

‘Lean Production is Dead, Long Live Lean Production’: Lean, Neo-Liberal Crisis, Turbulence and the Consolidation of Regimes of Subordination¹

Paul Stewart*

Valeria Pulignano**

Adam Mrozowicki***

Abstract

This paper considers the various ways in which Lean originally was understood by advocates and critics. The paper argues that notwithstanding Lean’s impact in respect of material changes to work and labour processes in addition it can be interpreted as an ideological formation and the motor of neoliberal turbulence, at once a driver of the crisis of over production and a response to it. Lean engenders at the level of the political economy the link between a range of management regimes requiring stress to systems, institutions and individuals. Locally, this process was famously described by the labour movement activist-scholars Mike Parker and Jane Slaughter,

¹ We would like to dedicate this paper to Professor Jolanta Kulpińska, one of Poland’s foremost sociologists of work whose life and work continues to be an inspiration to us.

* Grenoble Ecole de Management, Université Grenoble Alpes, Paul.STEWART@grenoble-em.com, ORCID: <https://orcid.org/0000-0003-1994-1102>.

** Catholic University of Leuven, Centre for Sociological Research, valeria.pulignano@kuleuven.be, ORCID: <https://orcid.org/0000-0002-6466-491X>.

*** University of Wrocław, Institute of Sociology, adam.mrozowicki@uwr.edu.pl, ORCID: <https://orcid.org/0000-0002-5809-5036>.

as Management by Stress. We argue that it is critical to the contemporary character of the turbulence driving neoliberal retrenchment-restructuring. While we accept the French labour sociologist Jean-Pierre Durand's description of the era in which we are living as the time of the Lean society, we offer a somewhat different angle on the nature of Lean that interprets it not simply as a management strategy for renewal but rather as a response to this period of neoliberal turbulence in which it is a central component.

Keywords: lean production, ideology, critical labour studies, neo-liberalism

JEL Classification: L2, J5, L6.

Introduction

Our objective in this paper is to engage with ways of making sense of Lean according to perspectives we describe as either advocating or critiquing the phenomenon, with subsequent refinement to these including those linking Lean to broader concerns of organisational performance associated with debates on the nature of so-called High Performance Work Organisations HPWO (Ashton, Sung 2002; Radnor et al. 2012; Radnor 2010; Burgess, Radnor 2013) and those from a critical, usually labour movement perspective (notably the early work by Parker, Slaughter 1988; Rinehart 1997; Garrahan, Stewart 1992; Stewart et al. 2009). Following an evaluation of Tony Smith's (2000) positive thesis which provided one of the few early published Marxist political economy perspectives on Lean we argue that evidence of the negative impact of Lean in itself is insufficient to confront its frequently destructive effects. In part this is due to the ideological nature of Lean but also because conceptually the discussion about the ontology of Lean has become polarised as Lean-good-Lean-bad.

Finally, we argue that it is within the perspective whereby Lean is a key motor of contemporary neoliberal global turbulence that Lean features as the main 'organising principle' of the labour control strategies of digitalisation.

The Debate Over the Nature of Lean Production

'As countries have deindustrialized, they have also seen a massive build-up of financialized capital, chasing returns to the ownership of relatively liquid assets,

rather than investment in new fixed capital. In spite of the high degree of overcapacity in industry, there is nowhere more profitable in the real economy for capital to invest itself. Indeed, if there had been, we would have evidence of it in higher rates of investment and hence higher GDP growth rates. This helps explain why firms have reacted to over-accumulation by trying to make their existing manufacturing capacity more flexible and efficient. [...]’ (Benanav 2019).

Hindsight can be a great leveller. Writing the complicated history of our understanding of lean production may require a different optic from the one chosen by radical critics in the late 1990s, a few short years after the Womack, Roos and Jones, ‘The Machine That Changed the World’ (1991). The latter gave us a factionalised account of the nature and origins of the technical-cum-organisational pre-eminence of Toyota’s production system which they described in the now immortal term as lean production (hereafter Lean). The fact that initially this was largely a debate within the Anglo-sphere went generally unremarked by Lean’s advocates, including the point that the concept itself was an International Motor Vehicle Program (IMVP), US construct. By contrast, many critics, but by no means all from within the labour movement, were quick to link Toyota production strategies to local historical, socio-economic, not to mention cultural, factors. The latter seemed to hold little interest for its advocates, except to merely prove the point that the former had an axe of special interests to grind. There were many early critics, prominent examples included inter alia, Berggren 1988, 1993, 1995; Kenney and Florida 1991; Milkman 1991; Williams et al. – see especially their series, *Against Lean Production* 1992a; *Ford Versus Fordism* 1992; *Factories or Warehouses* 1992b; *The Myth of the Line* 1993; Graham 1995; Fucini and Fucini 1990, Garrahan and Stewart, 1992. While the majority of the critics were university researchers, others had strong links to labour movements in various countries. We would argue that the ground breaking work articulating innovative worker centred responses to Lean was conducted by the Detroit based pair Mike Parker and Jane Slaughter whose *Labor Notes* team cut right through the heart of the rhetoric advanced by the Leanistas (the advocates of lean production). While *Labor Notes* led the way, the Canadian Auto Workers Union (CAW) team led by David Robertson took labour response to hitherto unsurpassed heights in so far as the response-engagement-rejection of the ideology of Lean was central to the policy trajectory of a major union centre. This was to be witnessed by the union’s root and branch challenge to Lean as recorded memorably in its strategic challenge to GM and Suzuki at CAMI (See ‘Just Another Car Plant’, Rinehart et al. 1997).

Yet, whatever their analytical shortfalls, critics had begun the slow if sometimes fruitless task of using social science to challenge the often taken for granted complacency

of technocratic accounts of an innovative form of workplace control. That was a fight that was never likely to be won since it assumed that when advocates of Lean were confronted by a range of empirical evidence disproving prominent features of their agenda, especially those associated with the Lean's impact on workers, that they would quickly concede to better arguments associated with history and sociology. Sadly, while critics recognised from the beginning the important role of ideology in the promulgation of the new management practices termed Lean they probably underestimated their ideological resilience. This ideology was of two kinds. A conventional form using a range of what turned out to be highly successful mobilising tropes for the most part aimed at management including famously the mantra 'one best way' and, still our favourite, 'working smarter not harder'. Then again, this depended upon an older conventional ideology, specifically that technology is value free².

A tendency developed to polarise the debate with advocates, management (and the companies effectively) seeing any problems that might arise as requiring simple remedies, maybe after some refocussing, while critics, for obvious reasons, given the negative impact of Lean on workers and their families, looked to the immediate, the locale and pushed either for deeper internal reform or rejection. Yet, while the latter had significant heft to their view, the wider question of the relationship between Lean and the political economy could perhaps have been addressed earlier than it eventually was. It was Tony Smith (2000) who provided the first and to date one of the few published political economies of Lean³. His schematic prognosis of

² Arguably *The Japanisation of British Industry* (1988 & 1992) began the debate developing the so-called Japanization school after its first usage by Turnbull (1986) *Japanisation of British Industry*. Also important in tracking the debate is Ackroyd et al. 1988 and Morris et al. 1992. Attention should be paid to Elger, Smith, *Global Japanisation* (1994). The development of the idea of Japanization was revisited in a 1995 special issue of the *Journal of Management Studies* Vol. 32 No. 6 (of note are the papers by Abdullah, Keenoy 1995; Delbridge 1995; Humphrey 1995; Morris, Wilkinson 1995). We would contend that the collection adumbrated already evident conceptual weaknesses with the use of Japanisation as a concept. The import or otherwise of 'Japanisation' was again explored in *Employee Relations* in 1998 (Vol. 20, No. 3) and subsequently several papers at BUIRA's (British Universities Industrial Relations Association) 2012 conference picked up Japanisation as a concept.

