

**'CONTINUOUS IMPROVEMENT'
AND THE TEAM MODEL AT HONDA**

**'CONTINUOUS IMPROVEMENT'
AND THE TEAM MODEL
AT HONDA OF CANADA MANUFACTURING**

By

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Abstract

This study examines how workers experience Japanese inspired manufacturing practices at Honda of Canada Manufacturing (HCM), Alliston assembly operations and associated parts suppliers. To address how lean production methods are changing production workers responsibilities and impacting job satisfaction, the nature of production work, and the implementation of the Kaizen philosophy are investigated. I predicted that production work at HCM and its suppliers consists of some of the same alienating working conditions as experienced by workers in traditional operations with less job rotation or formal employee participation schemes. The data revealed that despite job rotation production work at these operations is alienating: workers reported that their jobs were “mind-numbing” and that they were simply there for the pay-cheque. Interestingly, some of the same individuals also reported job satisfaction when their Kaizen suggestions were implemented-but most participants noted the difficulty in actually getting their suggestions to be acted on, and the arbitrary way in which managers can administer the participation programs. Secondly, it was predicted that lean production model would result in more alienating relationships between co-workers. The relations constructed through teamwork and total quality management, can combine to create situations where employees are encouraged to point out the inferior performance of their co-workers. Data demonstrating this hypothesis is more suggestive and less conclusive. While finding the answer to this question, two other issues that warrant attention were observed. Initially, production work at HCM is stratified into an informal hierarchy of jobs, beginning with assembly work and ending with final vehicle inspection. Intertwined with the stratification of jobs is a segmented internal labour market in which ‘contract’ and temporary help agency employees provide a just-in-time workforce. A secondary conclusion is made that suggests the team model results in more alienating relationships between co-workers when there is a two-tier employment system.

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Introduction

In the evolution of capitalism, the practices of leading companies are often elevated as an example for others to follow. With the success of Japanese manufacturers' in the 1980's, many western researchers and academics espoused the superiority of Japanese managerial practices. After studying Japanese automobile production, many concluded that Japanese competitive advantages were not primarily a result of superior technology. It was observed that Japanese companies were using similar technologies and technical processes, but their productivity was greater than their American counterparts. In 1978, Japanese producers required an average of 80.3 man-hours to produce a vehicle whereas US producers required 144.¹ At NUMMI, a GM-Toyota joint venture, Toyota became responsible for production, and total hourly and salaried hours per vehicle dropped to 20.8 in 1986, compared to 43.1 hrs in 1978 when the plant was GM-Fremont.² Furthermore, Japanese firms experienced low rates of industrial conflict, low absenteeism, and low quit rates.³ In *The Machine That Changed the World*, a publication of the International Motor Vehicle Program at MIT, Japanese inspired production methods such as just-in-time production, were termed 'lean production' and pronounced as a cure-all for the declining profitability of the Western automakers. They claimed that Japanese management would herald a new era of improved productivity and working conditions and become the "standard global production system of the twenty-first century."⁴

With the growth of Japanese automotive transplants in North America, and the declining profitability of the Big Three producers (Ford, GM, and Chrysler), one might suspect that lean production will be the standard for the 21st century, in at least the auto-industry.⁵ Honda's market share in North America has more than doubled from 3.5% in 1982 to 8.4% in 2003.⁶ In Ontario, Japanese automakers Honda and Toyota are expanding production, as seen by Toyota's construction of a new assembly plant in Woodstock and Honda's new engine assembly plant in Alliston, which are both slated to open in 2008.

So what does lean production mean for its workers? What makes up the improved working conditions the IMVP School is referring to? This study will investigate work organisation and employment practices at Honda of Canada Manufacturing, and some of its associated suppliers, in order to assess the consequences of lean manufacturing methods for production employees. Are these workers becoming multi-skilled? Are they participating in a significant way to improve product quality and production methods? Does this degree of participation increase job satisfaction? What consequences does teamwork have for the relations between team members? How do the experiences of regular and temporary workers' diverge? By addressing these questions, we can assess whether Japanese inspired production and employment practices are leading to more fulfilling jobs for production workers.

Alienation and Exploitation

Before answering these questions, the difference between lean-production and other production methods must be established: what is so different about Japanese inspired techniques? This involves an overview of the central concepts used in the study of work organization and their application to the early automotive industry. Explaining how the terms alienation and exploitation are used here is necessary to understand the concepts that have framed the lean production debate. Following Marx, Harry Braverman observes that human work is unique from other species, as the directing mechanism is the "power of conceptual thought" rather than instinct. While instinct and execution of labour is indivisible for animals, in humans, the "motive force of labor and the labor itself is not inviolable".⁷ In other words, for humans, "the idea as conceived by one may be executed by another." Consequently,

workers are alienated from the products of their labour when they take part in only the execution of tasks, rather than the conceptualization. In this understanding, there is something less human in the act of un-skilled work, for we inhibit what is so unique of human labour, namely, our ability to creatively imagine a particular item or process and implement it accordingly.

