

Manufacturing empowerment? ‘Employee involvement’ in the labour process after Fordism

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Advocates of lean production argue that a work system is truly lean only if a given bundle of practices, including worker empowerment, is implemented in the proper configuration. In contrast, my interviews and observations in six US manufacturing plants demonstrate that substantive empowerment is not a necessary condition for achieving a lean manufacturing system that yields considerable performance improvement. While many configurations I observe appear to be ‘lean enough’ for satisficing managers, one commonality among the cases observed here is that worker empowerment is limited in depth and breadth. Employee involvement may be limited in depth because substantive empowerment requires a change in organizational routine and authority structure not necessary to achieve the largely *technical* goals of management. Even when an employer embarks on major technical and social change, pushing beyond lean enough toward world-class organization, substantive empowerment is limited in extent due to the demands of standardization and managerial prerogative, as well as resistance and reticence among workers.

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1. Introduction

Like other post-Fordist theorists (Piore and Sabel, 1984; Kenny and Florida, 1988), lean production advocates argue that new work systems invert the Taylorist labour process based on deskilled work and rigid authority hierarchies (Womack *et al.*, 1990; MacDuffie, 1995*a*, 1995*b*; MacDuffie and Kochan, 1995; Pil and MacDuffie, 1996). In its place would be work organization utilizing

broadly skilled workers, empowered through extensive involvement in problem-solving, decision-making and continuous improvement. Broad agreement that performance is most dramatically improved when a package of *complementary* organizational and human resources (HR) practices—including *extensive* employee involvement (EI) or empowerment—is implemented generated strong expectations that high-involvement practices would be widely used by manufacturers (Levine and Tyson, 1990; Kling, 1995; MacDuffie, 1995a; Ichniowski *et al.*, 1996; Cappelli *et al.*, 1997). Sample data suggest, however, that thorough, comprehensive restructuring is not the norm (Osterman, 1994; MacDuffie and Pil, 1995; Freeman and Rogers, 1999, p. 96). A wide range of case studies also demonstrates limited and selective adoption of new work practices. Three distinct positions can be found in this critical literature.

An early critical position rejected the idea that lean production involved worker empowerment, arguing instead that it is based on work intensification and better process control. Dohse *et al.* (1985) argue that the system enlists employees in tightly-controlled participation in developing standards. For Berggren (1992), lean production limits worker discretion and increases the negative aspects of highly regimented work due to the considerable mental concentration required by bufferless production and new quality pressures. Similarly, Lewchuk and Robertson (1997) and Parker and Slaughter (1995) charge that by combining standardization, increased system interdependence and reduced staffing, lean production achieves better process control in a system where worker empowerment is irrelevant.

A second position sees participatory arrangements as engaged in a new, ideological or cultural form of labour control. Graham (1995) contends that lean production is a system of intense managerial domination in which, despite a decentralized structure, hierarchy remains intact due to intense pressures to conform enforced through constant monitoring of peers and team leaders. For Barker (1993), self-managing teams are a form of ‘concertive control’ that is subtler, yet more powerful than traditional bureaucratic control, as strict self-discipline results from workers negotiating norms, values and rules. Similarly, Grenier (1988, p. 131) finds that quality circles de-bureaucratize control, as the rule of peers, rather than the ‘rule of rules,’ veils the operation of hierarchical authority. All three claim that participative arrangements co-opt workers into a managerial perspective—thus maintaining hierarchical authority without bureaucratic control (see also Smith, 2001, p. 166; cf. Vallas, 1999).

According to a third, intermediate position, selective adoption of new work practices may be the norm (Durand *et al.*, 1999) and worker empowerment is seen neither as a necessary component of, nor incompatible with lean production (Eaton, 1995; Helper, 1995). Much work in this vein focuses on the *process* of

restructuring, investigating how outcomes are shaped by the social and organizational processes surrounding implementation (Vallas, 2003*b*, p. 227). Case studies highlight the key role of the strategic orientation of management (Zuboff, 1988; Shaiken and Browne, 1991; Thomas, 1994; Milkman, 1997; Taplin, 2001; Vallas, 2003*b*), the influence of local unions (Shaiken, 1993), and the effects of entrenched social relations at work (Thomas, 1989) and worker dispositions (Smith, 2001; Vallas, 2003*a*).

Having found little evidence of a managerial emphasis on ideological control, I attempt to advance the intermediate position. Advocates of lean production argue that a work system is truly lean only if a given bundle of practices, including what I define below as substantive worker empowerment, is implemented in the *proper* configuration. In contrast, my interviews and observations in six US manufacturing plants demonstrate that extensive, substantive empowerment is not a necessary condition for achieving a lean manufacturing system that yields considerable performance improvement.

The data presented here suggest that three variables identified in previous research—strategic orientation of management (including the approach to implementation), organized worker power, and workforce disposition—are key to understanding the processes of work reorganization. I articulate an 'organizational political economy' account of work restructuring that emphasizes how these three variables interact in particular contexts, shaping and being shaped by the characteristics of local plant culture, politics and history. Depending on how managerial orientation, organized worker power and workforce disposition interact in particular contexts, lean practices may be implemented in various configurations (see Table 1) to achieve better process control, increased flexibility, reduced 'waste' and some degree of continuous improvement. While many configurations appear to be 'lean enough' for satisficing managers, one commonality among the cases observed here is that worker empowerment is limited in both depth and breadth.¹ EI may be limited in depth because substantive empowerment requires a change in organizational routine and authority structure apparently not necessary to achieve the largely *technical* goals of management. However, advocates such as MacDuffie have not entirely missed the mark; when an employer embarks on major technical and social change, pushing beyond lean-enough toward world-class organization by systematically revamping all of its interdependent systems, some degree of substantive empowerment appears to be necessary. Yet even in these cases substantive empowerment may be limited in extent due to the

¹Satisficing refers to a mode of decision-making where satisfactory—rather than optimal—outcomes are accepted.

Table 1

	Tubefab	Integrated blinds	Mini OE	Second tier specialist	Industrial pumps	Custom seats
Main products	Mufflers, air cleaners and filters	Blinds (plastic and fabric), parts	Wire wheels/brushes	Industrial cylinders	Industrial pumps	Leather and vinyl seats
Processes	Stamping, bending, painting, assembly	Injection moulding, extrusion, stamping, assembly	Assembly	Machining, assembly	Machining, assembly	High skill sewing and upholstery, assembly
Employees	150 direct	1000	105	100	82	220 direct
Ownership	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary	Subsidiary
<i>Lean</i>						
Inventory reduction	Yes	Yes	Yes	Yes	Yes	Yes
JIT delivery	Yes	Some	No	Yes	Yes	Yes
Make to demand	Yes	Some	No	Yes	Yes	Yes
Continuous flow/cellular production	Tube fabrication	Some	Yes	Yes	Assembly	Yes
Functional layout	Press department	Largely	No	No	Machining	No
Standardization	Yes	Yes	Yes	Yes	Yes	Yes

Worker participation

Hierarchical management	High	High	Low	Low	Medium	Medium
Online teams	No	Yes	Yes	Yes	No	Yes
Self-directed	No	No	Planned	Planned	Planned	Planned
Offline teams	Yes	Yes	Yes	Yes	Ad hoc	Yes
Kaizen	Periodic, consultative	Periodic, consultative	Planned	Extensive, substantive	Moderate, substantive	Extensive, substantive
Labour-mgt. committee	No	No	Yes	Yes	No	Yes
Union	No	No	Yes	Yes	No	Yes
Workforce disposition	Amenable or reticent	Amenable or reticent	Amenable or reticent	Resistant, enthusiastic, or reticent	Reticent, amenable, or enthusiastic	Resistant, enthusiastic, or reticent
<i>Worker empowerment</i>	<i>Nominal</i>	<i>Nominal</i>	<i>Limited substantive</i>	<i>Limited substantive</i>	<i>Stalled and limited substantive</i>	<i>Stalled and limited substantive</i>

demands of standardization and managerial prerogative, as well as resistance and reticence among workers.