³ Tony Smith (2000) arguably remains the most significant of the few published political economy perspectives on the rise of lean production which he traces to the 'crisis of the Fordist' pattern of capital accumulation in the last decades of the 20th century (Smith 2000: 6–8). Smith argued that the interesting thing about Lean is not so much the question of the extent to which it is all pervasive so much as whether it can be understood as driving new patterns of capital accumulation across the economy. Our reading of his argument is that he felt that it did achieve this specifically due to the fact that Lean was able to precipitate disaggregation-cum-dispersal and subsequent integration of ICT throughout the economy which he saw as a critical maker of 'second age of information

Lean presented it as primarily a response to the crisis of Fordism and his argument provided a trenchant assessment of its verities and pitfalls from a radical and Marxist perspective. His view was crucial in that he linked structural coercion, exploitation and the real subordination of employees, labour exploitation, and economic-structural coercion. These highlighted the groundless rhetoric of win-win outcomes promulgated by advocates⁴.

The reason why we argue that critics could have considered the political economy sooner is that, first, addressing the political economy, then including it in a wider perspective on worker responses, would have allowed for a more cogent agenda aimed at pushing local and ultimately national, legislatures to act. Second, a shift in analytical focus to the political economy while of course still addressing work place concerns, would have allowed for a broader engagement with critical policy perspectives on the trajectory of neo-liberalism and its impact on labour markets including labour market transitions. Initially, we consider the character and form of the debate on the nature of Lean: to what extent was this term an adequate descriptor for what were seen by many to be new work place management strategies?

technology'(Smith 2000: 13). All other considerations notwithstanding for Smith this defined par excellence the shift from Fordism: increased quality plus enhanced product innovation (Smith 2000: 22–23). He recognised that while for many employees the condition of labour had been diminished nevertheless for others, a core group, upskilling had occurred. Then again, all of the negative outcomes associated with lean management processes reinforced the conflict at the heart of workplace relations between managers and workers. Specifically, for Smith, lean recreates and sustains three inherent antagonistic features of the capital–labour relationship: structural coercion, exploitation, and the real subsumption of labour.

⁴ 1) 'Constant Capital'. Problem – high raw material costs, expensive inventory and technical inflexibility; 2) 'Circulation time'. Problem – increasing costs inherent in stock, retooling and bureaucracy structural dysfunctionalities. Problem – 'the separation of research and development departments from other divisions in the Fordist corporate structure' (Smith 2000: 7); 3) Workplace conflicts between capital and labour; 4) Dysfunctional consumer and capital relations. Problem – Fordism, characterised by standardization of products and services in in adept at responding to the consumer, rebooted beginning in earnest in the late 1980s; 5) Dysfunctional supply chain linkages leading to increasing costs. Problem – cost associated with investment planning difficulties and product monitoring.

Lean – Technology or the Political Economy of Workplace Control

Initially, while it might have seemed straightforward to perceive Lean as either a set of neutral management techniques or alternatively a determinate ideological formation inevitably the advocate-critics picture of engagement would become rather more complex without losing its essential features. Simply put, it was possible to see various researchers and commentators as occupying a range of positions within these two broad camps. Thus for some Lean was essentially a strategic-operational matter concerned with production techniques while others understood it as describing a specific repertoire of HR practices. Then again, others saw it as embracing both HR and technical production methods. Amongst those whom we might have placed in the latter camp, Lean was also perceived to be an ideological formation. Others again, argued that Lean was more or less Taylorism rebooted (Taylorism plus a number of managerial neologisms) and left the matter there whilst some of those who saw links between Taylorism and Lean perceived it as constituting a combination of technical production practices, HR agenda and determinate ideologies of social and ideological subordination. Tending towards the latter position elsewhere a number of us in various ways explored the characteristics and possibilities of Lean-as-management ideology beginning with a history of its social and political etymology (Stewart et al. 2009; Carter et al. 2013).

In making reference below to aspects of this early debate, our argument here has evolved somewhat from our earlier view of the genesis of Lean. Sympathetic to Tony Smith's (2000) narrative on the political economy of Lean in overcoming the crisis of profitability of Fordist accumulation regimes we had emphasised more its role as critical to the success of early period neo-liberalism (from the 1980s until the 2008 financial crisis). However, in so doing we had missed the driver of the political economy which was that of a profitability crisis resulting from overcapacity and economic slowdown which was of course widespread across capitalist economies. This parallels but is not quite the same as the post Fordist narrative of Boyer and Freyssenet (2000) and Durand (2007). It was evident that for capital capacity utilisation would be of paramount importance to restructuring strategies both within industrial sectors but with lessons that could be applied more widely as indeed they were including extensively in the recommodified public sector. Lean production was a key feature

of this survival strategy but what both the radical critics and the proponents of Lean did not pay attention to, albeit starting from different vantage points and reaching different conclusions, was that Lean was not quite what it seemed.

As we will argue later, both sides missed the larger picture which is that whether Lean is understood in managerialist terms as offering a strategic remedy to the problem of capacity utilisation (and hence falling profitability) or, following the critics, that Lean at plant level (and in the wider society) stresses workers and families, the role (we might even say the ontology of Lean), is that it acts as the driver of societal disruption of economies and cultures in contemporary neoliberalism. Thus, rather than interpreting Lean as the answer to profitability crises (the capitalist problem) or as the driver of redundancy and wage reduction (the worker problem), while it is both of these, in an age of turbulence (Benanav 2019) Lean can also be understood, with apologies to Tracy Kidder (1986), as 'soul of the new machine'. But this is germane to our wider picture to which we return later.

The critics overly focused on the managerialist rhetoric of Lean's proponents sometimes dismissing them as misrepresenting the nature of problem in the (automotive) sector as one of overcapacity amenable to new production strategies targeting capacity utilisation specifically within the sector (the efficiency problem). The Manchester school coordinated by Karel Williams (Williams et al. 1992; Williams et al. 1993) interrogated the accounting strategies used by advocates to argue that they had misunderstood the formula for assessing efficiency but also that in many respects Lean was not really new in any material sense – simply that what was being counted as 'waste' and added value could not be divorced from determinate firm (political) accounting strategies. While their argument had considerable merit including their view that many of Lean's claimed successes could not be explained following the logic chosen by Lean advocates, there was a tendency to argue *plus ça change, plus c'est la même chose*. That said, Williams et al.'s thesis had the additional merit of puncturing the conceit at the heart of much of the Leanistas' rhetoric notably the misnomer that management was in complete control and while they eschewed a focussed political-economy critique nevertheless their point hit home: that there are things beyond, let alone within, the factory that management cannot (ever) control. Other well-grounded empirical responses included Boyer, Freyssenet 2000; Durand 2007; Jürgens et al. 1993).