Over the course of the 19th and 20th century, alienating working conditions are considered to have increased as craft skills became antiquated; industrialists introduced machinery that could be staffed by relatively untrained workers. In these new factories and workshops, machinery is said to dominate the workers, as the intelligence and skill previously expressed by craftsman are 'built into' machines. This trend was accelerated by Frederick Taylor, the father of 'scientific management', who advocated managements' right to control the precise manner in which workers performed their jobs.⁸ Taylor was adamant that management must take up skilled workers' knowledge of their work in order to create standard, fragmented, work processes that required less skill in carrying out. His experiments and work in the late 19th century created the Industrial Engineer. It must be emphasized that alienation and de-skilling is a process, rather than a specific state, as workers in de-skilled jobs may still exercise minor discretion over their work, applying their ability to think creatively to alter their tasks by minute degrees.

Exploitation denotes the structural feature of the capitalist-wage labour relationship in which employers seek to continuously produce more value from their workers' labour. Unlike other commodities, a worker's labour power has no definitive or exact value. Workers effort is an indeterminate variable that the capitalist confronts in the production process. Employers buy workers' "labour power", that is, they buy a worker's power to labour over an agreed period of time, rather than a quantifiable amount of labour. Capitalists try to maximize the return from this expenditure by making sure that the potential labour power is realized in as much output as technically possible.⁹ This is the impetus underlying the whole labour process under capitalism. While alienation and exploitation are phenomena that can be analytically separated, the two are experienced simultaneously, as de-skilling, and thus the expansion of alienating work, is one of the central way to exploit workers' labour power.

Ford's Assembly Line

An overview of Henry Ford's mode of production is necessary as a basis of putting Japanese inspired production methods into context. A century ago, skilled workers at Ford maintained many vestiges of craft production: they gathered all the necessary parts and tools, and performed the complex fitting and assembly tasks needed to create an automobile. Mechanics, draftsman pattern makers, and blacksmiths produced vehicles on a stand at a pace they were largely in control of. Using the principles of scientific management, and newly standardized parts, Ford reorganized work tasks so that an assembler only performed one task, moving from vehicle to vehicle around the plant.¹⁰ In August 1913 before the introduction of the moving assembly line, the task cycle for the average Ford assembler had already been reduced from 514 to 2.3 minutes. At the Highland Park Detroit plant where the moving assembly line was first introduced, the task cycle was further reduced from 2.3 minutes to 1.19 minutes. By decreasing the time assemblers spent on each process, Ford could increase the rate of output with the same quantity of labour hours, thus expanding productivity.

Workers' alienation increased under this new mode of production. Alienation has been considered unevenly distributed across a variety of industries as a result of technology, the division of labour, and the character of an organization. The Fordist automotive workplace, characterized by fragmented work tasks, assembly line pace, and large, impersonal factories and corporations has been deemed one the most alienating workplaces.¹¹ In the 1950's, auto assembly workers

repeated their job task every minute, on average, and as many as two thirds of these jobs consisted of fewer than five operations.¹² The conveyor belt pace and standard procedures were said to pre-empt the worker's movement and choices. Studies at this time revealed that autoworkers most disliked how they were unable to vary the pace of their work and they felt more job pressure and fatigue than other manual workers did. Because of such monotonous work, it is not surprising that an autoworker reported, "You get the feeling, everybody gets the feeling, whenever the line jerks, everybody is wishing, 'breakdown, baby'."¹³

Some assembly workers could vary their pace by taking turns "doubling up", a practice in which a worker would do his neighbouring worker's job in addition to his own, allowing the other a break. Some workers would work "up the line" to do their job before it reached their station.¹⁴ These informal practices would be countered by the industrial engineering departments, whose scrutiny using time-motion studies would reveal that the standard procedures at these stations could be completed faster than previously known. Meanwhile, workers in subassembly jobs were considered to have greater control over their pace in the 1950's. Because they were detached from the main conveyor, workers on these jobs could moderate their pace by building up "banks" of parts, such as instrument panels, or seats. Automotive work varied from less alienating work in sub assembly to more intense assembly line regimentation.

Further aggravating the experience of the autoworker was their lack of control over how their job was implemented. Compared to other manual labourers, assembly workers in the 1950's had the least opportunity to try out new ideas in their job.¹⁵ In addition, autoworkers were further alienated because of their lack of contribution to the total product. Autoworkers were responsible for one particular task, such as grinding bubbled welds on the body, or placing spark plugs in the engine, making it difficult to derive any meaningful identification with the work. For workers under this system, it was difficult to derive a sense of purpose from their work because the job involves standardized, repetitive, minute task. As a result, workers developed an instrumental attitude: the job becomes a means to an end-a paycheck-rather than something worthwhile in itself. Cynical comments from an autoworker reveal this feeling: "The things I like best about my job are quitting time, pay day, days off, and vacations".¹⁶ If the proponents of lean-production are correct that this system creates more humanely fulfilling work, this kind of self-estrangement from one's labour will be absent amongst workers in a Japanese operation.

