capital will pursue its goals aggressively. In the current conjuncture a number of the key skills that the WEF
cites will be mobilised by members of the professional middle class in the service of capital and could thereby be seen as a form of productive labour, in that it serves to facilitate the accumulation of capital. Yet at the same time as Graeber (2018) argues it is broadly within this professional constituency that we encounter what he describes as ‘bullshit jobs’, ultimately meaningless and in any definition of work, unproductive labour. Aspects of the academic labour process would be a case in point reflected in the time spent in committee meetings, dealing with emails and so on (Fleming 2017: 137; Zukas and Malcolm 2015: 7–11). Graeber (2018: 217) writes,

> Some academic environments are more anti-intellectual than others. But everywhere, at the very least, there is a sense that the pleasurable aspect of one’s calling, such as thinking, were not really what one is being paid for; they were better seen as occasional indulgencies one is granted in recognition of one’s real work which is largely about filling in forms.

Graeber is criticised for drawing on personalised accounts that do not go beyond the subjective and thereby fails to consider their relationship to capitalist and neo-liberal processes. He does nevertheless draw our attention to the messiness of these processes and the manner in which they articulate to the interests of the powerful. For example, the preoccupation of many organisations with performativity and the measurement of outcomes aligns with low trust relations whereby professionals are deemed untrustworthy and therefore need to be constantly monitored. In addition, meaningless labour may be used to buttress the power and prestige of organisations and senior management teams. In these instances, Graeber (2018: 13) cites the work of receptionists, front of house workers in office blocks who have little to do, but whose presence reaffirms the power and prestige of the organisation. Relatedly Anderson (2017) refers to the dictatorship of ‘private governance’ whereby employees are subject to the unaccountable whims of senior management. There are at least two points to be made. First, the arbitrary rule of management cadres is subject to the disciplines of capitalism this can be softened by monopolistic and oligarchic tendencies which serve to concentrate power and facilitate its abuse. Second, the increasing significance of
‘financialisation’ has interrupted the ‘traditional’ way in which surplus value is appropriate, that is money being used to generate more money (M-M), thereby circumventing the role of productive labour. This process has rather more in common with primitive accumulation and rent seeking than with the real subsumption of labour to capital. Notably, the current conjuncture is one which features the decoupling of employment and wages from productivity and growth. This can be seen in the arbitrariness of the relationship between wages and productivity; we need only to reflect on the excessive incomes awarded to senior management whose companies fail, setting this against the derisory wages of productive workers. At times this can be reflected in the irrationality and incoherence surrounding the distribution of income and wealth. This distribution is of course shaped by the balance of class power which currently favours senior management and the interests of capital.