Frequently, other criticisms of those we have elsewhere termed the Leanistas were well founded as we shall illustrate (Stewart et al. 2016). On the other hand, Lean's protagonists dismissed their various critics as supporters of inflexibility,

traditionalism and an out-dated view of society as driven by class struggle. While their rhetoric had traction within governments especially in the US and the UK in particular amongst the Thatcher and Blair new Labour generation, (and indeed within trade unions), in their own way Lean's critics misunderstood the nature of problem facing the automotive sector. Many critics had either missed or insufficiently acknowledged a critical aspect of the genesis of Womack et al.'s (1990) Lean production narrative. This was not the conceit that it was indeed leaner, more efficient in respect of resource allocation and achieved greater capacity utilisation. None of these were in dispute. Rather, what was at issue was that Lean could resolve the problems confronting the sector and by extension company problems and hence (eventually) the wider economy. While the producers themselves might have been more sanguine about the rhetoric coming from a number of their cheer leaders within the academy, nevertheless it continued to provide great copy for the promotion of the new technical and organisational systems the firms were developing. What was unintentionally diversionary was the other side of the story, the make-believe side which was that there really only was one best way for the new management system to work.

Although many critics in the early 1980s through to the mid 1990s had pointed out that this was theoretically nonsensical and was anyway unsupported by the historical, social-organisational and cultural evidence nevertheless it proved to be one of the Leanistas' most resilient myths. It meant that where labour movement and other critics demonstrated the negative, physical, social-psychological and ecological character of Lean, that the classic Leanista response that 'this can't be Lean production since there can only be one best way', was enough to provide for a virtuous self-referential organisational and social circle. It is by its very nature more efficient than Fordism-Taylorism and therefore will inevitably be better attuned to the needs not just of the company but the workers! The point is that what critics overlooked was the fact that adopting what became known in the new jargon as 'best practices' did allow some firms in crisis to succeed even if this was a temporarily fix: the proponents of change believed their own rhetoric. Lean could not save companies forever because in fact that was not part of its agenda. (To get some perspective on this one only has to search for those remaining UK automotive assembly plants that eventually adopted Lean: Rover – gone, in part remaining but non-UK owned, Vauxhall, now PSA, for how long? Vauxhall-GMs famous Luton assembly plant long gone. All of those plants which pushed towards Lean in the 1990s and 2000s have either closed or, having survived mostly as luxury brands, are no longer UK owned).

Nevertheless, critics underestimated how difficult it would be to challenge Lean because they assumed that positive change was inherently rhetorical and that the

changes could be confronted using traditional trade union strategies. Yet while it would be fair to argue that the reasons for this were understandable at the time the fact is that lean was more efficient, including the utilisation of resources from raw material to equipment and human labour. However, while it was a response to the problem of declining profitability resulting from over production and excess capacity Lean would only exacerbate these. It was only when we began to look more widely at the costs of Lean beyond the factory gate that its greater *inefficiency* would become evident (Stewart et al. 2009).

We will now present an assessment of the key arguments about the nature of Lean together with what we take to be its specific social character.

The Social and Strategic Origins of Lean

We argue that Lean, initially a post second world war answer to the crisis in Japanese industry and labour relations, was taken up by western industrial organisations in response to the profitability crisis of capitalism in the period after 1974, was subsequently developed in the 1980s and 1990s as a means of confronting labour militancy and then its demise. It advanced through to the late 1990s and thence the 2008 financial crisis. In short, Lean has been and remains fundamentally a social-industrial strategy created in response to turbulence. (We made reference in a previous article to what was a curious conceptual detour in the Anglophone world where Lean was discussed in culturalist terms under the auspices of Japanisation.) Indeed, what distinguished Lean from other social-industrial strategies, for example Taylorism-Fordism, was the fact that it arose out of a period of historical turbulence in which, by contrast with post Second World War Fordism, historically innovative forms of labour subordination were required. Yet even more than this, and a mark of its essential character, was the fact that Lean was at one and the same time a response to (social-industrial) crisis while also requiring the constant perpetuation of this turbulence (this constitutes a factor in the social origins of the strategy, coined by Parker and Slaughter 1992; 1995, as Management by Stress). Sustaining churning is vital to contemporary globalisation whereby capital must respond to the ever constant pressure to reform via cost reduction and capital driven regulation: class struggle from above, Miliband (1978). In the current era of financialisation (Morozov 2019) where the real-time movement of financial and material resources requires extensive forms of social subordination, the managerial lessons of lean, which we now

interpret as crucial to neo-corporate citizenship, have been consolidated as critical to the repertoire of the new regime of subordination.

In the Eastern Europe, the Lean ideology arrived much later in the course of systemic change after the end of state socialism in 1989 and became widespread together with multinational enterprises (Hardy 2009; Meardi 2012). It fitted very well the expansion of neoliberal ideologies after the end of socialism which stressed the need to reduce the operational costs of enterprises, eliminate workers' collectivism and increase their productivity by developing tighter control at workplace level while stressing workers' autonomy and individual responsibility (Dunn 2004).

Lean as Technical Practices, Lean-as-Social-Relations in Contemporary Capitalism

Thus from our perspective lean is not a 'set of simple management techniques' – when was Taylorism last described in such a one-dimensional way? Despite the 'success' of the advocates, by the late 1990s many commentators had begun to scrutinise its essential characteristics paying greater attention to the importance of lean in the development of new patterns of workplace subordination. The latter is frequently perceived as a way to characterise forms of employment control developed in response to the perpetual problems posed by the crisis in social relations resulting from neoliberalism. While not everywhere the case nevertheless in most instances the relationship between lean, workplace social subordination and the trajectory of capitalism, remains unexplored. Since ideology and material subordination are intimately related we go further therefore and insist that since it was and remains an material and ideological formation, despite its other material features, no less than Taylorism, those insisting upon lean as a purely technical set of ideologically neutral management practices are themselves important to the development of the ideology portraying Lean as politically and socially neutral. That is not to deny that some advocates of Lean techniques themselves recognise that where it results in social-psychological, not to say physical, difficulties then there is no reason why these negative consequences cannot be reformed. (Unless of course they take the purest view refusing to countenance the very possibility of 'Lean failure'). The requirement to reform, while necessary and in certain instances possible, seems to us a limited perception of what should be understood to be a contested relationship in the unequal distribution of social and political power in the workplace.

We recognise that perhaps inevitably we may be under representing somewhat the rich tapestry of approaches to Lean within social science (see Alcadipani et al. 2018 for a nuanced and intriguing assessment of perspectives on Lean in the context of resistance and subordination). Nonetheless, while responses to Lean highlight considerable variation according to, inter alia, the point of intellectual departure, social and political orientation and place within the academy (and sometimes the labour movement), since the 1980s labour sociology and HRM-management studies have arguably given insufficient attention to the implications of an employee-centred agenda for the changing nature of the political economy.