2. Background concepts: the Fordist labour process and beyond

Fordism is used here to denote supply-driven production of standardized products, organized in long runs to achieve cost reduction through scale economies, using a Taylorist division of labour which *attempted* to separate conception and execution through standardization and deskilling. In practice, output maximization was a primary goal of production and, combined with lack of sufficient demand, led to batch production, functional organization and large inventories that buffer the system. In *batch production* individual work-stations produce parts *in large lots* that go into inventory; each *functional* department makes parts according to its own schedule without regard for upstream or downstream operations. Final products are ‘pushed’ through the plant based on the forecast from a master schedule.

The lean alternative, then, is demand-driven production in short runs, achieving efficiency through continuous improvement and optimized workflow with minimal buffers. Based on just-in-time (JIT) and *continuous flow* principles, work is ‘pulled’ through the factory based on customer demand. Continuous improvement, or *kaizen*, is argued to have increased EI in problem-solving and decision-making—empowerment—usually through teamwork. ‘Online’ teams are small work groups, ideally engaged in job rotation either on assembly lines or in *product-focused* work cells. ‘Offline’ teams are problem-solving committees of various sorts.

Levine and Tyson (1990) distinguish consultative from substantive participation. While consultative participation differs in important ways from traditional Taylorism, it should not therefore be automatically equated with worker empowerment. Power involves not just new responsibilities but the effective authority to claim resources, make decisions and alter routines (Babson, 1995, p. 5). From this perspective, the consultative form of participation is most accurately characterized as a nominal—slight—change. *Substantive empowerment*, then, involves new responsibilities, including regular involvement in problem-solving and decision-making activities, along with formal authority and effective capacity. Hallmarks of substantive empowerment include decision-making authority and lateral communication with team members and outside experts. Consultative participation, or *nominal empowerment*, involves active seeking of input from and/or the delegation of new responsibilities to workers, but without effective authority or regular engagement in decision-making and problem-solving. Hallmarks of nominal empowerment include new

responsibilities without authority to alter organizational routines and ability to give input but not make decisions.

3. Managerial orientation, worker power and workforce disposition

Organizational change is structured by managerial orientation and approach, including what types of changes are attempted and how they are implemented (Thomas, 1994). A managerial orientation that privileges technical rationality, for instance, can severely limit the success of team-based participatory initiatives (Vallas, 2003*b*). Milkman (1997, p. 178) shows that where first-line supervisors are given no incentive to see new arrangements work and are encouraged to gain productivity by whatever means, changes are not enduring. Similarly, Taplin (2001; see also Zuboff, 1988) finds that managers may resist workplace innovations, even if they improve organizational performance, where they do not produce tangible gains in metrics by which managers are evaluated. Further, when change is forced upon them managers they may direct change to fit their own needs.

While the strategic orientation of management also plays a key role in the plants I visited, a focus on cultural control was not evident in my observations. This may be an important managerial focus only in certain contexts, such as when implementing highly intense lean work in an auto assembly plant with a history of adversarial relations (Graham, 1995) or in the context of an anti-union drive (Grenier, 1988). The important point for present purposes is that local context is key in shaping managerial focus. In the cases presented below, organized worker power and workforce disposition have important effects on managerial orientation, as well as exerting an independent influence on the change process.

Under certain conditions unions may facilitate substantive empowerment. While unions may be a potent source of resistance, Vallas' (2003*b*) research suggests active union involvement may help drive workplace change in a participatory direction (see also Adler and Borys, 1996, p. 81). Shaiken (1993, p. 42) finds that union participation may modify change efforts in key ways such as increasing worker input and training. In addition to this direct role, union governance may provide a framework for, and context more permissive of, substantive devolution of decision-making authority. By providing an institutional mechanism through which workers may appropriate and solidify effective authority (Eaton, 1995)—where managers do not have complete control of the workplace—unionization may alter the incentive structure of nominal vs. substantive empowerment (Figure 1).

In a non-union shop, the changes required for nominal empowerment are relatively straightforward, consisting of a series of technical changes using lean tools coupled with the solicitation of workers' ideas. However, substantive empowerment requires significant changes in authority structure and workplace

	Nonunion shop	Union shop
Substantive empowerment (SE)	Moderate–high cost: Complex social changes including altered authority structure; <i>Uncertain marginal benefit</i>	Moderate–high cost: Complex technical and social change, but with already-altered authority structure and existing framework for power sharing; <i>Uncertain marginal benefit</i>
Nominal empowerment (NE)	Low cost: Straightforward technical changes; <i>High marginal benefit</i>	Moderate–high cost: Even technical changes relatively complex, given contractual obligations and organized workforce; <i>Uncertain marginal benefit</i>

Figure 1 Employer incentive structure for types of empowerment under different shopfloor governance structures.

culture, potentially increasing perceived costs—and uncertainty—enough to offset expected benefits. In a union shop, in contrast, managers often have to deal with contractual issues such as extremely detailed job classifications. Many changes must be formally negotiated and the employer confronts a potentially organized resistance. Under these conditions even nominal empowerment may be perceived as entailing relatively high costs. However, with an already-altered authority structure, from the employer's perspective *some* of the negative effects of substantive empowerment, such as increased wage and training demands, are already present. The potential costs of moving to substantive empowerment may not be much higher than the costs of nominal empowerment in a union shop.

Finally, regarding workforce disposition, there is much work demonstrating that workers creatively resist and appropriate new practices to their own advantage (Hodson, 1995, 1996; Smith, 2001). Smith (1996, p. 177) finds that workers' endorsement of participatory practices was 'conditioned by the structural arrangements and the social relations of their jobs,' particularly the opportunities that EI initiatives offered to help them negotiate stressful and complex work relations. Similarly, Thomas (1989, p. 118) argues that 'the context in which employee participation efforts are undertaken will be extremely influential in determining their success or failure.' I now develop a framework for understanding how this broader context mediates the operation of managerial orientations, worker power and workforce disposition.

4. Organizational political economy: toward a micropolitics of work restructuring

The theory developed here, which I call organizational political economy, draws on the 'power process' approach advanced by Thomas (1994) and Vallas (2003b),

adding to it key insights from organization theory. Organizational change is shaped by how the potentially competing interests of different organizational actors are articulated and pursued. Individual choice is based on a 'satisficing' rationality involving a selective search for alternatives that are 'evaluated for their satisfactoriness *as they are found*.' Such choice always involves a simplified definition of the situation [March and Simon, 1993, p. 8; my emphasis]. For management, the incentive structure of proposed changes is key.

Regarding worker disposition, Burawoy (1987, p. 38), argues that as workers become actively engaged in the labour process they develop stakes in particular rules and objectives, while Thomas argues that organizational forms become institutionalized over time, gaining a sense of legitimacy rooted in deeply held interests and assumptions surrounding workplace relations. Organizations are collections of worldviews, which affect how participants perceive their roles in change (Thomas, 1994). Worker behaviour may be understood as a complex combination of imported commitments (e.g. regarding fairness and hard work) that provide a broader normative context within which rational preferences may be endogenously produced, with such commitments and preferences taking specific shape in the context of particular work arrangements, routines and relations (Freeland, 2001). Thus worker disposition—enthusiasm, reticence, or resistance—may follow rationally from plant-specific local history and/or from how new work arrangements are implemented. Important elements of local history and politics are entrenched practices, the collective memory of workers and informal agreements (Thomas, 1989).

Organizational actors tend to 'evaluate action only in terms of sub-goals, even when these are in conflict with the goals of the larger organization' (March and Simon, 1993, p. 173). Fordism encouraged a series of discrete sub-goal foci—with its functional organization, disconnected operations, and focus on machine-level efficiency—shaping the orientations of workers as well as of middle managers, who often focused on output maximization at the expense of quality (Dohse *et al.*, 1985; Farrant, 2000). Lean production is in part an attempt to subordinate sub-goals to larger goals through various institutional arrangements to engender an overall system focus. Yet inherent tensions remain, particularly regarding contradictions between standardization and participation (Appelbaum and Batt, 1994; Lawler, 1994; Vallas, 2003*b*, p. 245).