Species Being

Waged labour is central to the current doxa and is construed as being pivotal to social and economic well-being with its absence seen as the obverse. The lack of waged labour carries with it a range of social harms that can lead to a sense of worthlessness resulting in both physical and mental health issues. Work is construed as being central to who and what we are (Wilkinson and Pickett 2010, 2018). This raises several issues. The significance of waged labour is that it can enable full participation in wider society. However, this is predicated on having a sufficient income—notably in-work poverty is increasingly a feature of capitalist economies (Anderson 2017: 134–135; Bloodworth 2018; Ehrenreich 2010). In-work poverty is also reflected in highly alienating and unpleasant work in both the global north and south (The Guardian 2015; Parker and Vonow 2017; War on Want 2019a, b). Whilst what constitutes alienating and unpleasant work is not only a subjective but also a value judgement, we should nevertheless reflect on the type of work available to the working-class communities that Shildrick et al. (2012) studied. In these communities many people churned between low-waged, low-skilled work interspersed with periods of unemployment, but nevertheless the
search for and commitment to waged labour is a feature of these communities. For a number of writers this commitment is used to challenge ‘pathological’ notions which construe such communities as not only refusing to work but as also living off state benefits and petty crime (Shildrick et al. 2012; Simmons and Thompson 2011). In this instance, the commitment to and search for decent work is seen as a social justice question. However, there is an irony. On one level this argument reflects a realistic political strategy that seeks to provide decent work for those who have been excluded. In some respects the debate concerned with UBI addresses these social justice questions. It is suggested that UBI would enable people to avoid highly exploitative and oppressive waged labour. It might lead employers to invest in capital machinery so as to remove the drudgery from waged labour whilst simultaneously encouraging improvements in the quality of work. At best UBI could be seen as an aspect of revolutionary reformism—a stage along the route to a qualitatively transformed social and economic system. Yet on another level through the centrality accorded to waged labour UBI may serve to lock people into capitalist work relations, becoming a form of entrapment (Holloway 2019: 230). For Cleaver (2017: 13) the struggle against waged labour, or in workerist terms its refusal, places ‘the struggle against work [as] the most fundamental threat to the [capitalist] machine’. It is important to acknowledge the damage waged labour inflicts upon those who encounter in-work poverty. At the same time we also need to recognise the harm that results from the intensification of labour and the surrounding insecurities that arise when all of life revolves around work (Beckett 2018, online; Cederström and Fleming 2012; Frayne 2019; Marazzi 2011: 113). Sage (2019) points out that it is not so much the lack of the experience of work that matters but rather the failure to adhere to a powerful social norm that calls for involvement in waged labour. He claims that those who are weakly attached to this social norm suffer far less from the absence of waged labour than those who are strongly attached (Frayne 2015). For example, Sage (2019: 210) cites Hetschko et al. (2014: 150) who found that the well-being of those who transition from long-term unemployment to retirement increased significantly suggesting this was because they are no longer subject to the ‘work ethic’ and the opprobrium of not having waged employment (and see Ponomarenko et al. 2019).
Before considering the debates that surround the UBI, I would like to revisit conceptualisations of work. Much of the previous discussion prioritises waged labour and presupposes the patterns of employment that characterised industrial capitalism. It bemoans the transitions that have occurred in recent years that have led to exclusion from waged employment and increased precariousness. Malloch et al. (2021) argue that historically we have tended to define ourselves in terms of waged employment (see Wilkinson and Pickett 2010, 2018). Consequently, lifelong learning has been justified through its instrumental connection with waged work, this being particularly the case with VET. In this instance, Sage’s (2019) argument is particularly salient, pointing as it does to those who have transitioned from waged employment to retirement. This argument serves to alert us to the potential contribution that a re-imagined VET could make to lifelong learning for those at different stages in their ‘lifespace’ and ‘lifespan’ and who are differently positioned to waged work (Malloch et al. 2021). Such a stance would call for the re-imagining of VET that moves beyond a narrow instrumentalism tied to waged employment.

**Universal Basic Income**

There are a range of conflicting arguments derived from both the left and right that revolve around UBI and its cognates (see Martinelli 2017, for a measured account of the issues as they apply to the UK). Much of this debate concerns questions of affordability and is located within a policy science framework that addresses the application of UBI in the current socio-economic context. This takes for granted existing capitalist relations and seeks to insert UBI into the current welfare system, one increasingly seen as out of kilter with the nature of waged labour and family life in the twenty-first century. That is to say, one in which Fordist models of employment have been superseded by more flexible and less secure work, with the two income family becoming normalised. Demographic changes in global north have led to increasing number of elderly people living in single occupancy households who require support by carers or family members. It is important to recognise that the manner in which UBI
could be implemented varies with the specific version that is adopted. Yet at the same time within this policy science framework the lineaments of the argument remain the same being split between two diametrically opposed positions. Martinelli (2017: 2) suggests that ‘rather than claiming UBI is unaffordable per se, a more apt characterisation of opposition is that an affordable UBI would be inadequate, and an adequate UBI would be unaffordable’. In addition, there are claims that UBI would not necessarily benefit the poorest members of society, that is, if UBI served to replace both the bureaucracy and range of benefits provided by the welfare state. The suggestion is that if UBI is to be affordable it would need to be set at such a low level that it would fail to address the poverty of the poorest and that if it was set at a sufficiently high level it would be unaffordable (Hoynes and Rothstein 2019). It is also suggested that UBI by definition would be a universal benefit offered to all and therefore its distribution would sit alongside existing patterns of inequality unless elements of conditionality were applied which would mean it would be bought into alignment with other welfare benefits, with all the costs that this would incur. Paradoxically, its effectiveness as a counter to poverty would be undermined by its universality which would mirror existing patterns of inequality (Goulden 2018).