That said, while the question of a workers' strategic agenda matters there are however significant variations in critical responses including; concerns with social and ideological subordination tout court; consent versus resistance, resistance and subordination; all on this list including class struggle in situ. An excellent recent example of an attempt to link the fate of Lean to HPWOs and wider concerns of industrial strategy and supply chains is provided by Jürgens and Krzywdzinski (2016). That said, with few exceptions, and beyond labour movement organic intellectuals, concerns with the relationship between lean and the theme of class conflict has been less evident in published research. As we have elaborated elsewhere the proximate reasons for this have to be set within the context of the neo-liberal university itself now captured by neoliberal policies utilising inter alia Lean management techniques. (Stephenson et al. 2019). Moreover, an attitude of mind, of what we might describe as holding fire, not going further to discuss the character of Lean in relation to class conflict for example, has meant that the literature on the origins, character and fate of Lean tends to end where a radical sociology of labour perspective might begin.

After all, if we are to interpret Lean in terms of its centrality to contemporary capitalist work organisations then surely the question has to arise as to its fate in the context of digital capitalism (For a discussion of the various lives in the terminologies of the fad for the latest change within/of/to capitalism see Morozov 2019).

Beyond Lean to the Turbulent Lean Society

The important work on subordination-insubordination by a number of researchers is significant precisely because it both provides a space in which to make sense of the deprecations of Lean while also permitting discussion on the shape of practical responses by workers and their union(s) wherever they may be (see inter alia,

Alcadipani et al. 2018). However, though we report on one of our factory based action research projects, the thrust of our argument seeks to present a different calculation, which goes like this. Lean is today so ubiquitous that in one respect it seems pointless to discuss whether or not lean is being implemented according to the guidelines as devised by the early prominent ideologues following the mantra ‘One-Best-Way’ (Womack et al. 1992): is there any organisation anymore which ‘doesn’t do Lean’ in some guise or other? To study any workplace today will implicitly involve a study of Lean. Forgetting this, perhaps is why so-much of the discussion about Lean in social science takes one of two directions. For proponents the focus has been upon demonstrating that Lean eliminates inefficient work processes thereby enhancing labour experiences and to the extent that the management processes under review are not achieving this then they are not Lean (see our point above). For critics by contrast, while they argue that the idea of what is meant by ‘efficiency’ is inherently problematical, lean is anyway inherently anti-social and where possible it must be eliminated or at least be controlled.

Our point is that today Lean has in effect become a cypher for discussing the pros and cons of management in capitalist society. It is in effect much part of the weave and waft of the development of digital capitalism that when we discuss the social ambience, organisational architecture and technical protocol of contemporary work and labour processes, we must assume lean as a given. If we do take it for granted, as we eventually did with, for example Taylorism, then since our perspective is concerned with social mobilisation in the context of organisational conflict in contemporary lean society, we remain certain that whatever the point of departure, critical approaches to lean will be concerned with questions of hegemony and counter hegemony. This means that standpoints emphasising Lean’s role as a socially neutral technology are themselves ideologically oriented. (In a different register see, Durand 2017; Lordon 2014). To consolidate we suggest three perspectives on Lean which in their various ways have articulated historically determined social agenda.

Three Ways to Think About Lean

Arguably, we have seen three approaches to making sense of Lean: the technicians, the reformers and the radical labour movement critics. How might we begin to make

sense of the role of the 'technicians' who can be understood as sustaining while entrenching what is a dominant production ideology?

Though not always the case, technicians can be seen to constitute what Daniel Bell termed a 'Cow sociology' which is to say practitioners of a social science (his exemplar was Mayo's Human Relations school) in the service of dominant social interests: researchers finding ways of creating satisfied and hence more productive workers. For us, the Lean of the operational technicians, and on occasion the improvers, is central to both the operation of transnational and multi-national firms and the face of contemporary organisations in both the private and public sectors⁵. Indeed, as we pointed out above it is a truism that in many cases what is understood as workplace technical change together with various HR practices is now so far reaching that for many there is now little point in discussing the fate of Lean. Arguably this lies behind much of the Cow sociology perspective: it's here, live with it and if necessary, improve it (why not just embrace it?). If lean is part of the patina of globalisation, as endemic as bureaucracy, flat or tall, what is there to discuss other than to seek to improve it? For sure, there are notable exceptions amongst the technicians to Daniel Bell's bovine analogy but they are frequently drowned out by the sheer volume of the published work of the improvers, the latter constituting a good deal of the research on Lean as can be seen from a trawl through the published work in international HRM and work and employment journals.

There are many other reformers of course with a social conscience who whilst still perceiving Lean in essentially technical terms are much more critical and hold out the possibility that where necessary Lean can be changed. While they may see that it has negative consequences for employees nevertheless proper regulation both within (requiring stiffer labour unions) and outside the firm (enhanced labour rights, working time and health and safety regulations) can in part shackle it. To all intents and purposes this has been the position of European and north American trade unions since the mid-1990s.

⁵ Seddon (2004) has provided an interesting internal critique of what he and his network, Vanguard, take to be a fundamental misunderstanding of the nature of Lean. His work has been promoted by a number of public sector organizations in the UK. He has argued that a number of leading proponents of Lean have failed to understand that it is not a 'tool box' but rather an set of organic relations requiring deep seated culture change – more than JIT, kaizen and the rest. See also the long standing work of the French based international network GERPISA (the 1990s to the present). The major achievement of GERPISA was to interrogate and then reject the reality portrayed by the IMVP Lean current and specifically the central IMVP tenant decreeing 'one best way'.

Despite many often profound differences between the exponents (management cadre and their organic intellectuals within the academy) and the reformers (a persistence current within the labour movement), they coalesce on the view that lean is ever present and increasingly irreversible and thus (with the exception of reformers) not in need of social interventions anytime soon⁶. From automotive production (its original starting point) to manufacturing everywhere, to supermarkets, hospitals, schools and universities, and other public services, the overriding perception is that Lean is the only game in town and while there will be notable cases of failure, better management, preferably managers with an acute social agenda, will make Lean work efficiently, just as it's supposed to do. Trade unions would argue that the latter depends upon a vibrant labour movement.

While we have some sympathy for the reformers nevertheless we argue that far from responding to the concerns of capital and the interests of dominant social status groups, beyond reform in other words, a third, more critical approach, problems of access to the field notwithstanding, is necessary. We argue for a critical social science assessment of the social character of Lean. This too will encourage an approach that radically engages with the idea of the workplace as a space of social pluralities in which there are dissonant normalities

By exploring the fate of lean in relation to its impact on employees with implications for understanding its broader social form we consider the argument above that it is axiomatic the development of digital capitalism. Adding to our description of the third approach we offer a political-economy perspective on the history of Lean. First however, we explore the social origins of Lean in respect of its role as disruptor.

The social and ideological origins of lean production and the importance of disruption in the making of a new regime of subordination

Ideas frame the ways in which we try to make sense of the organisation of the employment relationship. Moreover, this means that the implementation process occurs against a backdrop of more or less uncertain understanding with the variant status groups concerned to use their power in effecting change. The *mode d'emploi* is never clear and, we could say, the subject of ontological misunderstanding. Ideas, qua ideologies, are vital here and the genesis of the idea of Lean is quintessentially ideological.

