

THE DARK SIDE OF LEAN CONSTRUCTION: EXPLOITATION AND IDEOLOGY

Stuart D. Green¹

ABSTRACT

The emerging concept of lean construction is considered from an overtly critical perspective. It is contended that the current debate is based on a highly selective interpretation of the available literature. The extent to which methods of lean production are applicable beyond the Japanese context remains hotly debated. An extensive body of critical opinion argues that the application of lean methods depends upon the hegemony of management over labour. Whilst the lean rhetoric of flexibility, quality and teamwork is persuasive, critical observers claim that it translates in practice to control, exploitation and surveillance. The accepted research agenda for lean construction is primarily confined to the limited domain of instrumental rationality. Little attention has been directed at the externalities that lie beyond narrow definitions of technical efficiency. In this respect, the activities of construction researchers are seemingly shaped and controlled by the prevailing ideology of neoliberalism. The funding agencies continually exert an insidious pressure to generate outputs that are 'relevant' to the needs of industry. The result is an inevitable conservatism whereby the only research that is valued is that which preserves the status quo. This widespread failure to challenge the propaganda that shapes and controls the research community serves to dis-empower the workforce and erode the industry's intellectual capital. Industry and society at large are becoming increasingly impoverished as dogma triumphs over thoughtfulness.

KEY WORDS

Lean construction, human resource management, total quality management, critical theory, customer responsiveness, technocratic totalitarianism.

¹ Department of Construction Management & Engineering, The University of Reading, Whiteknights, PO Box 219, Reading, RG6 6AW, UK

INTRODUCTION

Recent years have seen a growing international academic interest in lean construction (Alarcón 1997, Koskela 1992, Howell and Ballard 1998). Such sources provide a coherent and seemingly persuasive argument in favour of transporting the principles of lean production into the construction industry. The ideas of 'lean production' are widely associated with the Toyota manufacturing system as originally applied within the Japanese car industry (Womack et al. 1990). In the UK, the ideas of 'lean thinking' have been strongly endorsed by the influential 'Egan Report' (DETR 1998). Flanagan et al. (1998) and Saad and Jones (1998) have also recommended the application of lean thinking to construction. Unfortunately, all of these sources take it for granted that lean production is a 'good thing'. The debate is invariably limited to the narrow domain of instrumental rationality. That is, a rationality which is concerned only with the most efficient means of achieving a given end. Economic externalities such as traffic congestion, pollution, and the human cost of lean methods consistently fall outside the adopted frame of reference. The advocates of lean construction further ignore the extensive debate regarding the extent to which 'lean methods' are transferable beyond the specific context of Japanese motor manufacturers. They have also neglected the growing critical literature that relates lean methods to the repression of independent trade unionism and regressive models of human resource management. The purpose of this paper is to challenge the assumed neutrality of lean construction and to extend the debate beyond the narrow constraints of instrumental rationality.

CRITICAL THEORY AND EMPOWERMENT

It is important to emphasise that this paper is written *self consciously* from a critical perspective. In contrast to the evangelical advocates of lean thinking such as Womack and Jones (1996), there is no claim that the argument presented will minimise waste or improve efficiency. Neither is it claimed that the critical perspective has any monopoly on the 'truth'. Recent years have seen significant growth in what has been described as 'critical management studies'. Such studies draw from the traditions of critical theory (Habermas 1978, Held 1980) to challenge the accepted conformity as advocated and imposed by powerful vested interests. The paper should not therefore be judged by the extent to which it is 'useful to industry'. The subjugation of academic research and education to the cause of industrial efficiency is seen to be an insidious imposition on supposedly independent seats of learning. The prime responsibility of academics is surely to expose the propaganda and dogma that increasingly shapes and defines modern society. Empowerment is not achieved by propagating the principles of total quality management, just-in-time methods, or value-stream mapping. All such techniques are notable in that they serve only the limited domain of instrumental rationality. In contrast, the development of a critical perspective on lean construction seeks to expose the underlying assumptions, thereby empowering both workers and managers to make up their own minds on the basis of a balanced and informed debate. The following interpretation of lean construction should be read in this spirit.