The lean focus on standardization, many analysts argue, results in a neotaylorist regime where participation is consultative and tightly controlled (Thomas, 1989; Dohse *et al.*, 1985; Shaiken and Browne, 1991; Berggren, 1992; Graham, 1995). Others agree, but contend that the lean version is an improvement because workers participate in defining methods and standardization is focused on collective learning, what Adler calls 'democratic Taylorism' (Adler, 1995) and Klein refers to as increased collective autonomy (Klein, 1991, p. 32).

Hackman and Wageman (1995) agree in part but are more skeptical, arguing that only a small set of workers is typically engaged in such activities, with the rest of the workforce subject to motivationally detrimental standardized work.² Perhaps formalization procedures can be better designed to enable 'mastery of tasks' (Adler and Borys, 1996, pp. 61–62), but it is important to examine the form of participation as well as the type of formalization.

The theory of organizational political economy suggests these outcomes vary by local context. In the data presented below, I observe three outcomes regarding worker empowerment (Table 1). First, *lean enough with nominal empowerment* is observed where managers see good-enough performance improvements within a traditional authority context. This situation results when management focuses on the technical aspects of lean production and traditional performance metrics, where there is a lack of organized worker power, and where the workforce disposition is largely compliant (the workforce is either largely amenable and/or reticent). Under nominal empowerment there is little increase in individual or collective autonomy.

Second, *limited substantive empowerment* occurs where the strategic orientation of management includes some substantive empowerment. Yet, substantive empowerment is limited because of the extremely complicated social processes involved in changing workplace culture and developing a durable institutional structure of routines, practices and worldviews that can support *extensive* substantive empowerment. In one case substantive empowerment is further limited by serious worker resistance, due to a local union culture that values craft pride and highly individualized work, while in another worker reticence was more of a problem. In both cases substantive empowerment does increase individual and collective autonomy, though as Hackman and Wageman (1995) suggest this is limited to a subset of workers and situations.

Finally, *stalled (and limited) substantive empowerment* results in cases where management attempts some substantive empowerment, but with a problematic approach that attempts too much too quickly, without sufficient regard for the dispositions and culture of their workers. What differentiates cases of stalled (and limited) substantive empowerment from those where empowerment is limited but not stalled is primarily managerial approach to restructuring. Substantive empowerment may be limited, generally, due to the complexity of cultural change, including problems with resistance and reticence among the workforce. What distinguishes stalled substantive empowerment from the former situation is a managerial approach that is relatively unstructured and unmethodical. In particular, without sufficient attention to workforce disposition, novel problems in

²For a critique of motivational assumptions underlying the job design thesis of Hackman and Oldham (1980), see Kelly (1992) and Vidal (2006).

addition to general complexity may arise. In the cases below, attempts to push substantive empowerment too far without regard for institutional supports generate role conflict and stress, thus eroding elements of 'enabling bureaucracy' (Adler and Borys, 1996). In one case workers are resistant and unwilling while in another they are reticent, but in both cases they are unprepared.

5. Data and method

The present analysis is based on interviews conducted from 2002 to 2004 in six plants in the US Midwest that have made significant attempts to implement lean production. I conducted a total of 40 semi-structured interviews with 27 workers, 10 managers, and the 'business representative' for each of the three union shops. The management interviews ranged from one and a half to over three hours and the worker interviews ranged from half an hour to one hour. Each site visit included a plant tour. Additionally, I attended seven labour–management committee meetings, one worker education committee meeting, and one shopfloor training exercise at one union shop; and seven labour–management committee meetings, two worker education committee meetings, one local union meeting, and one half-day presentation by the IAM High Performance Work Organization department at another union shop. Finally, as many documents as possible were collected, including performance metrics. All names are pseudonyms.

My methodological approach here is in the vein of Burawoy's extended case method. Rather than seeking generalizations by abstracting from time and place, I seek historically and geographically specific causality, reconstructing theory (Burawoy, 1991) by examining the operation of structural tendencies in particular contexts. The six plants presented here provide an opportunity to deepen our understanding of workplace restructuring by examining how similar and different outcomes are produced in specific contexts. A particular advantage in this regard is that the present research extends beyond the standard context of auto assembly plants or large, final-goods producing plants to the situation of supplier plants and/or small- to mid-sized enterprises, across a range of durable-goods producing industries. Following Vallas (2003*b*), I seek to identify how important variations and regularities are generated by particular social and organizational processes.

6. 'Lean enough' with nominal empowerment

6.1 *Relative performance improvements with a technical orientation*

At Tubefab and Integrated Corp., a managerial focus on the technical aspects of lean production has been pursued in the context of a non-union and largely

compliant workforce. In both cases, management has seen relative performance improvements without substantially altering job content or the social structure of the plant. Tubefab, which makes tubular metal products and filters, has become relatively lean by implementing JIT practices and moving from having separate functional departments for tube bending, tube finishing and tube assembly to having all of these operations combined into a single fabrication department composed of product-focused cells. Inventory buffers have been reduced and batch production has been replaced with continuous flow in tube fabrication. Yet, they maintain a separate press department, in large part because of some huge 400-ton straight-side presses that are ‘a logistical nightmare’ to move. As the plant manager noted their highest volume cell

runs continuously at about 140 parts an hour ... there’s five pressed components in there. So that’s only ... 700 parts an hour that you need to make. And generally straight-sides can run 1200–2000 parts an hour depending on the size of the part. So you’re only utilizing that press to half capacity. [U]nless you had ... one press feeding two cells somehow, it would be a challenge ... Or if you redesigned dies to make less hits an hour but get multiple different parts out of the die or something, but, you know. It would be a struggle.

This is not to say that the problem is insurmountable, and indeed many lean gurus would love to tackle the job. But the way the manager frames the problem indicates how a given definition of the situation can shape managerial orientation in ways that constrain alternatives. Rather than tackling the problem directly, by focusing on setup reductions and process mapping, and engaging workers to find innovative solutions, management is preoccupied with traditional Fordist concerns epitomized by standard cost accounting—here capacity utilization and, as will be seen shortly, direct labour utilization. Will ‘competitive pressures’ force them to embrace the logistical nightmare as a way to gain new capabilities through revamping old routines? Tubefab is doing well in terms of profits, customers and quality; since they have implemented their limited, selective version of lean production, their p.p.m.s—defect parts per million, a key quality measure for large volume producers—have gone from ~1500 to ~100 and on-time delivery has gone from <90% to ~98%. In terms of performance Tubefab is apparently lean enough, effectively doing JIT for their customers.

Further, the Tubefab case demonstrates how some of the sheer technical obstacles to implementing lean production may shape a manager’s definition of the situation in a way that de-emphasizes EI. Tubefab’s understanding of

what they need to do to stay ahead does not include substantively empowering their workforce; when management is concerned with work reorganization, technical problems and an emphasis on particular metrics such as inventory reduction and on-time delivery dominate the focus of attention. Management goals are focused on those lean practices that generate performance improvements captured by standard measures—here, inventory reduction and delivery—to the neglect of arrangements which may improve performance but not deliver tangible gains in terms of traditional metrics (Taplin, 2001).

Integrated Corp. is a much larger company that has some work organized into functional departments and other work organized into product-focused departments with cells. The division of labour includes highly detailed job classifications organized into online work teams that are involved in continuous improvement activities, as well as offline quality and process improvement teams in each department. Integrated is relatively lean in terms of practices like point of use production, smaller lot sizes and less work-in-progress (WIP) inventory, though my observations during a plant tour suggested that there may be some serious problems with haphazard product routings and workflow. Nonetheless, they have implemented continuous flow principles and pull systems in certain areas and claimed that on-time delivery, quality and inventory management have been steadily improving.

Like Tubefab, Integrated has been able to institutionalize a neotaylorist process in which a focus on work standardization dominates managerial focus, though Integrated retains more traditional functional organization, due partly to the large number of processes it maintains in house. Integrated seeks to selectively adopt lean practices within this context of high organizational complexity, focusing more directly and regularly on *kaizen* than Tubefab, constantly standardizing better methods and tinkering with the production process. This revamping of processes is largely at the margins, however, without much substantive involvement of frontline workers or sustained focus on fundamental restructuring. Yet, management seems quite content with the improvements it has seen over its former Fordist performance in terms of lower inventories and better quality, delivery, and functional flexibility.