⁶ Recognising that it is ubiquitous is not the same as arguing that we should accept it as it is, or merely tinker at its edges, because we somehow think that ubiquity equals forever. Lean may be ubiquitous but it is not 'forever'.

One difficulty in catching the essence of Lean is that this is not always the term used to describe the various workplace changes that follow the introduction of 'Lean thinking'. We can take our pick: agile management, management by objectives, Toyota Production system, and 6-Sigma, think up a new term of relevance indicating sharp and efficient use of resources and the elimination of waste. It matters little whether these terms bear much resemblance to what actually happens in the work place, the point is to mobilise the workers/masses, who of course see the wisdom in efficiency and the elimination of waste. They are when all is said and done, being led by thoughtful, creative managers who are the Pretorian guard, the organic intellectuals of Lean production, a form of class struggle from above (Stewart et al. 2009).

The artifice of Lean is premised on the notion of continuous change, improvement and recreation such that we could say that the idea of disruption is central to its ontology, social and organisational turmoil being the key to its hegemony. Disruption is thus a necessary prelude for what turns out to be, in one register, social disharmony and in another, personal crisis. In other respects, in one's life, this would be regarded as highly dysfunctional and indeed it is precisely this but with the caveat that the purpose is to transfer systemic dysfunctionality to agency including 'weak' workers, inefficient suppliers, the local and national economy. All these will carry the costs which have to be borne beyond the confines of the 'successful' Lean firm. We would go further and argue that since Lean was a response to a particular condition of post war socio-economic crises (Japan after 1945) it became an excellent management agenda during a period of heightened class conflict (1974–1975). Eventually displacing the latter in many socio-economic spaces it proved to be a vital component where management sought increased workplace control and was critical, as was pointed out above, to the hegemony of neo-liberal retrenchment in the mid to late 1990s. To reiterate, in this view Lean not only offers a response to a workplace's external life of market uncertainties (disruptions, conflicts, failures) for it meaningfully creates the very crises it claims to be a response to. Crisis is vital since is the means by which management finds out 'what doesn't work, why, and how to change it' – 'how to get things done'.

It is this, the crisis motive we might call it, that lies behind various reported negative impacts on employees of Lean organisational processes. Where Parker and Slaughter in the 1980s coined the term, Management by Stress, to account for the seeming irrationality of a work and employment system that drove workers, in some instances, to their physical and emotional limits, we suggest extending its use to encompass the necessary stress dynamic at the heart of neo-liberal turbulence.

This engendered process of continuous disruption for the firm, of crisis for the individual, is thus not only organisationally disruptive since it is also socially conflictual. Typically, the latter, for technocrats and some reformers, is consequential, never foundational. In drawing a portrait of Lean, managers and other organic intellectuals of Lean within the academy, describe it as a variety of linked progressive organizational techniques and processes⁷.

If Lean proved suitably engineered to respond to the profitability crisis beginning in the 1970s, allowing management the leverage to shackle or beak labour unions, the advent of neoliberal economic strategies in the 1980s and 90s would prove to be even more propitious. We were now in a period in which management orthodoxy was dependant on ideologies of individualisation (Stephenson et al. 2019) (and the social concertation necessary in the absence of labour unions and robust labour rights). Where labour had been politically and culturally weakened and traditional social solidarities, including extant notions of collectivism, broken or disrupted, lean management policies were crucial in seeking to tie employees into the firm. Lean, with its increasing assemblage of pseudo social solidarities driving corporate togetherness, has proven to be a key part of the architecture of social subordination. This double role for the life of Lean goes beyond its assessment in much of the literature for once we recognise its social origins, the social question as to its purpose will always be present. To the extent that we begin to consider the importance of Lean qua labour subordination both within (employee workplace practices) and containment beyond production (the fate of labour unions) it becomes possible to rethink the nature of Lean in the wider social landscape, first of neo-liberal economic and organisational strategies (Moody 1997; 2007) and then vital in the era of digital capitalism (Morozov 2019).

⁷ We know them all by now whichever sector we work in: just-in-time delivery systems; Kanban, a quality and inventory system which inter alia pressurises those upstream in the work process (co-worker inter alia one's 'business partner'); team working and continuous improvement (*kaizen*) meetings designed for process and product improvement and eliminating waste.

The Political Economy of Lean

This leads into our perspective which sees Lean as double-edged. The political economy of neo-liberalism requires Lean to both respond to whilst at the same time creating disruption within markets. Furthermore, where markets are still limited or constrained, as in the instance of the public sector, Lean strategies are used to instil a culture of management subordination under the rubric of management by objectives (MBO). The latter utilises Lean measures in the management of labour and other resources either to mimic market allocation or in preparation for privatisation. Either way, disruption is as important to the 'managing' of the trajectory of the organisation as it is to managing/managing-out underperforming employees-units internally. Parker and Slaughter's term, Management by Stress to which we referred earlier seems to us a still apposite description of the taken-for-granted importance of stress for firm success. Accordingly, a lean organisation's mantra could be, 'Despite success there will always be waste so that the upside of every success should be the pursuit of failure. Waste is our goal'. No irony is intended. What would never be added to complete this hunt for waste is a final coda, 'let someone else deal with the waste' for clearly that would be beyond irony.

In a participatory research study in 2016, we made the point that Lean proponents had developed an intriguing ideological agenda putting forward the notion that it was inherently progressive in respect of technical change *and* worker interests (Stewart et al 2016). Furthermore, the ideology pushed the idea that there is no alternative (the one best way conceit) since failure to embrace Lean can only see a firm falling behind and eventually going bust⁸. Moreover, society more widely needs to 'go lean' otherwise it too will stall. The case work we cite was part of a long term participatory action research programme involving activist scholars (Bradley et al. 2001) and labour unions at factory level. The study is important because it was concerned to explore worker perceptions of the nature of Lean production on their working, social lives and personal lives. What the study revealed was the gap between the rhetoric of the advocates of Lean and the quotidian experiences of those who had to engage with it.

⁸ The final published version of the report appeared in Stewart et al. 2016. It was the last in a series of radical research work utilising Participatory Action Research. Over a twenty five year period as many as 45 shop floor worker activist-researchers were engaged in the programme exploring the impact of Lean on workers and their families. The lead in General Motors-Vauxhall (Ellesmere Port UK) was Ken Murphy who was a co-author in the cited work.

The project concluded that Lean had a powerful ideological value which helped to shape not only perceptions of the material character of the shop floor (including how it was experienced) but also how both workers and managers ‘used it’. That is to say, managers could happily use the rhetoric while cynically refusing to countenance contrary views. Workers by contrast could see its negative consequences and while many did indeed see it as an ideology of workplace control others bought into its provenance with promises of a better tomorrow. Specifically, the study investigated the impact of Lean on the quality of working life and workers’ health beyond work. The study addressed the relationship between Lean and the intensity of work; aspects of Lean practices and worker reports of pain; chronic musculoskeletal difficulties; fatigue (mental and physical including headaches).