GURU-HYPE OF LEAN THINKING

The concept of lean production consists of a complex cocktail of ideas including continuous improvement, flattened organisation structures, teamwork, the elimination of waste, efficient use of resources and co-operative supply chain management. The seminal description provided by Womack et al. (1990) draws heavily from Japanese management practices and the Toyota manufacturing system in particular. Organisations are conceptualised as profit-making machines where success depends only upon efficiency and the needs of the customer. Womack et al. readily admit to giving little attention to the special features of Japanese society from which lean production emerged. The advocates of lean construction have also notably ignored the extensive literature that addresses the extent to which lean methods are applicable beyond the unique Japanese institutional context (e.g., Dohse et al. 1985, Kenney and Florida 1993, Morris and Wilkinson 1995, Oliver and Wilkinson 1992). The notion that management techniques can be applied irrespective of context is in harsh contradiction to the long-established principles of contingency theory (Lawrence and Lorsch 1967). Womack and Jones' (1996) subsequent publication on 'lean thinking' shows all the characteristics of the popularised 'guru-hype' for which Western managers seem to have a perennial weakness (Jackson 1996). The evangelical nature of Womack and Jones' (1996) message is well illustrated by the last two sentences of their preface:

*“In the pages ahead we'll explain in detail what to do and why.
Your job, therefore, is simple: just do it!”*

In other words, the reader is not required to think, or to waste time reading any other books, or indeed to waste time gaining an education. All of these are considered *muda* and irrelevant to the quest for improved productivity. To reject so easily the lessons to be learned from other sources is not only naïve, but positively dangerous. At best, it sacrifices understanding for the narrowest possible construct of instrumental rationality. At worst, it represents a form of managerially based totalitarianism.

The rhetoric of lean thinking is reminiscent of that used by previous management gurus to propagate the prescriptive recipes of business process engineering and total quality management. Such prescriptive recipes are invariably propagated in isolation of any consideration of their social, moral and political significance. Management gurus simply seek to improve the competence of managers for instrumental reasons of control. The instrumental rationality on offer superficially serves the perceived needs of managers in terms of efficiency and productivity improvement. When the promised dramatic improvements prove disappointing, the gullible managers simply move on to the next over-hyped prescriptive solution. Rarely are the limitations of instrumental rationality exposed and replaced with a broader search for critical understanding.

WIZARDS, VILLAINS AND WESTERN HYPOCRISY

Whilst notably ignored by Womack and Jones (1996), there is a huge and admittedly contradictory literature which discusses the merits and de-merits of Japanese management methods, most of which is published in the West. The debate hinges on whether Japanese

methods are based on nice things like loyalty, empowerment, consensus etc. or whether they are based on nasty things like management-by-stress and exploitation. It seems to suit the West to sometimes portray the Japanese as wizards of modern management, and at other times to portray them as exploitative villains. The truth of course is more problematic, and certainly accords with neither of these two extremes. It must also be said that the literature occasionally verges uncomfortably close to blatant racism. There is also much hypocrisy amongst those Western commentators who attribute the success of the Japanese motor manufacturers to Japan's protected home market. It is conveniently forgotten that the hegemony of American and European manufacturing industry was founded on similar protectionist principles. The doctrine of the free-market is still commonly applied to others, but rarely holds true for ourselves. The most successful sectors of the US economy have been hugely supported through prolonged state intervention. In the case of aerospace and defence, Chomsky (1999) refers to intervention through 'military Keynesian'. It is difficult to deny that the US's commercial lead in advanced technology industries has not benefited hugely from a substantial public subsidy via the Pentagon's Cold War defence budget.

LEAN PRODUCTION AND JAPANESE INDUSTRIAL RELATIONS

It is difficult to present any neutral interpretation of the huge and politically laden literature relating to Japanese management methods. However, there is little doubt that the threat of relentless Japanese competition throughout the 1970s and 1980s progressively forced Western corporations to adopt similar methods. The end result was a widespread reduction in industrial democracy and corresponding intensification of work. An essential requirement for the success of lean production is seen to be the weakness of Japanese organised labour. Amongst the more convincing accounts of the Japanese 'culture' of industrial consent and cooperation is that provided by Hampson et al. (1994):

“the Japanese labour movement was ‘systematically disembowelled’ in the immediate post-war period by an alliance of Japanese capital, the Japanese state and the United States occupying forces - the latter alarmed by the Communist influence in the Japanese labour movement.”