6.2 Consultative participation within a traditional authority structure

Tubefab and Integrated have become lean enough, restructuring to a neotaylorist labour process with nominal worker empowerment, with a workforce compliant largely because the changes implemented have had little effect on the design or content of jobs. While workers are offered the opportunity—indeed, highly encouraged—to give their ideas about process improvement, the jobs of frontline workers remain highly regimented and traditionally organized. Further, in each

case local plant history has been relatively conducive to a workforce amenable to such technical changes.

The employment strategy of Tubefab's parent firm is to be the best employer, in terms of wages and stability, in rural areas. Additionally, they have implemented changes such as cells mostly with selectively targeted employees or volunteers,³ approaching change slowly and with little problem after an initial experience with some reticence among workers during an attempt to decentralize quality control. Integrated also seeks to be a 'good' employer, providing its employees with high levels of job security and ample opportunities for training. Additionally, one thing that stands out at Integrated is the extensive communication with frontline workers about management strategy and future plans, which contrasts with a lack of communication in other plants I observed, generating skepticism and uneasiness on the shopfloor.

Tubefab offers opportunities for involvement through offline quality, safety and kaizen teams. While some workers are involved in setup reduction, this process is initiated and supervised by a continuous improvement coordinator through occasional kaizen events; the offline teams are composed of volunteers and Tubefab operates without online work teams. An (hourly) assistant supervisor described the continuous improvement process:

Initially I feel it was more or less just kind of thrown on the table for us. But . . . now is when the EI is coming in. 'Well, okay, this is what we have to do. How do we get there most efficiently? Okay, you're the one that's working on it day after day after day, so you come up with a better way. This is the direction we're heading,' you know management kind of points you in a direction, but you have to get to the destination. . . . we probably go through and make changes, run after run It's a continuing learning process.

This description is very characteristic of the lean process, constant tinkering and continual learning. And while employee input is actively solicited and workers' ideas are often tried, this process operates within the framework of a traditional authority hierarchy—topics and goals are defined by management, individual autonomy is severely restricted, and deliberation and decision-making are limited.

A frontline worker describes the core EI process in more detail:

A new job comes into the plant where a lot of times we'll have a meeting . . . to get everybody's ideas. We'll bring welders in and people from press department in, see if they have any ideas on any issues with the

³A similar approach of selective targeting turned out to be problematic in one of the union contexts discussed below.

new product. A lot of times that will help if we can get, if . . . somebody will bring something up ahead of time that we might not know, we can solve that problem before it becomes a problem. I think we need more of that. . . . But . . . the foreman and the production people [i.e. continuous improvement coordinator and manufacturing engineers] don't want to pull these guys off the line, because that's our money-maker . . . they don't want to pull them off the line for a half hour to come into a meeting, or for an hour and sit in a meeting, they kind of shy away from that.

The process is directed and controlled by managers and engineers. Offline teams are staffed by a limited group of volunteers and the inclination not to 'pull them off the line' further limits the breadth of EI. Treating workers as sources of ideas and innovation conflicts with the tendency to employ the labour power of workers as a commodity whose surplus labour-time must be increased (Marx, 1990 [1867]). Every second of frontline workers' time is considered wasted if not directly doing physical work—'adding value.' Lack of communication is also problematic for some workers: 'there's just so many things that a person don't know what's going on around here . . . they do show us, when we're having like a good month or something . . . but . . . there's . . . no kickback on that either . . . what do we get out of it? [We] work our butts off for it.'

When further probed about the main ways in which they can contribute their ideas to improve production processes the assistant supervisor replied 'Anytime anybody has an issue or a way to make things better, they generally take it up with the foreman. . . . It's general one-on-one communication with the supervisor.' Others agreed that one-on-one communication with the foreman was the main channel for employee input, not unlike a suggestion programme.

The periodic *kaizen* events function simply to extract workers' ideas for continuous improvement rather than as fora for the reintegration of conception and execution: 'You know they've got meetings where you can put your input in. *I mean if something gets done or not is another story, but they do let you put your input in.*' This last comment was a common refrain indicating how little workers were actually involved in making decisions. Another worker indicates that in his work cell decisions about job rotation, task delegation, etc. are 'up to the foreman . . . if the foreman don't want you to do it, then you can't.'

In contrast to Tubefab, with their online teams of cross-trained workers Integrated has achieved a substantial amount of functional flexibility in their ability to deploy the same labour for different product lines and task mixes. The 'team concept' has been implemented very extensively at many levels, with both online and offline teams. They have periodic group meetings and a yearly anonymous survey to get employee feedback. Employees generally, in the words of one

worker, 'look at procedures . . . [and] always [try] to make it faster and better and easier on the person and everything else.' Or as the plant manager described, 'We have manufacturing engineers . . . they are to be out here on the floor, working with the supervisors, talking to the associates on the floor, looking at a piece of equipment, how can they make that more efficient?' But this continuous improvement happens in the context of traditional authority hierarchy and does not systematically target lead time—total time it takes to make a product, from the receipt of an order through all operations to shipment—reduction, which should be a core focus of lean efforts to eliminate 'waste.' Decisions on reorganization and new layouts are made by supervisors and engineers and implemented as such.

Workers can make suggestions to make their work better and management actively encourages this. Indeed, management does use the language of substantive empowerment: 'We want the associates to take more ownership than what they do [to be] self-directed.' This vision, however, includes not increased autonomy, deliberation and decision-making, but simply the active generation of ideas for managers and engineers to consider: 'Can they [participate and give input]? Yes, absolutely. But it's not designated that they have to go to a specific person. It's really going through their elite person on the floor, going through their supervisor, or stopping an engineer . . . [M]y people are instructed that you will listen to the associates, alright, because that's where a lot of these ideas are generated, because they work with it every day.' The plant manager is satisfied with their current institutional configuration that has been able to achieve continuous improvement with consultative participation.

When a worker with 19 years tenure described her experience with team projects I asked if there has been real decentralization of decision-making authority, and she enthusiastically replied, 'Definitely.' But then when I asked for more detail she gave the following reply, indicating the nominal character of such empowerment:

Basically it would kind of seem like in years past that we would hear something through the grapevine kind of thing, and then it would happen. And now, when it's going to happen, they'll tell us what's going to happen, and what to expect, and get our input on it now, ahead of time. . . . A lot more communication, a lot more—like the newsletter that comes out, memos. I bet we get at least ten memos a week . . . they've always tried to make the employees—now they call them associates, just I mean like because we feel more like it too—but they really, really communicate, just totally tell us what's going on.

So they're honestly trying to get your input on these changes, I asked. 'Yeah. Something like that, you know, there really isn't much for us to say except for

the fact that we understand. They're explaining why the business is doing this.' The rest of her interview indicates that little, if any of this feeling came from any increase in substantive empowerment. Some of it clearly comes from the fact that management is now willing to listen to worker input, but much of the source of her enthusiastic disposition followed from a high level of job security and increased communication from management.

7. Limited substantive empowerment

The foregoing indicates the relative ease in selectively implementing lean practices with nominal empowerment in a non-union environment; neither workers nor managers discussed any serious resistance to or problems with implementing the largely technical changes. If a worker's routine changed in an undesirable way, she had no other options but to adapt or quit. In contrast, one plant below, Second Tier Specialist, demonstrates how similar types of technical change can be significantly more problematic in a union shop, especially when workers are invested in given arrangements. Another plant, Mini OE, also a union shop but facing relatively unique circumstances, did not experience such constraints. Both have taken a step further than the non-union plants discussed above in terms of actively working towards self-directed teams, in part because they already operated under power-sharing arrangements. Yet, in each case substantive empowerment is still limited due to the sheer complexity involved in actually transforming the political and cultural relations in the plant necessary for extensive substantive empowerment. Empowerment is also limited in the more structural sense that even when organizations push towards some substantive empowerment it is uneven and limited in breadth; some workers simply do not experience the opportunity for much more than consultative participation as many elements of the overall labour process remain necessarily standardized with severely limited discretion.