Lean Production and Digital Capitalism: New Business Models and Value Capture

Yet, what of digitalization and its relationship to Lean and the creation of value and furthermore, what of worker subordination in our period of neoliberal turbulence? Will the advent of digitalization bring an end to uncertainty, insecurity, and workplace stress together with its attendant negative consequence for workers? Will digitalization allow for real as opposed to ersatz forms of workplace participation? A substantial number of scholarly and policy debates in organization studies and HRM concerned with value have focused on Lean, high-performance work systems, performance and productivity, and workplace innovation. Central to these debates has been an interest in the role of effective acquisition, deployment and development of labour power specifically in relation to the production of value. In this regard attention has also been paid to the role and impact of organizational governance, managerial approaches and practices on value-creation outcomes. That said, few of these debates link analysis of value creation, the emergence of new business models, which include the use of Lean and workplace subordination – by posing the question, value capture by and for whom?

Of course, at one level there is a broad understanding of Lean management systems in relation to their utilization in service industries, particularly in logistics, due to the expansion of e-commerce in recent years. Lean processes and practices reflect the way in which service innovations – for example in warehouses and dispatch

and postal services – are conveyed along a productive logic aimed inevitably at cost reduction and as a means to strengthen company brands. All this apparently is customer-centric. Underpinned by the use of digital technologies, for example, track-and-trace-software in warehouses, customers can be located and serviced by anytime-shipments. Moreover, new scanning systems and devices (e.g. vision picking through Google glasses) facilitate the picking processes. At the same time, they enable constant performance measurement including tracking of each worker’s every physical action as a condition for kaizen operations. Furthermore, in order to optimize delivery processes in parceling, algorithms have taken over the route planning which formerly was a critical aspect of worker discretion. Today, the latter receive their algorithmically optimized route planning daily on their tablet. Guaranteeing speedy deliveries and cost cutting following just-in-time (JIT) principles (together with Lean process standardization) in services logistics profoundly limits workers’ individual autonomy and their control over work processes. The standardized work processes are steered by technological devices which delegate tasks to workers and are driven by key performance indicators such as tracking the minimum hourly number of pick rates per worker. Needless to say, failure to achieve one’s performance target incurs a range of penalties. In sum, process optimization in accordance with the principles of Lean logistics principles fosters a high-stressed performance work culture that leads to heightened work intensity and decreasing levels of control for service workers.

In this respect, it is clear that lean systems in contemporary logistics following Lean principles underpin the contemporary logic of capital accumulation within digital workplaces. This is because the use of smart/digital technology by Lean management in services depends nevertheless on organizational activities driven by imperatives to reduce labour costs and eliminate production inefficiencies. Service innovation is central in this respect since it promises customers novel solutions. Thus, work organization and therefore workers are inevitably in a constant state of turbulence as digital technology is used to increase performance. Again, we argue this both depends upon, while extending, work intensity leading to the degradation of the condition of labour. Thus, rather than offering a positive answer to our concerns at the beginning of this section, digitalization, far from banishing stress, worker ill health and allowing for greater participation will extend the workplace regime of subordination. This after all, in one respect, is its purpose.

Discussion and Conclusion

While working separately and with others who were active in automotive trade unions and the shop floor in Poland, the UK, the USA and Canada, the decisive factor in our work was that it engaged with labour and social movement organisations. Lean was to be understood as critical to neoliberal financialised capitalism. This position critiques the arguments that it is a technical-cum-production strategy and/or, can be reformed utilising a range of HRM practices in the context of the HPWO. The view propounded here challenges the description of Lean as primarily a set of production techniques, a set of HRM policies, or a combination of both.

From our perspective Lean is both a driver and a response to the current era of turbulence which is the main characteristic of neoliberalism worldwide (Benanav 2019). Turbulence is not a problem for neoliberalism – it defines it and Lean is at the heart of the process of socio-economic disruption today. Democratic change is a necessary means by which Lean can be shackled but it is insufficient that democratic engagement remains at the level of the work group still less the plant.

We argue this because in following the advice of the protagonists of Lean we have held its abiding principals to the light of empirical enquiry. Our case studies – of which one in Poland and the UK was referenced above (Stewart et al. 2016) – is an example of this whereby we explored the imperatives of Lean's advocates. The essential claims of the proponents of lean being: lean is more efficient for everyone; is more democratic and participatory; in allowing people to work 'smarter not harder' it reduces workplace stress and pressure while increasing empowerment. However, we found little evidence that workers shared this view of Lean workplaces as more empowering, often quite the contrary. Following Miliband (1989) we interpret Lean as 'class struggle from above'. In this regard it deepens what we term regimes of subordination. If Lean is the means by which capital aims to subordinate employees does this mean that greater employee control of society should be a necessary next step? While do not have the space to consider this more widely it is certainly a reasonable question.

While we have more studies on the consequences of Lean for workers today than was the case a decade ago it would be fair to say that where these focus on the concerns of the improvers they often confuse effective implementation – positive worker responses – with win-win outcomes. This is a shorthand way of arguing that because workers like Lean that somehow exploitation and workplace social control

have been shackled. Yet, this no more exemplifies the taming of Lean than higher pay and paid vacations indicates the taming of Taylorism. Since the consequences of Lean on workers are related to broader issues than those of the plant social science requires that we go beyond the workplace to explanations linking labour processes, work and employment to changes in the political economy. This we did by contextualising it in the era in which it came to prominence initially, after its genesis in Japan in the late 1940s early 1950s, in western capitalism and then globally in the mid-1980s to 1990s. As has been argued elsewhere and central to our argument, lean can be understood by what at first glance appears to be a social and organisational paradox. That is, limited external (state) regulation of the firm accompanied by closer regulation of workers' activities in work by means of myriad forms of monitoring and surveillance. Another feature of this paradox is the fact that side by side with greater internal regulation is the perpetuation of asymmetric regulation premised upon social and organisational disruption. It may keep managers and capital on their respective toes but the toes that are stamped on are typically those of workers.

Thus, Lean is neither socially nor technologically neutral which is why we describe those committed to its taken for granted verities (less inefficiency and therefore less waste, great employee participation and thus greater fulfilment) as Leanistas. Leanistas perceive its widespread adoption as an inherent good while any negative features are seen to derive from inadequate implementation by weak management cadre. That said, a range of researchers argue that Lean is axiomatically problematical not just for employees within the company but for society more widely. For these critics Lean is responsible principally for the heightened levels of stress in contemporary culture and therefore has to be fundamentally challenged, not by making lean work better but rather by halting its workings altogether. This is an argument that has been advanced strongly by a number of radical labour sociologists such as Jean-Pierre Durand in the *Invisible Chain* (2007) and more recently *La fabrique de l'homme nouveau, Travailler, consommer, se taire?* (2017). (In a different register where lean, though the term is rarely used, can be understood to be part of the patina of social domination of neoliberal capitalism, see, inter alia, Dardot and Laval, *The New Way of the World: on neo-liberal society*, 2013 and London, *Willing Slaves of Capital* 2014). From the latter perspective, lean production is taken as an indication of broader changes not just to society-in-work, but also within capitalist society in general.