For those who argue in favour of UBI from a policy science or technicist framework, it is thought that a basic income will address the inequalities that derive from precarious work as well as those forms of employment that lead to in-work poverty. A basic income would guarantee a minimum standard of living that would compensate for periods of unemployment as well as for inadequate wages (Skidelsky 2016). In addition, by reducing levels of poverty UBI would also bring with it improved physical and mental health (Haagh and Rohregger 2019) (World Health Organisation 2019). It is suggested a basic income would reduce welfare bureaucracy by shrinking the number of means tested benefits. In its pure form it would result in a universal payment to all members of society, placing on recipients the responsibility for how it was spent and the purposes to which it was put. In this way it would reduce the cost of the welfare state by eradicating all other benefits. However, many of the proposed versions that seek to implement UBI are based on some sort of conditionality. For example, the Royal Society of Arts’ (RSA’s) version reduces UBI once
incomes are in excess of £75,000 pa and tapers it away to nothing for those who earn above £150,000 pa (Painter and Thoung 2015: 23).

In the following I want to move away from policy science, or what I have described as technicist approaches to UBI. Such approaches are concerned with technical questions surrounding the implementation of UBI, its feasibility, as well as its costs and benefits. These technicist approaches would interrogate whether it is the best way to address poverty and inequality in the current socio-economic context. The starting point for this discussion is with the moral and ethical arguments that UBI could prefigure the development of a future society that moves beyond both waged labour and capitalist relations—a post-work, post-capitalist social formation. Weeks (2011: 12) reminds us that there are other ways in which work, or more precisely productive labour, could be organised than those found in capitalist economies.

In the preceding discussion it could be argued I have used the term productive labour somewhat promiscuously. The term itself is Janus-like in that it can point to the production of surplus value and its appropriation by capital but also to the production of use value that may lie outside the remit of capital, the domestic labour of women involved in social reproduction would be a case in point (Hester and Srnicek 2019). Rustin (2013: 13) reminds us that ‘there is no conceivable material or technological excuse for unemployment, when there is abundant work which could and should be done, in nurturing, developing and expressing human capabilities’. Whilst this passage is rooted in productivism it nevertheless alerts us to the possibilities of ‘really useful labour’ lying outside of capitalist wage relations, in which we could express our species being. This would call for a form of VET predicated on the right to education which broke from its connection with productivism (Anderson 2009). Such a model would seek to enable participants to engage with really useful labour and would facilitate a re-•imagining of social and political relations, thereby allowing VET to be directly engaged with our species being.

Hunnicutt’s (2013) discussion of the forgotten American dream is both salutary and pertinent. At the onset of industrial capitalism there was a concerted attempt to discipline workers so that they became habituated to the rhythms of the factory—immiseration was one such tactic. Hunnicutt draws our attention to the struggles of American workers in
the 19th and the early years of the twentieth century for the reduction of working hours and their call for the exponential expansion of free time—the “progressive shortening of the hours of labor” (Hunnicutt 2013: xi). Such concerns were apparent until the middle years of the last century when they were eclipsed by the pursuit of an ever-increasing standard of living. Free time was a space in which workers could exercise their species being and engage effectively in un-alienated labour, thereby escaping the ‘tyranny of the job’ and reasserting the dignity of labour external to capitalist wage relations (Hunnicutt 2013: 7). Although the struggle against the discipline of the factory was evident in Britain during the early stages of industrialisation concerns with the extension of free time was less pronounced than in America. It was nevertheless a feature of trade union campaigns. However, this struggle was of a reformist kind, contributing towards the social reproduction of labour. It provided a space where workers could escape from the meaninglessness of waged labour. Engagement with free time enabled some workers to give meaning to their lives and facilitated their subsequent reengagement with paid employment. Current concerns with work-life balance resurrect such concerns. At the same time the call for the extension of free time could be reinvigorated to articulate with moves towards UBI as part of a revolutionary reformism. As Pitts and Dinerstein (2017a: 428) quizzically comment on this position ‘basic income is perceived as the means by which the link between money and subsistence can be maintained in a world where the relationship with the wage weakens’. Yet, UBI may also place the capitalist state in a position of power over those whose income fails to meet their subsistence needs. At the same time UBI because of its focus on individualisation serves to undermine the collective power of labour and trade unions.