It was therefore the weakness of organised labour that provided the context for so-called enlightened practices such as lifelong employment. In effect, the Japanese worker is tied to a single firm through firm-specific training and the so-called 'enterprise unions'. Dissident Japanese workers have long resented the loss of individual freedom associated with in-company unions. Kamata (1982) describes how Toyota's single-minded drive for success in the 1970s was accompanied by significant personal deprivation on the part of the workforce. Workers were often required to live in guarded company camps hundreds of miles from their families and suffered high levels of stress at the workplace as they struggled to meet company work targets. Rehder (1994) gives little cause to believe that conditions have since improved:

“Japan's industrial work hours are among the longest in the world and the quality of life is poor and not improving. Public and recently government sentiment in Japan is growing increasingly critical of the 'lean system', citing

its drain on human and natural resources, its stressful and wasteful short model cycle and its street-congesting and polluting just-in-time system.”

The above quote raises several externalities that lie beyond the constraints of narrow instrumental rationality. Further doubts on the human cost of lean methods are raised by Sugimoto (1997), who confirms the Japanese regime of long working hours and further points to a widespread absence of provision for paid sick leave. The term ‘*karoshi*’ is now in common use amongst Japanese workers to describe sudden deaths and severe stress resulting from overwork. *Muda* is to be eliminated, *karoshi* is the price to be paid. Such references to the human cost of lean production are absent from the lean construction literature.

WESTERN INDUSTRIAL RELATIONS AND THE ENTERPRISE CULTURE

The accepted wisdom is that the extraordinary competitiveness of the Japanese car industry caused a re-evaluation of management methods in the West. Japanese success was widely accredited to an ill-defined mixture of TQM, JIT, team working and supply chain management. In the face of these devilishly cunning management techniques, Western companies had no choice but to revise out-dated practices and convert to lean production. This may well be true in part, but as a complete explanation it seems unconvincing. The implementation of lean methods cannot be separated from the all-out assault on trade unionism launched by the Reagan and Thatcher administrations in the US and UK respectively. This assault was inevitable in the face of increased global competition. The American car industry was faced with the stark choice of modernising or going out of business. The implemented modernisation programme may have included marginal improvements in management practice. It may also have included an increased investment in modern technology. However, the key factor in enabling lean production methods to be introduced into the American motor industry was the dramatic reduction in the power of organised labour. The British car industry was also faced with the same choice between ‘modernise or perish’. In the face of stubborn trade union intransigence, together with the legacy of decades of under-investment, it perished. The realities of globalisation also soon impressed themselves on the British coal industry.

The language of lean construction resonates with that of the ‘enterprise culture’ which came to dominance in both the UK and the US during the 1980s. The prevailing political climate made strategies based on ‘cutting out the fat’ much more socially acceptable than they would have been during previous decades. In the UK, the doctrine of Thatcherism was primarily based on looking after the interests of big business in the hope that the resultant benefits would ‘trickle down’ to other levels of society. The adopted industrial relations policy was shaped by the rhetoric of the ‘free market’ which denies the existence of externalities (Legge 1995). The persuasiveness of lean production therefore ultimately depends upon a commitment to the ideology of free-market economics. The free market supposedly relies solely on supply and demand. In practice, free markets are only imposed where they serve the interests of corporate vested interests. The reality behind the rhetoric is that Western economies are becoming increasingly corporatist (Saul 1997).

As a caveat to be above, it must be recognised that it is difficult to be neutral in assessing the influence of New Right governments in creating the industrial relations climate that made the implementation of lean production possible. Others may argue that Western workers had become complacent, believing that the world owed them a living. Certainly there was much concern in Britain during the 1970s regarding abuses of trade union power. The author claims no privileged position or moral advantages over those who offer alternative interpretations of the impact of the New Right on the industrial relations climate. Nevertheless, it is surely naïve to advocate that the implementation of lean methods in Western manufacturing can be understood in isolation of these broader social and political changes.