7.1 *Lean practices and local unions*

In the two plants discussed in this section, management considered some degree of substantive empowerment to be an important element of restructuring. Because local unions have altered the authority structure in the plants, the incentives facing management differ from those in a non-union context—there is no structure of unilateral, unchallenged management power to be threatened. Second Tier Specialist, a low volume producer of industrial cylinders, did value stream mapping (VSM)—a core lean tool used to optimize work flow through process mapping—on *all* of their products with the help of their parent company and reorganized the whole shop into three cells. Having made great

strides from a splintered organizational structure and a high-waste, traditional manufacturing organization, lead time has been reduced on two common cylinders from 18 days to 8 and 5, respectively, and they expect further dramatic improvements. On-time delivery has moved from 27 to 80% in 2 years.

The attempts to implement even relatively modest changes such as job rotation and cross training at Second Tier met with quite serious worker resistance. As the manager explained, when moving from large batch processing to a pull system based on customer demand, the focus is no longer from 'an efficiency standpoint of *the machine* and how much a person can produce. Instead, the whole goal in the future . . . is move the people to where the work is, have them as highly trained and able to run different machines, perform different operations.' With a restrictive contract with over 50 job descriptions and a traditional union culture with very long average tenure (22 years), worker resistance to cross training and job 'enrichment' has been a serious obstacle, though they've had some help with people working outside classifications, otherwise moving to cells would have been 'a real mess.' This situation may be contrasted with the impressive amount of functional flexibility that Integrated Corp was able to achieve with its job rotation. While the union structure provides an impediment in this regard, however, the local union leadership also provides an important source of support for negotiating restructuring initiatives.

As the union president notes, even though the union has formally signed on to a partnership, restructuring is a struggle, even with some members of the shop committee.

I'm pushing it as hard as I can do. I'm receiving a lot of backlash. The backlash that I receive is intense . . . I've had a few clashes with the committee. . . . I see more people getting on the bandwagon. . . . the feeling that I get is most of the older employees who have been here a long time, I get the feeling that we're trying to tell them what they need to do in their job and that's a tough row to hoe . . . they're tough to sway.

Management is working closely with the union leadership to implement changes and bring the workforce on board. In the plant manager's words:

Before me the process was dictated from above. Now I let them know what we need help in and we work together. So it's going over much better than the dictated approach which was going on before I got here, and that was very clumsy and met with a lot of resistance from the shopfloor, which I fully understand. The company did a crappy job of implementing *kaizen* in the first place. First it was *kamikaze*

kaizen. . . We're still in the process of educating people on the different lean tools and how to implement them.

A labour–management partnership has been instrumental in establishing a framework permissive of substantive empowerment, but it is important to properly understand the role of this partnership. A partnership based around a labour–management committee helps to move labour–management relations beyond an adversarial model and to formalize a framework for collaboration. By providing a framework for formal power sharing and deliberation, such a framework may facilitate other forms of substantive empowerment.⁴ However, while such a partnership may greatly facilitate substantive empowerment under certain conditions—namely, a collaborationist union leadership and a committed management—it is neither a necessary nor sufficient condition for substantive empowerment.

The situation at Second Tier, which is likely closer to the standard situation in union shops, contrasts greatly with that at Mini OE, which has a number of unique aspects. Like at Second Tier, the collaborationist stance of the local union leadership at Mini OE played a key role in facilitating the restructuring process, though this was also a problem for a small segment of the workforce who was apparently dissatisfied with the restructuring but also felt distanced from the union. Beyond this, however, the differences are quite large. Unlike most union shops, Mini OE did not have an extremely detailed and complex structure of job classifications. Also, the average tenure in the shop is very low, contributing to a lack of resistance from the rank and file. As discussed below, these workers have not developed significant stakes in given arrangements, and the workers I talked with indicated that there was not much discussion of the restructuring process on the shopfloor. As one worker noted of the workforce 'they just do their job and don't say nothing.' This contrasts greatly with Second Tier specialist, and the other union shop presented below, where substantial parts of the long-tenured workforce put up serious resistance and there was heated debate on the shopfloor about the reorganization.

A small union shop, Mini OE is a high volume producer of industrial wire wheels for metal finishing. Almost fully cellularized, with the implementation of 16 assembly cells constituting four teams, Mini OE has reduced its lead times dramatically from 3 days down to hours. They do not have much by way of other performance metrics, however, because there was no documentation until the new management came in the year before I began my interviews there. However, with the cells, training, better scheduling, material handling

⁴A Western European works council model may provide a similar framework (Rogers and Streeck, 1994).

and product flows they have increased output by 18% with 17% less workers (through attrition) over the year.

Like Second Tier and unlike the other 'lean conversions' discussed above, substantive empowerment is explicitly part of the conceptual framework of the managers at Mini OE. While Mini OE has not yet actually gotten to the point of having much EI and substantive empowerment, this case is instructive for its determined attempt to implement a high-involvement lean model, in particular its relatively structured and methodical, though far from unproblematic approach to restructuring. The importance of managerial approach to implementing change is discussed in the next subsection along with the key, though different roles are played by local plant histories.

7.2 *Local plant history and approach to restructuring*

The effects of local plant history loom large in the efforts of Second Tier management. Worker experience with management fads and other aborted attempts in the past generated a healthy skepticism among the workforce, as one worker explains: 'We had some people come in here and said they were going to do wonderful things for us. . . . And things didn't transpire the way they said they would'. Similar sentiments were common: 'We've been hit the face with the mallet so many times before, it's hard to know what to believe;' 'We've done *kaizen* before and they were all gung-ho about it . . . for about four days.' Additionally, the workers' experience with a previous attempt where upper management sought to implement new practices and arrangements in a top-down fashion without negotiation had provoked resistance and left a residue of distrust in the workforce.

Other sources of worker resistance and skepticism follow from the stakes they have developed in given arrangements. At Second Tier many of the workers had mastered one particular machine and had become accustomed to coming in every day and working only on this one machine. Most of the workers had a deep craft pride in their work, and expressed keen interest in the performance of the plant as a whole. Such workers' understanding of *their* work was very much based in and around the routine they had developed by working on a single machine. They were not interested in cross training and job rotation; their work values were based in doing one thing and doing it well, and such values provide a normative context in which these workers developed preferences for particular kinds of work. Yet, as I have shown elsewhere (Vidal, 2006), even under this traditional Taylorist model, the 'one thing' that these workers did actually consisted in a complex array of activities that involved careful attention and detailed, precise work that was considered challenging and rewarding. For these workers new routines and responsibilities required a substantial reorganization of work

arrangements they had appropriated as their own and solidified in a union contract. Combined with their distrust of management due to previously aborted or failed initiatives, these workers developed a definition of the situation in which there is a clear demarcation between their interests and that of management. Despite a collaborationist union leadership, the skepticism and resistance on the shopfloor served to limit the extent of substantive empowerment, which must be embraced by workers if it is to function effectively.

The approaches of management at both Second Tier and Mini OE are well-structured and disciplined, relative to the cases presented next. The Wisconsin Regional Training Partnership (WRTP) has facilitated the development of a labour–management partnership at Mini OE.⁵ Also with the help of the WRTP, Mini OE has done extensive training in literacy and numeracy, including blueprint reading and measurement, which they understand explicitly as a first step towards empowering. Direct employee classifications have been reduced from four to a single job classification and all employees moved up to a single pay rate. The restructuring process at Mini OE was further eased by this universal move up in pay and the institution of a pay-for-skill plan in which workers are paid more for cross training on new machines. These characteristics—good base pay and opportunities for training with incentive pay—combined with the lack of developed stakes in traditional arrangements to produce a relatively painless transformation. While Second Tier also approached change in a relatively structured way—being sensitive to the workforce culture and disposition, approaching change slowly and negotiating it with the union—their transformation has been hampered by problems in terms of HR management, including a lack of time to follow through on training promises, problems with the incentive structures of compensation packages and lack of communication.