For writers, influenced by Italian Workerism, such as Fumagalli (2011), the relationship of labour and the measurement of surplus value has been interrupted in the current economic context. He suggests that ‘with the advent of cognitive [knowledge, immaterial, info-] capitalism, valorization tends to graft itself onto different forms of labor, which go beyond the official work-time and coincide more and more with the whole lifetime’ (2011: 10, and see Vercellone 2009). These arguments are buttressed by a particular analysis of the ‘general intellect’ and a passage in
the Grundrisse referred to as ‘fragments on machines’ (Marx 1973 [1857–1858] 704–706, 2014 [1858]). Cognitive capitalism emphasises the role of ‘common’ collectively formed knowledge developed outside the labour process which is subsequently appropriated by capital in the pursuit of surplus value. Gorz (2010: 52) points out that cognitive capitalism operates in a different manner to industrial capitalism in that its main productive force, knowledge, is a product that is in large part the outcome of unpaid collective activity. In addition, the manner in which production is described in the ‘fragments’ is deemed to illustrate the logic of capitalist development. Marx (1973: 705) writes, ‘Labour no longer appears so much to be included within the production process; rather, the human being comes to relate more as watchman and regulator to the production process itself’. The thrust of these arguments is to underpin those that celebrate the possibility of a post-capitalist, post-work society, one which is marked by abundance. This is allied with, what may be described as, following Adler (2007), paleo Marxism, whereby the full development of the forces of production are held in check by the relations of production. In these instances, knowledge itself is deemed to be an important means of production whose transfer and distribution incurs minimal costs leading to what Rifkin (2014) describes as ‘the zero marginal cost society’. The full development of the forces of production heralds the possibility of a society marked by abundance in which traditional notions of waged labour are transcended. This ‘accelerationist’ stance is a feature of the work of Hester and Srnicek (2019), Mason (2015) and Srnicek and Williams (2015), amongst others. The political logic here is to push capitalism as far and as fast as possible, thereby exacerbating the contradiction between the forces and relations of production, speeding-up the move towards a post-work and post-capitalist social formation (Mackay and Avanessian 2014). Mason (2015: 144) writes,

Technologically, we are headed for zero-priced goods, unmeasurable work, an exponential take off in productivity and the extensive automation of physical processes. Socially we are trapped in a world of monopolies, inefficiency, the ruins of a finance-dominated free market and a proliferation of ‘bullshit jobs’. 

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For Mason this is reflected in the contradiction between ‘the possibility of free abundant socially produced goods’ and ‘monopolies, banks and governments seeking to maintain control’ (2015: 144). It is almost as if capitalism will bring about its own demise and that all we need to do is to work with the grain of the development of the forces of production to transform society.

Beyond Waged Labour

Whilst the move beyond waged labour is thought to be progressive and predicated on the development of the forces of production, this relationship is not straightforward. This issue is addressed in critiques of Workerism, post-work and post-capitalism which raise several questions concerned with: the analysis of general intellect, productive labour, forces of production as well as the measurement of value. Writers such as Pitts and Dyer-Witheford, amongst others, draw our attention to the difficulties and tensions in workerist, post-capitalist and post-work thinking (Dyer-Witheford et al. 2019; Pitts and Dinerstein 2017b). Pitts, for example, emphasises that the focus on waged labour fails to move beyond capitalist relations for two reasons: first, the provision of UBI replaces the employer with the capitalist state and, second, and more importantly for this discussion, analyses of post-work fail to transcend the social relations of production. Lombardozzi and Pitts (2019: 9) argue,

What appears simply as a crisis of work, wage and social democracy in fact reflects a deeper and more pervasive crisis of social reproduction. These three are the social forms that mediate the antagonistic and contradictory struggle to survive in capitalist society. Combined with such a ‘social form’ perspective, social reproduction theory expands the theoretical understanding of the under-investigated intertwined relationship between productive and reproductive work which reproduces social inequality and hampers wellbeing.

Importantly for Pitts (2018: 3) the key insight of social form analysis is that value does not derive from concrete but rather from abstract labour
which is ‘a category of social mediation expressed in money’, a social form
undergirded by antagonistic social relations. It is here that the crisis of
measurement can be resolved. This resolution is based on ‘socially neces-
sary labour-time, a retrospective abstract social relation between all
labours mediated by commodity exchange’ (Pitts 2018: 24).