Flux tendu is the term introduced by Durand (2007) to account for the seeming encroachment of more than simply the *techniques* of lean production into our everyday lives and in his 2017 work, he argues that Lean manifests itself in our social

psychological identity. This view runs parallel to Lordon's argument, after Spinoza, that subordination in late capitalism has to be situated within the context of the channelling of human, personal, desires into those construed by the dominance of the desires of the owners of capital. For Durand, whilst not exploring the emotional anthropology of Lean, he argues that we need to address its societal character beyond the wider employment relationship to cast scrutiny on Lean's impact on our entire lives (Durand 2007: 1–26, 199–208).

Finally, Lean was seen to lay the basis for a new dominant management paradigm seeking to shift the burden of risk onto non-core businesses (second- and other-tier suppliers) and subordinate social groups and the workforce in general. The burden of capital's accumulation strategy has fallen significantly upon labour, our society more widely and the natural environment. Lean production has been the principal mechanism of contemporary subordination. In recent decades, the rationale of reducing costs and enhancing productivity through organizational changes and the development of new forms of managing people at work in pursuit of the HPWO (high performance work organisation) has had a tendency to become universal across all sectors, including the public sector and non-profit organizations including in health and social care.

Driven now by digitalisation the ideological mantras and material exigencies of Lean mean that our challenges to it, whatever its variant socio-economic guises, become more imperative than ever. Yet while space is limited it is nevertheless useful to try to draw out the lineaments of what democratic engagement could look like. We should like to anticipate at least six ways in which employees might respond to the ravages of Lean in their work with its often extensive negative consequences for their private lives. This is certainly far from idealistic. While we have highlighted a range of labour movement centred critiques of Lean it has, perhaps, been too easy to assume a fatalistic one-way street of subordination without the dialectic. It is never one way where employees always accept management fiat and double down in subordination. Many of the cases we report are possible precisely due the presence of strong union committees in many instances able to use their sometimes considerable leverage to institutionalise forms of compromise to their employer's Lean prospectus. Moreover, as we have demonstrated, in critical instances it has been where we labour has exerted influence, engaged and changed as opposed to straightforwardly accepting management agenda, that the automotive assembly plants have survived for longer (see Stewart et al. 2009). As regards an agenda for democratisation: real power versus ersatz power (management 'empowerment').

First, as with Taylorism since it is not going to disappear any time soon the principle of workplace management should be paramount: who decides upon scheduling, timing programmes and labour utilisation? Second, the relationship between product, market and its impact on worker job loading should not be determined by managers without workplace consultation. Third, when companies use the rhetoric of participation and then possibly democracy they should be asked what they imagine this might entail in the firm. Fourth, investment decisions must be made in discussion with workers in the organisation and in particular those with knowledge of the product and the difficulties entailed in its manufacture and delivery (especially in the service sector). Fifth, the engagement with the local community which may entail discussions with respect to investment and the use of the firm's facilities should be included in the firm's social audit. Sixth, the social audit should involve a health tracker, controlled by a democratically elected works committee with trade unions centrally engaged, indicating where people get injured, when they become stressed and how they become unwell and moreover, this should be used to make work better in a way that designs-in socially enhanced, safer, working practices which have been determined by a health and safety team of workers from the works committee. It's not (only) about technology. It's about democracy.

References

- Abdullah, S.R.S., Keenoy, T. (1995), 'Japanese management practices in the Malaysian electronics industry', *Journal of Management Studies* 32(6): 747-766
- Ackroyd, S., Burrell, G., Hughes, H., Whitaker, A. (1988), 'The Japanisation of British industry?', *Industrial Relations Journal* 19(1): 11-23
- Alcadipani, A. Hassard, J., Islam, G (2018), "'I shot the Sheriff": Irony, Sarcasm and the Changing Nature of Workplace Resistance', *Journal of Management Studies* 55(8): 1452-1487
- Ashton, D.N., Sung, J. (2002), *Supporting Workplace Learning for High Performance Working*, Geneva: ILO
- Benanav, A. (2019) 'Automation and the Future of Work', *New Left Review* 119: 5-38
- Berggren, C. (1988) "New production concepts" in final assembly – the Swedish experience', in: B.B. Dankbaar, U. Jurgens, T. Malsch (eds.), *Die Zukunft der Arbeit in der Automobilindustrie*, Berlin: WZB

- Berggren, C. (1993), 'The end of history?', *Work Employment and Society* 7(2): 163–188
- Berggren, C. (1995), 'Japan as number two: Competitive problems and the future of alliance capitalism after the burst of the bubble economy', *Work, Employment and Society* 9(1): 53–95
- Boyer, R., Freyssenet, M. (2000), *The Productive Models: The Conditions of Profitability*, Basingstoke: Palgrave-Macmillan
- Bradley, H, Erickson, M., Stephenson, C., Williams, S. (2001), *Myths at Work*, Oxford: Polity Press
- Brenner, M., Fairris, D., Ruser, J. (2004), "'Flexible" work practices and occupational safety and health: exploring the relationship between cumulative trauma disorders and workplace transformation', *Industrial Relations* 43: 242–266
- Burgess, N., Radnor, Z. (2013), 'Evaluating Lean in healthcare', *International Journal of Health Care Quality Assurance* 26(3): 220–235
- Canadian Auto Workers (CAW) (1990), *Workplace issues, work reorganisation: responding to lean production*, Willowfield, Ontario: CAW Research and Communications Departments
- Carter, B., Danford, A., Howcroft, D., Richardson, H., Smith, A., Taylor, P. (2013), "'Stressed out of my box": employee experience of lean working and occupational ill-health in clerical work in the UK public sector', *Work, Employment & Society* 27(5): 747–767
- Dardot, P., Laval, Ch. (2017), *The New Way of the World. On Neoliberal Society*, London: Verso Books
- Delbridge, R. (1995), 'Surviving JIT: Control and resistance in a Japanese transplant', *Journal of Management Studies* 32(6): 803–817
- Dunn, E (2004), *Privatizing Poland: Baby Food, Big Business, and the Remaking of Labor*, Ithaca: Cornell University Press
- Durand, J.-P. (2007), *The Invisible Chain: Constraints and Opportunities in the New World of Employment*, Basingstoke: Palgrave-Macmillan
- Durand, J.-P. (2017), *La fabrique de l'Homme nouveau. Travailler, consommer et se taire?*, Lormont: Le Bord de l'eau
- Elger, T., Smith, C. (1994), *Global Japanization: The Transformation of the Labour Process*, London: Routledge
- Fucini, J., Fucini, S. (1990), *Working for the Japanese*, New York: The Free Press
- Garrahan, P., Stewart, P. (1992), *The Nissan Enigma: Flexibility and Work in a Local Economy*, London: Mansell
- Gerpisa (1993), 'Trajectories of automobile firms'. *Proceedings of the Group for the Study of the Auto Industry and its Employees*, Paris: University d'Evry-Val d'Essone
- Graham, L. (1995), *On the line at Subaru-Isuzu: The Japanese model and the American worker*. Ithaca, NY: ILR/Cornell University Press