LEAN PRODUCTION IN JAPANESE TRANSPLANTS

One of supposed successes of the Thatcher years in the UK concerned the amount of inward investment. Such foreign transplants served to replace the job losses experienced in Britain's traditional industries. They also served to move Britain progressively closer to its apparent destiny as a low-wage, off-shore production platform. The only notable exceptions were the publicly supported 'defence' sector and the financial centre in the City of London. The City continued its long-standing reluctance to invest in British industry, much preferring to seek easier returns from overseas investment. Meanwhile, in the manufacturing heartlands, 'flexible working' became a euphemism for reduced job security. Far too many of the jobs created were part-time and semi-skilled. Low wages and access to the European market understandably attracted Far Eastern companies. They also felt comfortable with the 'new realism' in industrial relations. Rarely did they transfer their design and research expertise from the home country. Numerous similar transplants also took root throughout the USA.

Japanese manufacturing transplants were supposedly at the forefront in introducing lean methods to the West. Unfortunately, the case studies in the literature often fall short of the 'lean utopia' envisaged by Womack and Jones (1996). For, example, Fucini and Fucini (1990) point to the gradual disillusionment of the American workforce at Mazda's plant in Michigan. Despite the high wages, workers frequently complained about poor safety standards, stress of work, loss of individual freedom, and discriminatory employment practices. Similar criticisms have been levelled at the Nissan plant in Sunderland, UK. Garrahan and Stewart (1992) and Turnbull (1988) argue that Nissan's supposed regime of flexibility, quality, and teamwork translates in practice to one of control, exploitation, and surveillance. Beale (1994) further describes how the Nissan system of continuous improvement is directly dependent upon the existence of a single union agreement that was in effect a 'no-strike' deal. The acceptance of such an agreement was a condition of Nissan's initial location in Sunderland. Nissan also received significant government subsidies to locate in the North East of England, strangely at odds with Thatcher's stated commitment to free-market economics. The high levels of local unemployment continue to provide Nissan with significant negotiating power over the workforce. There is always an implicit threat that production might be switched elsewhere if the workforce refuses to conform. Whilst the workforce may be grateful for the relatively high-paid jobs that Nissan provides, it would seem that there is a price to pay in terms of worker autonomy.

LEAN PRODUCTION IN THE GLOBAL CONTEXT

The literature relating to Japanese transplants once again causes the critical reader to question Western motives in repeatedly casting the Japanese in the role of villains. It is certainly important to bear in mind the role of the USA in shaping the post-war industrial relations framework in Japan. Perhaps the only reason that lean production was not implemented earlier within Western manufacturing firms was that management was unable to achieve the necessary hegemony over labour. It certainly did not take long for Western corporations to adopt similar exploitative employment practices. It should also be emphasised that the literature expressing concern regarding the anti-democratic tendencies of globalisation is growing exponentially. (e.g., Chomsky 1999, Gray 1998, Greider 1997). With the collapse of communism, there is a real danger that capitalism runs unchecked. Unfortunately, for those who adhere to the humanist tradition, there is no historical evidence that capitalism automatically results in democracy (Wood 1995). The various checks and balances against unbridled capitalism achieved since the Industrial Revolution were hard fought for gains which were only attained as a result of prolonged political and social protest. The current concern is that these gains are being lost as Western society becomes increasingly corporatist.

The trend is accentuated by the global nature of modern business. Many corporations play-off one government against another, re-deploying their production facilities to best commercial advantage (Greider 1997). Wage and tax arbitrage are common as developing economies compete to attract inward investment. Japanese, American and European car manufacturers all find it increasingly attractive to transfer production to low-wage economies which have fewer checks against the excesses of capitalism. Societies that impose restrictions on independent trade unions are especially attractive. The economic muscle of large multinational corporations often outweighs that of democratically elected governments. Many important checks and balances against the excesses of capitalism have been dismantled in the cause of 'de-regulation'. This interpretation of current economic trends is in direct conflict with the propaganda of the free marketplace and the assumption that commerce inevitably leads to democracy. The association of lean methods with totalitarian management regimes is yet again ignored by the lean construction literature. It is sobering to recall that the strategic planners of Stalin's industrialisation programme were keen advocates of Taylor's (1911) scientific management. Any modern totalitarian state wishing to increase industrial output would now undoubtedly follow the dictates of lean production. The message to the *commissars* would follow Womack and Jones' (1996) telling phrase: *just do it!*