Hester and Srnicek (2019) in a similar manner to Lombardozzi and
Pitts (2019) draw our attention to the crisis of social reproduction, albeit
from a stance rooted in a post-work framework. They point out that
many analyses of post-work have been in danger of side stepping ques-
tions of social reproduction and productive labour, or to put it differ-
ently, the ‘really useful labour’ that would be required in such a context.
Hester and Srnicek (2019) are fearful that this neglect could serve to
exacerbate and may even naturalise gender inequalities concerned with
care and the nurturing of children. Within a post-work society, despite
the rhetoric attached to artificial intelligence, robotisation and the like,
there will be a range of tasks that will continue to need to be performed
by people. These tasks could range from elder care through to dealing
with human detritus and so on. As discussed earlier the thrust of post-
capitalist analysis of the forces of production suggests that its develop-
ment will result in a society of abundance. This is a top down process
whereby the development of the forces of production herald the end of
capitalism leading to its demise and is reminiscent of Marx and Engels’s
(1967: 94) description of capital being its own gravedigger. This is a pro-
cess that follows a logic that is independent of human agency. However,
the forces of production are wedded to capitalist relations as is the tech-
nology that is mobilised. The point here is that to presume that the devel-
opment of the forces of production of themselves can herald a
post-capitalist society is overly optimistic. This lacuna can be addressed if
we reintroduce an analysis of class struggle into conceptualisations of the
forces of production. Such an analysis would recognise that there is a class
struggle over the application of technology to production which is
marked by an antagonistic relationship between labour and capital. This
antagonistic relationship is mediated by regional, national and localised
contexts as well as by intersectional relations, that is to say, the way in
which class, race, gender and so on are interrelated.
For workerist and post-capitalist analyses Marx’s discussion of the general intellect in the ‘fragments on machines’ is of pivotal importance. To reprise the earlier discussion the ‘fragments’ have been used to analyse the current conjuncture and sits alongside discussions of cognitive or information capitalism etc. Gorz touches on these arguments when he suggests the current conjuncture is qualitatively different from that of industrial capitalism in which the

main productive force, knowledge, is a product that is in large part, the outcome of an unpaid collective activity, of a ‘self production’ or ‘production of subjectivity’. It is to a large extent, ‘general intelligence’, shared culture, living and lived practical knowledge’. (Gorz 2010: 52)

In a not dissimilar manner Vercellone (2009) suggests that within cognitive capitalism we need to explore the production of surplus value that arises externally to the capitalist enterprise.

[Following the gratuitous appropriation of the surplus generated by the social cooperation of labour] it becomes important to rethink the concepts of wage, productive labour and exploitation in a framework where this cooperation is no longer confined within the factory but extended to the whole of society, as it organises itself more autonomously from capital. (Vercellone 2008, unnumbered)

The significance of the above is that it prioritises the development of knowledge, and views this as a collective and implicitly democratic accomplishment occurring outside the direct control of capital. Such arguments are tied to an anthropised analysis of the general intellect and for writers, such as Dyer-Witheford and Pitts, this anthropisation represents a misreading of Marx. Pitts and Dinerstein (2017b: 2) comment,

Capitalism’s specificity pertains not to work but to the forms taken by its results: abstract labour, value, money. Combined, these approaches suggest that the escape from ‘work’ is no escape route from capitalism.
For Dyer-Witheford et al. the general intellect is represented by its embodiment in capital, whilst for Pitts a better understanding of the current conjuncture can be provided by form analysis allied with social reproduction theory. The point is that these writers refuse a straightforwardly optimistic view of the general intellect and the thrust of capitalist development towards a post-capitalist future. These writers accept that such developments may lead to the absence of waged labour but this does not necessarily represent the transcendence of capitalism. Rather Blacker’s description of worklessness may be more appropriate for these writers and to this particular context.

The current neoliberal mutation of capitalism has evolved beyond the days when the wholesale exploitation of labor under-wrote the world system’s expansion. While “normal” business profits plummet and theft-by-finance-rises, capitalism now shifts into a mode of elimination that targets most of us—along with our environment—as waste products awaiting managed disposal. (Blacker 2013: 1)

Dyer-Witheford et al.’s (2019) rather bleak discussion of AI and its potential development echoes Blacker’s analysis. Although their analysis is speculative focusing on artificial general intelligence (AGI) they suggest that currently AI cannot match human capabilities. Currently, variable labour power is seen as a particular feature of human labour which is characterised by general intelligence, that is to say, ‘the ability to reason with general knowledge, to perform many different tasks, and to operate in new and completely different domains and environments …’ (Dyer-Witheford et al. 2019: 126). Nevertheless, Dyer-Witheford et al. speculate that in time AGI will become a possibility thereby rendering human labour redundant and no longer required by capital. The point is that these more pessimistic accounts point to the importance of struggle in shaping societal development and in this way avoid the over optimism surrounding some readings of post-capitalism and accelerationism. They suggest a variety of sites of struggle that could be engaged in the pursuit of a post-capitalist social formation which I discuss below.
Sites of Struggle