The contrast between Mini OE and Second Tier was also clear in the functioning of their labour–management teams, which seemed to mirror the more general tone of labour–relations at the plants. At Second Tier, despite months of work and progress together, a huge lack of trust remained evident on both sides. It appears that trust and cooperation cannot be easily forged in the conference room when they do not exist outside of it. While the labour–management meetings at Second Tier were filled with nitpicking and arguments, usually minor but sometimes major, the meetings at Mini OE that operated

⁵All three union shops presented here have worked with the Wisconsin Regional Training Partnership (WRTP), a Milwaukee-based sectoral training organization, to help facilitate a formal labour–management partnership. It would be wrong to conclude, however, that this intermediation was a cause of management's steps towards substantive empowerment. Rather, that the management worked with the WRTP to facilitate a partnership is a consequence and a sign of the management's commitment to substantive empowerment.

with relative efficiency and focus, nearly always staying on task. Yet, even at Second Tier management did adhere to the consensus decision-making process, for the most part, though ‘that’s a management call’ was a trump card occasionally played.

7.3 *Limits to substantive empowerment*

In addition to being committed to the labour–management committee structure, management in both plants seems ready to further cede unilateral control in many areas, working towards a form of EI and a decentralization of decision-making authority apparently not contemplated in Tubefab or Integrated. A Mini OE manager’s response to my question about his vision for worker empowerment differs quite dramatically from the operation of the otherwise lean non-union firms I visited:

If I had a magic wand, I’d like to envision these [cells] as 16 separate little businesses standing outside that can run autonomous; have their own leaderships, skill sets, setup, repair, tooling, common material. . . . Because they need to make all those decisions, scheduling, when does it go in, repair parts, maintenance, greasing and oiling, inventory transactions, training issues, product improvement, process improvements.

Some concrete steps towards substantive empowerment are evident at Mini OE. They operate with a very flat organizational structure, only a few engineers and two managers. A union member responsible for a group of cells handles scheduling and materials. Direct workers are also involved in quality control, total productive maintenance (TPM) and some planning of tasks. Though there have not been any regular *kaizen* events yet, there are plans to start when they finish up the incumbent worker training and an initial process of work standardization. They do operate, however, within a neotaylorist framework with workers participating in standardization efforts.

The three major problems with Mini OE’s restructuring process are apathy among the rank-and-file workers, poor communication and a targeted approach to empowerment. A common complaint among workers that I talked to is that management has ‘kept us in the dark’ about changes. In the case of Mini OE, as with Second Tier, this problem was as much the fault of the union as it was management. Perhaps a deeper issue, related also to communication, has to do with how labour–management relations are managed in the process of implementing new practices. As one worker describes

This company . . . they just want you to push, push. . . . I’m going to do my job, and I’m going to do it to the best of my ability. But, they act like

they're so ungrateful . . . our boss, he never has come out, 'You did a good job,' or nothing like that. They don't talk to the people . . . [W]ay back, we didn't have a problem with management stuff. They tried to work with you, they tried to be honest with you, and they didn't have favourite people and all that, you know.

The reference to 'favourite people' refers to a management tactic of picking key individuals on the shopfloor to help implement change through. This focus on key 'leaders' may have the unintended result of generating ill will among neglected workers. It also contributes to limiting the breadth of empowerment. Here too, it seems that if there was substantive empowerment going on it failed to extend throughout the organization, even if there is greater opportunity for *some* substantive participation. Yet for some workers, at least, these opportunities do not alter their basic experience *as* workers in a capitalist factory; as one responded to my question about whether individuals were working outside their job descriptions to make the transition work, in the end the workers must, otherwise 'they would be all laid off. . . [T]hey're the boss, they call the shots. We just follow their orders.'

The extent of substantive empowerment is also limited at Second Tier, though there are some real opportunities for participation. At the individual level, these opportunities include helping decide issues such as what the cell needs to spend money on or what it needs to do in terms of fixturing. Most substantive empowerment at Second Tier and Mini OE, however, is collective, including participation in *kaizen* events as well as the representative participation of the labour-management committee and other sub-committees, which engage in some non-trivial co-management.

The following comment by the plant manager at Second Tier illustrates the type of situation in which other workers may be expected to be involved in problem-solving and decision-making, when reductions in batch size lead to the discovery of new bottlenecks by removing buffers that keep them hidden:

My approach is you keep halving it. We were running as high on some of these end caps as several hundred. We're now down into the eight to 24 quantities when we run them. The goal eventually is to get it down to six or four. So we just keep reducing down, and then you find the new bottleneck, and then work on that through setup reductions, and then you keep bringing it down.

While such opportunities are real, and management seeks to actually engage workers in the decision-making process in such situations, they are also limited. For most of the workforce, most of the time, the work experience remains essentially unchanged. Not only are opportunities for substantive empowerment limited in breadth, but they are to a large degree limited to the type of collective autonomy

discussed by Klein (1991). While there are some opportunities for increased individual worker discretion, these remain restricted to particular times and places, limited by the needs of standardization and the demands of managerial prerogative. In both plants, management still retains control over most organizational decisions and superintends team building and continuous improvement.

8. Stalled (and limited) substantive empowerment

In the final two plants management also attempted to include some substantive empowerment in their lean transformation. At Industrial Pumps, management tried a top-down approach to restructuring with 'disastrous' results: they 'had VPs and top managers sitting down there, cleaning machines, picking things up, throwing things out . . . the people that worked in the area, they just felt violated.' Somewhat ironically, when this 'painful' experience induced management to attempt to implement substantively empowered teams, they met with worker reticence. Workers were unprepared, not really interested in or ready for expanded roles. At Custom Seats management attempted a similarly unstructured and undisciplined approach to change.⁶ Essentially trying to do too much too quickly, they met with a combination of worker reticence and outright resistance. In both cases, management was faced with a distinct paradox of empowerment: substantive empowerment and the process of *kaizen* may be experienced as disabling, when broadened responsibilities and increased authority and autonomy generate role conflict and other forms of increased stress.

8.1 Neotaylorism with limited substantive empowerment

Industrial Pumps, a non-union shop, makes heavy-duty pumps that are sold primarily to the food and beverage industry. Before restructuring their system was extremely disconnected. Each operation was scheduled independently of the others; they worked from forecasts, making dozens of parts for each final assembly with pallets of parts scattered 'everywhere.' They had two full-time expeditors who would spend 'all day, every day, walking three or four different parts through the plant to just get a couple orders off.' Having moved away from forecasting they now make only what they have orders for. Since implementing a number of lean practices, Industrial is dramatically more flexible. For example, on their CNC machining centres setup has gone from an hour and fifteen minutes to ten minutes or less. Five years ago they were quoting lead times at two weeks and typically shipping in about four weeks. Now they're quoting one to two weeks and shipping in about four days. On-time delivery has gone from 30 to ~90%.

⁶The interviews in this plant were conducted with Jeff Rickert.

Elements of substantive empowerment are evident, particularly in terms of some real problem-solving opportunities. Yet on the whole empowerment at Industrial was rather limited in breadth—for most workers their daily routines are largely the same and they are able to offer ideas but not participate in decision-making. The main form of substantive participation is through various offline teams, including 5S,⁷ setup reduction, and process-mapping *kaizen* teams. The managers espoused their new approach of trying to bring the workers on board. They

not only spent a lot of time on pre-training, but explaining what we expected to get out of it. And even if I knew what I would really like to see them try and do, I wouldn't say it, but I'd try to get them to say it . . . we spent a lot of time just having them discover . . . what a benefit of this could be We want it to be safe, we want it to be organized, we want it to be something that a lot of people can step up and do the same job at the same bench and get the same results.

They related a story of how their 5S standardization process resulted in the removal of seven Craftsman toolboxes from an assembly area that had three people, which made sense to the workers once they came up with the ideas on their own. In 'each toolbox was 80% of the hand tools that Craftsman sells. . . . There was a complete set of metric wrenches and a complete set of English wrenches. And out of all of that, [they] found out you don't even need a wrench to build the pumps they built.'

One worker noted how he really felt that the new system was making his routine better and giving him more power.

If we find that . . . something doesn't work in this area . . . I feel like I've got a better handle on my job, I have a little bit more control. . . . I've seen that through the value stream [mapping] . . . that you're finding out where the processes start out, you know, in doing the maps and finding out what is an outside vendor issue and what isn't. I've been able to approach . . . purchasing and again be able to ask them about when something's going to come in and not feel like, oh, I'm stepping out of my bounds.

This is one of the two workers that management indicated has really enthusiastically taken to the EI and whom management has focused much of their training and cultivation efforts on, hoping he will be a leader to bring other workers around. But this worker also noted that others who are not involved in the *kaizen* events do not really have any more control over their work situations.