- Jones, D. (1992), 'Lean production (an update)'. Paper presented to the *Lean Production and European Trade Union Co-operation*. TGWU Centre, 6th–11th December 1992, Eastbourne, England
- Hardy, J. (2009), *Poland's New Capitalism*, London: Pluto Press
- Jürgens, U., Malsch, T., Dohse, K. (1993), *Breaking from Taylorism: Changing Forms of Work in the Automobile Industry*, Cambridge: Cambridge University Press
- Jürgens, U., Krzywdzinski, M. (2006), *New Worlds of Work. Varieties of Work in Car Factories in the BRIC Countries*, Oxford: Oxford University Press
- Kenney, M., Florida, R. (1991), 'Transplanted organisations: The transfer of Japanese industrial organization to the US', *American Sociological Review* 56: 381–398
- Kidder, T. (1986), *The Soul of New Machine*, Glasgow: Harper Collins, Avon Books
- Kenney, M., Florida, R. (1993), *Beyond Mass Production: The Japanese System and Its Transfer to the US*, Oxford: OUP
- Lordon, F. (2014), *Willing Slaves of Capital. Spinoza and Marx on Desire*, London: Verso Books
- Miliband, R. (1989), *Divided Societies: Class Struggle in Contemporary Capitalism*, Oxford: OUP
- Milkman, R. (1991), *Japan's Californian Factories—Labour Relations and Economic Globalisation*, Los Angeles: Institute of Industrial Relations, University of California
- Moody, K. (1997), *Workers in a lean World: Unions in the International Economy*, New York: Haymarket
- Moody, K. (2007), *U.S. Labor in Trouble and Transition*, London: Verso
- Mooney, G., Law, A. (eds.) (2007), *New Labour/Hard Labour: Restructuring and Resistance inside the Welfare Industry*, Bristol: The Policy Press
- Morozov, E. (2019), 'Digital Socialism', *New Left Review* 116/117: 33–67
- Morris, J., Munday, M., Wilkinson, B. (1992), *Japanese Investment in Wales: Social and Economic Consequences*, Cardiff Business School, mimeo
- Morris, J., Wilkinson, B. (1995), 'The transfer of Japanese management to alien institutional environments', *Journal of Management Studies* 32(6): 719–730
- Oliver, N. (1991), 'The dynamics of just-in-time', *New Technology, Work and Employment* 6(1): 19–27
- Oliver, N., Delbridge, R., Jones, D., Lowe, J. (1993), 'World class manufacturing: further evidence in the lean production debate'. Paper presented to the *British Academy of Management Conference*, Milton Keynes, September
- Oliver, N., Jones, D., Delbridge, R., Lowe, J. (1994), 'Worldwide Manufacturing Competitiveness Study'. The Second Lean Enterprise Report, Andersen Consulting
- Oliver, N., Wilkinson, B. (1992), *The Japanization of British Industry: New Developments in the 1990s*, London: Blackwell

- Parker, M., Slaughter, J. (1988), *Choosing Sides: Unions and the Team Concept*, Boston: South End Press
- Radnor, Z., Holweg, M., Waring, J. (2012), 'Lean Healthcare: the unfilled Promise?', *Social Science and Medicine* 74(3): 364–371
- Radnor, Z.J. (2010), *Review of Business Process Improvement Methodologies in Public Services*, London: Advanced Institute of Management
- Radnor, Z.J., Boaden, R. (2008), 'Editorial: Lean in the Public Services: Panacea or Paradox?' *Public Money and Management* 28(1): 3–7
- Radnor, Z.J., Walley, P. (2008), 'Learning to Walk Before We Try to Run: Adapting Lean for the Public Sector', *Public Money and Management* 28(1): 13–20
- Radnor, Z.J., Walley, P., Stephens, A., Bucci, G. (2006), *Evaluation of the Lean Approach to Business Management and its Use in the Public Sector*. Scottish Executive Social Research, <http://www.scotland.gov.uk/Publications/2006/06/13162106/0>
- Rinehart, J., Huxley, C., Robertson, D. (1997), *Just another Car Factory: Lean Production and Its Discontents*, Ithaca: ILR Press
- Seddon, J. (2004), *Systems Thinking and Performance Improvement in the Public Sector*, Axminster: Triarchy Press
- Smith, T. (2000), *Technology and Capital in the Age of Lean Production: A Marxian Critique of the 'New Economy'*, New York: SUNY Press
- Stephenson, C. (1995), 'The different experience of trade unionism in two Japanese transplants', in: P. Acker, C. Smith, P. Smith, P. (eds.), *The New Workplace and Trade Unionism*, London: Routledge
- Stephenson, C., Stewart P., Wray, D. (2019), 'Towards a Sociology of the Sociology of Work in the UK Since 1945: the Myth of the Golden Age', in: Stewart, P., Durand, JP, Richea, MM (eds.), *The Palgrave Handbook of the Sociology of Work in Europe*, Cham: Palgrave Macmillan: 1–44
- Stewart, P., Lewchuk., Yates, C., Saruta, M., Danford, A (2004), 'Patterns of labour control and the erosion of labour standards: towards an international study of the quality of working life in the automobile industry (Canada, Japan and the UK)', in: Charron, E., Stewart, P. (eds). *Work and Employment Relations in the Automobile Industry*, Cham: Palgrave Macmillan: 258–290
- Stewart, P. Richardson, M. Danford, A. Murphy, K. Richardson, T., Vass, V. (2009), *We Sell Our Time No More. Workers' Struggles Against Lean Production in the British Car Industry*, Pluto Press
- Stewart, P. Mrozowicki, A., Danford, A., Murphy, K (2016), 'Lean as ideology and practice: A comparative study of the impact of lean production on working life in automotive manufacturing in the United Kingdom and Poland', *Competition and Change* 20(3): 147–165

- Turnbull, P.J. (1986), 'The "Japanisation" of production and industrial relations at Lucas electrical', *Industrial Relations Journal* 17(3): 193–206
- Williams, K., Haslam, C., Williams, J., Cutler, T., Adcroft, A., Johal, S. (1992), 'Against lean production', *Economy & Society* 21(3): 321–354
- Williams, K., Haslam, C., Adcroft, A., Johal, S. (1992b), *Factories or Warehouses: Japanese Manufacturing Foreign Direct Investment in Britain and the United States*, London: Polytechnic of East London, Department of Business Studies
- Williams, K., Haslam, C., Williams, J. (1992), 'Ford -v- "Fordism": The beginning of mass production?', *Work Employment and Society* 6(4): 517–555
- Williams, K., Haslam, C., Adcroft, A., Johal, S. (1993), 'The myth of the line: Ford's production of the Model T at Highland Park, 1909–16', *Business History* 35(3): 66–87
- Wilkinson, B., Morris, J., Mundy, M. (1995), 'The iron fist in the velvet glove: Management and organisation in Japanese manufacturing transplants in Wales', *Journal of Management Studies* 32(6): 819–830.
- Womack, J.P., Roos, D., Jones, D.T. (1990), *The Machine That Changed The World*. Rawson: New York