Chatterton and Pickerill (2010) in their discussion of anti-capitalist activists not only discuss the range of practices deployed but also point to the fluidity of the strategies mobilised to access a wider constituency. A similar argument could be made in relation to the strategies that could be used in the struggle towards a post-work/post-capitalist society. There are any number of starting points for such a politics, all of which carry with them limitations and omissions. Despite the critique of accelerationism, it does provide a starting point that builds on the development of the forces of production and pushes these to their limit. The omission is that this stance plays down the manner in which technology is enmeshed within capitalist relations. Consequently, it is involved in a twofold struggle. First is to re-appropriate technology for the collective good thereby undermining the way it is shaped to serve capitalist interests and in this way technological advances could be bent to serve all members of society. Second, in its current configuration technology has facilitated processes that have led to deskilling, casualization and precarious labour. This becomes another site of struggle concerned with the availability of decent work. Those capitalist processes that lead to de-skilling, casualization and precarious labour could be both challenged and re-engineered to serve collective ends. Currently, there is a ‘schizophrenic’ orientation to waged labour, for some, work consumes all of life whereas for others its absence compounds the disadvantages they face. Shortening the working week and increasing the amount of free time available to workers could address this issue and presage alternative conceptualisations of waged labour. If the logic of capitalism is to render increasing numbers of people surplus to its requirements this could presage the possibility of a post-work future, opening-up a politics that moves beyond the preoccupation with waged labour (Harvey 2014). The use of UBI in part addresses this issue, yet may lead to the capitalist state taking on the mantle of the employer with all the negativity that surrounds that. There is a struggle here that needs to move beyond the individualisation that surrounds UBI which needs to connect with collective strategies for social change. Such strategies would engage in discussions of the alternatives to waged labour in
post-work/post-capitalist society which need to address the transformation of the social relations of production.

I would like to close this section by referring to Chatterton and Pickerill’s (2010) activists whose practices may serve to validate and give social recognition to forms of ‘productive’ labour that are external to the wage nexus. This of course is another site of struggle that could lead to the development of collective strategies for change that would at the same time address the manner in which socially necessary labour is distributed without compounding existing inequalities. These examples are drawn from what could be described as localised practices. However, such practices need to engage with broader social movements that are concerned with struggles towards change, not only at a local level but also regionally, nationally and globally. The point here is to join with broader struggles that seek to transform and develop socially just societies. Lombardozzi and Pitts (2019) remind us that discussions of waged labour, work and UBI, by failing to move beyond the capitalist social forms in which these are located, are unable to develop a politics that addresses the antagonistic social relations that generate the crisis of social reproduction. These antagonisms derive from the totality of social relations that lie beyond the immediacy of waged and ‘free’ labour. An adequate politics needs to address the totality of these social relations, failure to do so means critique is lodged within the sphere of social forms that are entwined with capitalist relations. Pitts (2018) argues Postoperaist, or what I have referred to as Workerist, accounts of contemporary work can ‘easily dovetail with mainstream accounts of changing capitalism’. We need only reflect on the work and analyses of the WEF and similar institutions.

Vocational Education and Training

In many of the societies of the global north and south, VET is deemed to be of lesser value than that provided by universities (see Cedefop. 2017: 4; Wang and Guo 2019: 551, 553; but see Cedefop. 2017: 24). In the recent past and especially in the UK, VET has been described as being for ‘other peoples’ children’ (Bathmaker 2014a, b). Even when VET is offered in higher education institutions it is frequently devalued, being
compared unfavourably with medicine, engineering and so on (Bathmaker 2014a, b). There is a degree of ambiguity in this type of argument that serves to devalue VET, though they do indicate the presence of classed based processes. At the same time universities are increasingly being called upon to be business facing and to prepare their graduates for the world of paid employment. The irony is that elite higher education institutions have historically been pivotal in the reproduction of social relation in terms of class as well as ethnicity. Importantly, attitudes towards VET are mediated by the socio-economic, temporal, spatial and geographic context in which they are placed. In a review Gessler and Siemer (2020: 92) suggest,

Since the financial crisis of 2007/2008, at the latest, vocational education and training (VET) has gained a high degree of attention, as it is often perceived as a solution to socioeconomic problems following financial crises, particularly the rise of youth unemployment. VET is also viewed as an instrument for increasing an economy’s productivity, capacity for innovation and competitiveness.