⁷5S is a core lean tool for work standardization to 'eliminate waste.'

When I asked what their main ways to give input and participate were, three workers responded almost identically ‘just talking to a supervisor.’ Another responded more bluntly: ‘I’m not a decision maker. They don’t leave it up to me to make the decision.’ This worker also quipped ‘They take our opinions. They weigh them. Sometimes they weigh against us.’ The EI process remained largely one of workers giving input within a neotaylorist framework. As one supervisor explained ‘management’s open to any idea. . . . I mean it’s more or less we’re planning to move this and you have an idea, you don’t tell us, I mean that’s your loss.’ The effects of the standardization emphasis on employee participation were clearly evident to a machinist with 15 years tenure who said that now ‘it seems like there’s a lot more channels to go through’ when you give input because each change has to be approved by the engineers and plant manager.

A similar process of limited substantive empowerment within a neotaylorist framework was evident at Custom Seats, a union shop that makes seats for the recreational vehicle and lawn and garden industries. Nearly all of their production is organized into cells. Inventory has been reduced significantly and their inventory turns—a common measure of how long inventory sits idle on the shelves—have been improving. On-time delivery in their oldest cell has gone from 92% at best before to consistently near 100%.

One of the main jobs in the shop, sewing, is a highly skilled position which takes a minimum of 12 weeks to be fully trained on. There was a lot of craft knowledge possessed only by the workers, and the production process was often completely dependent on individual experts. Managers discussed in detail how the cells have been used as an opportunity to continuing to break down the tasks into smaller parts that can be standardized so the tacit knowledge more easily transferred. This was perhaps the clearest example of a neotaylorist model of work organization, as they broke down the core operation of seat-making, formerly done by one person, into four steps that would be done in cells by four workers. Workers were dissatisfied with this arrangement: ‘It’s taking four people now to do what one used to do, and I don’t know how this is beneficial, but that’s what’s happening’; and another worker similarly complains ‘I mean they’ve got four people over there doing what I used to do by myself . . . I just don’t see how that’s benefiting anybody or anything.’

At the same time Custom had in many ways attempted to introduce opportunities for substantive empowerment for some workers, including broadened responsibilities with increased authority in other areas. Workers were also partially reskilled through cross training and given substantially more authority and responsibility, which by increasing role conflict and stress, as discussed below, made some workers feel paralysed. These problems were exacerbated by a transition from an individual piece rate system to a gainsharing system in which some workers lost between \$5 and 10/hour, which generated serious antagonisms. The new hourly

wage with team incentives through gainsharing had been negotiated without protections for the 29 workers it affected. This created a significant problem for the functioning of the new system, though it must be noted that the union President and VP (vice-president) took nearly 50% pay cuts each—apparently seeing the new platform as beneficial for the workforce as a whole.

8.2 *Role stress and disabling kaizen*

Custom Seats has a *kaizen* programme with extensive and enthusiastic participation from *some* frontline workers. They still have traditional production supervisors and they would like to further decentralize scheduling and more indirect services into the cells but the union leadership is finding a lot of resistance from the rank and file and is telling management not to go too fast. In this case, despite the serious efforts of management at decentralizing authority and problem-solving responsibilities, empowerment has largely been stalled due to resistance from the union rank and file. For three union elections in a row, over 6 years, the union leadership lost to a contingent running on an obstructionist platform—against the entire initiative including nominally empowering changes such as teamwork and the opportunity to contribute ideas to continuous improvement. Each time the leadership 'came around' to the partnership platform and only in the last election were they able to get reelected on the partnership platform. The President and Vice-President of the union had just resigned, 2 days before my visit, because there was so much pressure from the floor.

Complaints with the new system ran the gamut, *even for those not dramatically affected by the pay and incentive changes*. A common complaint was that management's attempts at *kaizen* and substantive empowerment were experienced as disabling. One worker provides a typical summary, noting that in the *kaizen* events they

have these brainstorm, where everything looks good on paper. And then they'll set it up that way and then they'll just leave. And then they'll expect the people that are in that cell to make it work, but it's like, you just give us half the stuff, you're not there to see it all the way through to the end. . . . And it's like, you know, someone's got to be out there all the time to make sure that it works . . . they just like get you going and then they'll stop and then they'll start another one . . . you've got to see it through to the end, you know.

This complaint was echoed by others, as workers were unable to resolve their role conflict, generated from not knowing how to balance and prioritize their new sets of responsibilities. As another worker commented

I think everything could work here if there was just better communication between management and the workers on the floor, you

know. . . . We deal with this stuff every day. We know what the problems are. You know, it's just, there's too many little committees set up to fix a problem. . . . It seems like for a lot of companies nowadays, you know, I think that they worry about having meetings, they spend more time in meetings than they do doing anything else.

Now, the teams of workers are supposed to actively take the responsibility to solve the problems on their own. It appears that there has been too much decentralization of authority and responsibility, and in any case some workers felt disabled or paralysed when given the opportunity to engage in decision-making and problem-solving. Management did spend significant resources on training workers in *kaizen*—they have both an active *kaizen* programme coordinator and separate training coordinator—including extensive work with a ‘trainer training’ programme. Yet many workers felt unprepared and/or unwilling to take the initiative to engage in problem-solving, independently initiating lateral communication with other workers and engineers, figuring out on their own how to ‘see it through to the end.’ They are competent workers who are not ready to assume these expanded roles with their problem-solving and decision-making responsibilities. Thrusting them into these new roles before they were ready only increased worker resentment and resistance.

The attempts at substantive empowerment here were not only dysfunctional but also limited. Many of the problems discussed here were from workers in lower volume, higher variety cells that were harder to work the kinks out of. Another worker who worked in a high volume dedicated cell told a much different story: ‘We just follow the schedule they set up . . . We don't talk about it, we don't decide nothing. Come in the morning, we just look at the board, what the lead, the line leader set up, just look at it, we go to it and start doing it.’

The labour process and organizational structure at Industrial Pumps were quite different than at Custom, though they experienced similar problems with attempts at substantive empowerment. Though Industrial does not have online teams or regular production meetings that involve frontline workers, unlike the other non-union shops I visited, self-directed teams were at least on their radar. They once tried to institute online teams but it ‘blew up in their face’ because they implemented them ‘on paper’ without any training or support. The teams were instituted early in the restructuring process. Supervisors who were great at traditional responsibilities were not good at their new leadership role and there was not enough cross training. New team leaders were confused and unsure about goals and means, having many new responsibilities for larger systems and employee development. Now management is focusing on leadership and manufacturing training for their first-line supervisors.

For now they have backed off deep and wide substantive empowerment, working instead on lean continuous improvement within a framework of largely nominal empowerment, with some limited opportunities for substantive participation. But the case of Industrial, who is considerably leaner than Tubefab or Integrated, shows how attempting even limited substantive empowerment in a non-union environment is significantly harder to implement than nominal empowerment, as the elimination of hierarchy and specialization may generate ambiguity in goals and means leading to negative effects that counteract or overwhelm any enabling consequences of participatory standardization.

At Industrial, the question remains open whether they will move in the future to more extensive substantive empowerment with self-directed teams. In the end, what they will need to overcome most may be worker reticence. Industrial attempted too much, too quickly, attempting to restructure without sufficient attention to the importance of training and other forms of HR support. At Custom Seats, even though management was sensitive to training and HR support, they still encountered resistance and problems. It appears that they did not focus *enough* on ideological or cultural change (Vallas, 2003b)—which need not necessarily be domineering but may be also negotiated with workers⁸—as many workers maintain an understanding of the situation in which they were not ready to accept what they consider managerial responsibilities.