CUSTOMER RESPONSIVENESS AND THE DEMISE OF PLURALISM

Current trends towards an increasingly harsh global capitalism provide the broad context within which lean production must be understood. At the beginning of the twentieth century it was the combination of laissez-faire economics with crude Social Darwinism that spawned the technocratic totalitarianism of Taylorism. As the century draws to a close, notions of pluralism are once again in retreat in the face of creeping corporatism (Saul 1997). Western management theorists have long maintained that organisations must satisfy a range of stakeholders if they are to be successful (Kast and Rosenzweig 1985). Stakeholders include

not only customers, but also shareholders, employees, trade associations, unions, suppliers and public interest groups. In contrast, lean thinking replaces pluralist models of management with an unremitting rhetoric of customer responsiveness. Organisations are required to act as machines in pursuit of pre-determined objectives. In this respect, the assumptions of Womack and Jones (1996) are uncomfortably similar to those of Taylor (1911). Increased management control is legitimised as management through customer responsiveness.

The rhetoric of customer-responsiveness creates a cosy image of producers striving honestly to meet 'customer needs'. The assumption is that such needs exist 'out there' waiting to be identified. The possibility that needs are socially ascribed and negotiated by means of corporate marketing is not considered (Alvesson and Willmott 1996). An extreme example is provided by the tobacco companies, who are arguably as justified as anyone in claiming to be customer-responsive. Leiss (1983) illustrates the way in which corporate advertising relies on the use of symbolism to encourage individuals to purchase particular goods. Many such purchases serve only to satisfy a customer's needs for status, identity confirmation and self-esteem, all of which are socially constructed by a complex process in which marketing is directly implicated. It should also be remembered that the origins of such techniques of mass persuasion lie within the propaganda machines developed in Germany and Italy during the 1930s and 1940s (Saul 1997).

Further insights into customer-responsiveness can be gained from the burgeoning critical literature relating to the various 'quality' initiatives. The main argument in support of TQM is that it encourages employees to identify themselves as parts of a supply chain which comprises a sequence of relationships between suppliers and customers (Tuckman 1995). Kerfoot and Knight (1995) suggest that this provides employees with a sense of self-esteem from serving the next person in the chain, rather than having to derive satisfaction from the task itself. Metaphors such as 'teamwork' and 'customer' are therefore intentionally used to mask the reality that most employees are required to act as mindless cogwheels in a remorseless machine. If this critical interpretation is accepted, it would seem that the rhetoric of customer responsiveness is primarily used as hollow propaganda to justify management regimes that are increasingly based on domination and control.

Irrespective of the dubious benefits of lean production for the workforce, it should not be taken for granted that any increases in productivity serve the interests of customers. Piercy and Morgan (1997) argue convincingly that lean approaches often increase a manufacturer's production orientation whilst reducing customer choice. It is especially ironic that the Egan Report cites grocery retailing and motor manufacturing as exemplar industries from which the construction industry has much to learn. Both of these sectors have recently come under significant public criticism in the UK for anti-competitive behaviour resulting in systematic over-pricing (House of Commons Select Committee on Trade and Industry 1998, Office of Fair Trading 1998). Once again, it seems that corporatism lies behind the rhetoric of the free-market. It is tempting to suggest that the stronger a company's rhetoric of customer responsiveness, the greater is the actual emphasis given to the interests of shareholders. Of course, the linkage between managerial salaries and shareholders interests is much more direct than the linkage between managerial salaries and customers interests (Green 1999a).

HUMAN RESOURCE MANAGEMENT IN THE MARKETPLACE

The basic concepts of human resource management (HRM) seem to be strangely ignored by those who advocate lean production. There is an established dichotomy in the HRM literature between the 'hard' model, reflecting **utilitarian instrumentalism**, and the 'soft' model reflecting **developmental humanism**. This dichotomy is an over-simplification of a complex field where rhetoric and reality are difficult to separate (Legge 1995). Many organisations apply elements of both. 'Soft' HRM is often applied to the core, whereas 'hard' HRM is applied to the periphery. Companies are often fond of dressing up hard HRM in soft rhetoric. Nevertheless, it is sufficient to establish the two alternative conceptualisations of HRM. This dichotomy is a direct descendant of McGregor's (1960) **Theory X** and **Theory Y**.