There are a number of issues that flow from this discussion particularly in an analysis that argues for an expansive construction of VET. Importantly, Esmond points towards the further development of VET and workplace learning in the formation of what he describes as ‘technical elites’ (Atkins et al. 2019). There is an echo here with discussions of the 4th IR which suggests there is a hollowing out of the occupational structure. Those workers who are described as ‘technical elites’ able to understand and problem solve creatively when things go wrong will need a holistic understanding of productive processes. In this respect, these elite workers will be required to combine and draw on both ‘disciplinary’ and practice-based knowledge that underpins production. Access to disciplinary knowledge in this context is not only a feature of distributive justice but also an embedded feature of their labour. It would be risible to ignore the relationship of VET to waged labour and the manner in which for all worker disciplinary knowledge relates to practice and should be thought of dialectically rather than as a static relation. Such a conceptualisation can be related to the significance of occupational and
professional responsibilities to wider society, that is their civic responsibilities and social obligations.

Alongside the discussion that addresses the significance of VET for occupational and professional practice there is another debate that has often been marginalised. This debate considers those who lie outside the waged relation and formal economy—the unwaged and workless. It articulates with the social and civic obligations that we owe to one another and is concerned with the development of use values that can contribute towards the well-being of ourselves, the communities within which we live, as well as beyond. It is easy enough to relate this type of VET, particular at this moment of time, with caring forms of labour. However, it extends further than this to encompass a range of self-defined concerns. In the global south these could encompass responses to, as well as the cultural, social and material resources that could be drawn upon to survive poverty and build a ‘good’ life. In addition VET will be mediated by temporality and our location within our lifespace and lifespan. This would be a rights-based VET that would break free of its erstwhile association with capitalism and a narrow instrumental interest in addressing the needs of industry. In this instance, VET would conjoin with a rights-based education concerned with the furtherance of a socially just society.

Conclusion: The Fourth Industrial Revolution

Conceptualisations of the 4th IR are intertwined with capitalist relations and constitute a deeply ideological notion which carries with it a number of implications for the future of work, social relations, education in general and VET in particular. The term itself could be re-appropriated by a post-capitalist and post-work project. However, such a politics would face a number of obstacles, but no more than any other radical project in the current conjuncture in which the forces of popularism and post-neoliberalism hold sway. Such an engagement would interrogate the 4th IR for the affordances it offers in the development of emancipatory practices. As against those who advocate the distinctiveness of 4th IR who position it as qualitatively different to those of the past, it is important to note that it is nevertheless necessary to hold onto the manner in which
industrial revolutions (from the first to the fourth) articulate with capitalism and its accumulation strategies. This engagement, by centring capital, would qualify claims to the 4th IR’s distinctiveness. Such a stance would acknowledge that to re-appropriate the 4th IR for an emancipatory project would necessitate a break with its logic which is rooted in capitalist relations.

This chapter addresses arguments that engage with Italian Workerism, post-capitalism, post-work, UBI and paradoxically, the politics of abundance. It seeks to develop a politically informed analysis that moves beyond current conceptualisations of the 4th IR that in turn inform a critical, if not transformative praxis. It serves to remind us that technology is never innocent and that in its current form is conjoined with capitalist interests. Consequently, social and political processes are of central importance in the struggle for change. The affordances provided by the technology surrounding the 4th IR need to be re-appropriated to serve collective interests. This is no easy task, the 4th IR is an ideological construct that can be bent in a number of different directions and can be given a progressive veneer by the apologist of capital. It is for this reason that class struggle is of central importance, but this struggle must be aligned with an expansive understanding of class. Such an understanding would include sections of the middle class as well as those who are involved not only in waged labour but in other forms of ‘really useful productive’ labour. Care work would be a case in point as would that which contributes towards social reproduction—in this instance the domestic labour of women is pivotal. An expansive understanding of class would also incorporate the workless, those surplus to the requirements of capital who have been excluded from the wage nexus and would similarly necessitate a broader conceptualisation of VET. The struggle for change needs to be informed by a political strategy that operates on a number of fronts, from the local through to the national and global. Whilst such a politics would be located within a revolutionary reformism, it needs to refuse the limitations of such a stance and the danger of its co-optation by a progressive capitalism that seeks to resolve and move beyond the limitation of a post-neo-liberalism.
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