9. Discussion

The data presented here are consistent with the contention of early critics that lean production can achieve substantial performance improvements through better process control and enlisting workers in standardization, but without necessarily improving the experience of workers through empowerment (Dohse *et al.*, 1985; Berggren, 1992; Parker and Slaughter, 1995; Lewchuk and Robertson, 1997). My findings differ from these critics, however, in suggesting that lean production is not necessarily based on work intensification and more limited worker discretion. Rather, I find that in certain contexts there may be some increase in individual autonomy (Adler, 1995) and collective autonomy (Klein, 1991, p. 32), though as Hackman and Wageman (1995) suggest this is limited to a subset of workers and situations. In contrast with a second critical position, a managerial focus on ideological or cultural control is not evident in my cases. However, such outcomes are not inconsistent with the data and

⁸Ideology is understood here as broadly Althusserian, referring to the discursive 'medium through which consciousness and meaningfulness operate' (Therborn, 1999 [1980], p. 2; Althusser, 2001). At issue is the subjective orientation of workers towards particular work arrangements, which is open to more effective transformation through negotiation and compromise than through purely rhetorical ideological domination.

theory presented here. Rather, the theory of organizational political economy emphasizes the role of local context in shaping managerial focus; in certain situations, such as the highly intense regime of an auto assembly plant with a history of adversarial relations (Graham, 1995), ideological control may be an important component of efforts at implementing lean production.

My findings are consistent with, and I attempt to develop a third critical position, what I have called the intermediate position, which focuses on the reasons for selective adoption of lean practices and sees worker empowerment neither as a necessary component of, nor incompatible with lean production (Eaton, 1995; Helper, 1995). All of the firms I visited achieved significant performance improvements by implementing a package of lean practices including various mechanisms to increase worker input. For most workers, however, empowerment is nominal, involving a real, though slight difference from the traditional Taylorist model—workers are encouraged to give their input into the labour process—but trivial increase in workers' power or control over the labour process. I have attempted to demonstrate that lean production with nominal empowerment can achieve significant performance improvements through better process control and increased flexibility. In short, managers may be satisfied with being *lean enough* without having to embark on a costlier and more uncertain path to becoming a world-class lean plant, which would require some degree of substantive empowerment of workers to engage systematic and relentless restructuring, and hence change in the social structure of the plant.

In the six cases presented here, three outcomes regarding worker empowerment are found: lean enough with nominal empowerment; limited substantive empowerment, where there are some opportunities for substantive participation and increased decision-making authority but these are limited in extent; and stalled (and limited) substantive empowerment, where attempts at substantive empowerment become problematic because of undisciplined implementation in a context of worker reticence and resistance. The theory of organizational political economy developed to explain this pattern of variation focuses on how the strategic orientation of management (including the approach to implementation), organized worker power, and workforce disposition are shaped and modified by the characteristics of local plant politics, culture and history, including previous management initiatives, labour–management relations, informal agreements and formal HR and other employment practices.

Tubefab and Integrated Corp are clear cases of being lean enough with nominal empowerment. Management in each case was able to implement a different combination of lean practices with relative ease including offline teams at Tubefab, online and offline teams with highly detailed job classifications at Integrated. At both plants a one-time major physical reorganization took place that is now being *marginally* revised. Restructuring from a fragmented and high-

waste Fordist past, these changes were enough for the plants to see considerable performance improvements. Workers had limited say in such changes and ultimately the actual content of their jobs changed little, other than some job rotation among similarly rote, standardized tasks. The negligible effects on job content combined with a lack of worker organization to produce a relatively compliant workforce, so that management has been able to implement its technically-oriented version of lean production largely as such. In both cases, local plant history has been relatively conducive to producing a workforce amenable to such technical changes, with Tubefab being the best employer in town regarding wages and security, and Integrated providing workers with training and good communication in addition to decent wages and good security.

A key similarity shared by Tubefab and Integrated is that they have not focused in any systematic, determined way on what should be considered core lean metrics: reduction of lead times and machine setups.⁹ By exposing bottlenecks and other problems, reduction of lead times can drive all other lean metrics leading to more flexibility with less waste and superior quality (Suri, 1998; Ericksen and Suri, 2001). Instead of doggedly pursuing lead-time reduction, these two plants focused on less dramatic technical changes and metrics with clear payoffs such as inventory reduction.

Other plants that focused more systematically on lead-time reduction also attempted to implement some substantive empowerment. This conjunction is not coincidental. It is what MacDuffie (1995a) is referring to when he argues that bundles of complementary practices are necessary to implement a world-class lean system, which is interdependent and fragile. Thus, Industrial Pumps, Second Tier Specialist, and Custom Seats, all of which systematically target lead-time reduction throughout their entire shops, attempted to substantively empower parts of their workforces as a method to achieve this target.¹⁰ Here I agree with MacDuffie (1995a) that *when* the ability to deal with contingencies is transferred from the technical system to the HR system through an interdependent labour process of reduced buffers and heightened vulnerabilities, the best way to make the system function effectively is with broadly skilled, substantively empowered workers. However, some of these plants backed off more than others, and while all *attempted* to strive beyond lean enough towards MacDuffie's ideal, even in these cases such empowerment was limited in breadth.

At Second Tier and Mini OE, substantive empowerment is limited because of the sheer complexity involved in actually transforming the social structure of the

⁹A key component of reducing lead time is to reduce setup times, so smaller lot sizes can be run and thus a wider variety of products made in a given time period.

¹⁰Mini OE has a relatively simple labour process, consisting of simply assembling without complex product routines and machine setups.

plant—including local politics and culture—into a durable institutional configuration of routines, practices and worldviews that can support extensive substantive empowerment. Additionally, substantive empowerment appears to be structurally limited because of the constraints of formalization and managerial prerogative. Standardized work still needs to be performed and multiple, pressing demands still need to be met, often under circumstances which are not conducive to deliberative co-management. Workers may have some control over their work process, and may have some opportunities for substantive participation, but these are still capitalist firms, with all their constraints, competing interests and worldviews. In both plants, management still retains prerogative over most organizational decisions and supervises team and continuous improvement initiatives, and there are still workers who greet the increased responsibilities of substantive empowerment with reticence or hostility (and other workers with largely unchanged routines).

At Second Tier even relatively modest changes have been met with serious shopfloor resistance, due to a local union culture that values craft pride and highly individualized work. Worker experience with previously aborted managerial initiatives further contributed to this disposition. The rather unique circumstances at Mini OE, including lack of detailed job classifications in the union contract and low average tenure in the shop made for a relatively reticent or amenable workforce. Further, management at Mini OE employs a slow, negotiated approach, including extensive training and well-designed financial incentives. Also attuned to the culture and disposition of the workforce, Second Tier uses a relatively disciplined approach, though there are problems with the financial incentive structure of new arrangements and with lack of time to follow through on training promises.

At Industrial Pumps and Custom Seats, substantive empowerment is not only limited but stalled. In both cases, problematic approaches to implementing substantive empowerment—trying to push too far too quickly—met with unprepared, reticent workers and, at Custom Seats, formidable worker resistance. At Industrial Pumps the problem stemmed largely from an attempt to force change too quickly, with a lack of training and insufficient support for expanded worker roles. At Custom Seats, in addition to problems with financial incentives there are deeper issues with worker attitudes and orientations (particularly in a union context where there are institutional mechanisms for worker protection and voice). Despite a moderate amount of training and communication, Custom Seats has not been sufficiently attentive to the culture and dispositions of significant parts of their workforce. This case demonstrates that even with a fair amount of training and communication about *managerial* goals and alleged new opportunities for workers, substantive empowerment can occur only where workers are ready to embrace it. The restructuring process must be negotiated and methodically implemented so that workers perceive some stakes in and ownership over new practices and routines.

The experience at Custom and Industrial demonstrate that substantive empowerment may not be associated with improved working conditions, but rather, by broadening responsibilities and decision-making authority, may generate role conflict and stress and, as was particularly evident at Custom, eliminate individual autonomy in work pace. More generally, while the opportunity to give input into the work process may be welcomed by many workers, and opportunities for participation in decision making embraced by some, worker empowerment is not about improving the work experience as such, but about achieving managerial goals, usually within a neotaylorist framework. In all, these cases demonstrate that when management seeks to push beyond being lean enough to focus tenaciously on lead-time reduction and systematic *continuous* improvement, some degree of substantive empowerment and social change are necessary. Yet, there is no formula to implement substantial technical and social change in a uniform, structured and disciplined way. Rather management must be very attentive to workforce dispositions—what are the concerns, values, attitudes and orientations of the workers—and modify its approach accordingly.

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