The hard model of HRM emphasizes the **integration** of human resource strategy with business strategy. From this point of view, the human **resource** is primarily seen as a factor of production. According to Legge's (1995) interpretation, the human resource is primarily passive to be 'provided and deployed' as necessary to achieve organisational objectives. In contrast, the soft model of HRM treats human resources as valued assets who offer a source of competitive advantage. Employees are seen to be proactive rather than passive. The emphasis is on 'resourceful' humans. The underlying contention is that an emphasis on developmental humanism will lead inexorably to commercial advantage.

In contrast to the above commonly accepted dichotomy, critical commentators question the distinction between hard and soft HRM, emphasising that they represent different forms of rhetoric rather than different means of implementation. Both models share an undeclared aim of achieving the commitment of employees to a prescribed politico-economic order (Keenoy and Anthony 1992). The rhetoric of HRM is therefore used to construct employee identities and belief systems to fit the requirements of global neoliberalism. The end result is ideological control by powerful vested interests. When Benito Mussolini implemented these same principles the applied label was that of 'corporatism'. The cumulative effect of the current blind adherence to the propaganda of neoliberalism is that long-standing values of industrial democracy are increasingly sacrificed to the values of the marketplace. Saul (1997) argues that the ideologies of Marxism, fascism, and the marketplace strongly resemble each other. All are corporatist, managerial, and advocate narrow rationality in pursuit of prescribed and imposed ends. The language of HRM then becomes an instrument of cultural change and control (Legge 1995). Not only are prescriptive management techniques deployed for corporatism, but so is the language of human resource management. The unquestioned dissemination of managerialist propaganda progressively replaces the democratic values of pluralism with a dominant single ideology (Chomsky 1999). The propaganda of the marketplace is continually propagated in the absence of criticism. The ultimate argument rests with mystical appeals to the 'customer' and the imperatives of the global market.

What is frightening is that the thoughtless marketplace propaganda is continually advocated by universities and business schools that are increasingly dependent upon the business sector for funding (Saul 1997). It seems that education and research have already been recruited to the cause of corporatism. There is no demand for outputs that disrupt the existing world-view of industry leaders with complicated theories and critical questions.

Thoughtfulness is seemingly in terminal retreat. The doctrines of customer-responsiveness and continuous improvement must seemingly be accepted on faith rather than on rational argument. It is absurd to suggest that the current fad for lean construction can be understood in isolation of the neoliberalist ideology that dominates society's conceptualisation of industrial activity. This applies irrespectively of any individual's political orientation. The responsibility for academics is surely to promote a more thoughtful consideration of managerial phenomena within the broader social, moral and political context.

CONCLUSION

This paper has drawn from the tradition of critical theory to challenge the assumed neutrality of lean construction. It has been demonstrated that the current debate on lean construction is based on an extremely one-sided interpretation of the available literature. Construction researchers have notably ignored the debate regarding the extent to which the application of lean methods depends upon the hegemony of management over labour. Of particular concern in the UK is the influential Egan Report's (DETR 1998) seemingly blind faith in the principles of lean thinking. It is understandable that the large clients who support the Egan Report should wish to increase their control over the UK construction supply chain. That this increased control is in the broader public interest has to date been taken entirely for granted. The current agenda for change in the UK construction industry owes more to dogma and ideology than it does to thoughtfulness and critical reflection. Any meaningful debate is stifled by the all-embracing propaganda of customer responsiveness. It is the responsibility of the academic community to ensure that the counter arguments are heard.

With very few exceptions, construction researchers have to date taken it for granted that lean production is a 'good thing'. The assumed neutrality of management techniques reflects a general absence of critical reflection amongst management academics. There have been few attempts to relate concepts such as lean construction to the broader social, moral and political context. This self-imposed restriction to narrow concepts of instrumental rationality is a gross dereliction of academic responsibility. Thoughtfulness is seemingly in terminal retreat in the face of an imposed ideology. It is not the responsibility of university academics to improve the efficiency of the construction industry. This merely replicates the responsibility of those who work in industry. The primary concern of construction academics should be the development of the industry's intellectual capital. The promotion of thoughtfulness and critical reflection has been neglected for too long. The articulation of a critical perspective on lean construction provides a small step towards correcting the current imbalance.

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