Lean Production or 'Toyotism'

Underlying the creation of the technical aspects of lean-production methods at Toyota were the same motives that led to the introduction of the moving assembly line. Like Ford, Toyota's chief production engineer, Taiichi Ohno sought the standardization of work processes. He developed die-changing techniques for their stamping presses that were fast and simple, creating standard procedures that enabled production workers to complete the die-changes, rather than specialists.¹⁷ Surprisingly, Toyota's introduction of the *Kanban*, or just-in-time strategy was another way of standardising work tasks; contrary to popular belief, it was not primarily undertaken as a logical way to respond to fluctuations in demand. JIT involves keeping work-in- process inventories to a minimum: only enough parts at each step were produced to meet the demand of the next. This resulted in situations where a small problem could shut down an entire line, and Ohno believed this would help focus every worker on anticipating problems to avoid down time.¹⁸ While workers in a Fordist plant had some opportunities to go at their own pace, relying on significant stocks of parts between every station to make sure assembly carried on, JIT production removes these buffers, resulting in a pace that is dictated by the predetermined speed of a line. The impetus underlying JIT methods was to expose

work processes to further rationalization, and buffers were seen as an impediment to this, as they allowed so-called inefficient processes to go un-assessed by the bearers of scientific management.

In contrast to typical North American operations where detailed job classifications determine the scope of workers' tasks, Japanese producers create flexibility in labour deployment through work teams in which all members are trained to do the jobs the team is responsible for. This allows workers to be easily reallocated within the team to replace an injured, sick or vacationing worker. In addition to production tasks, team members in the Japanese model are expected to carry out simple machine repair, quality checking, and housekeeping responsibilities. By comparison, Big Three plants could have up to 90 classifications and did not trust workers to inspect their own work; instead, they relied on inspectors to catch defects at the end of a line.¹⁹ This difference from Fordist practices has led the IMVP School to conclude that workers are "multi-skilled".

The third unique feature of Japanese practice is their apparent decentralization of responsibility for work organisation. According to the proponents of lean production, Japanese automakers do not rely on an industrial engineering department to set time standards and balance the line. Instead, they expect all employees to consider production improvements. As part of their *Kaizen* responsibilities, production workers are expected to systematically think about why a particular problem occurred in order to stop it from happening again.²⁰ In some operations *Kaizen* operates through "Quality Circles", where improving product quality, line balancing, and the efficient use of personnel is addressed. With the establishment of job security for a core workforce, the intellectual capacities of workers in this model are freed from any possible anxiety that *Kaizen* participation could jeopardize their employment. By teaching workers a variety of tasks and engaging their ability to critically evaluate production processes, Japanese methods are seen to have reunified mental and manual labour, thereby eliminating workers alienation at the point of production.

Literature Review

In the literature addressing Japanese management and lean production, several main issues persist: whether Japanese production methods represent a break from Fordism and scientific management; the presence of job rotation and whether it results in multi-skilling; the question of if and how *Kaizen* practices create more humanely fulfilling work; and the role and consequences of team work in constructing workers' behaviour and shop floor culture. The major issues centred around multi-skilling, *Kaizen*, and teamwork were initiated by proponents of lean production such as the IMVP School and Kenney and Florida. According to Womack et.al., lean operation "provides workers with the skills they need to control their work environment and the continuing challenge of making the work go more smoothly...lean-production offers a creative tension in which workers have many ways to address challenges." They predicted that lean-assembly plants would be "populated by highly skilled problem solvers whose task will be to think continually of ways to make the system run more smoothly and productively".²¹ The crux of their argument is their belief that the *Kaizen* practices enable workers to conceptualize alternate and superior methods of organizing work.

Kenney and Florida try to verify these assertions by examining work organization in Japanese automotive transplants in the U.S. In their perspective, teams and worker input entail "multi-skilled" work and the elimination of "certain aspects of worker alienation", resulting in the abolition of the traditional distinction between mental and manual labour. Their survey of Japanese transplants in the U.S. was intended to reveal the presence of this system, but because plant managers were the survey respondents, their capability to make generalizations is limited. Apparently Toyota and Honda employees have "significant input into the design of

their jobs”, but Kenney and Florida do not provide criteria for assessing what constitutes “significant input”.²² While some Japanese suppliers reported they offer cash rewards for suggestions, nothing is said of the scope of the suggestions made, or the frequency they occur. Their research methods only provide them with data that verifies management’s intent to enact employee participation, rather than actual evidence of its implementation. Because of this methodological shortcoming, they cannot claim that worker participation plays a “central role” in this system, thereby making their conclusion that this model is an alternative to Fordist mass production unfounded.

Many scholars are highly critical of the positions taken by the above researchers. Berggren noted that Womack et al.s’ claims concerning improved working conditions were simply “cocksure assertions” because they provided no evidence to base their judgements, making their work little more than propaganda.²³ Because work in Japanese plants involves the same technical processes found in traditional operations, there is little reason to expect workers will become “multi-skilled”. Case studies of Japanese plants in North America reveal that assembly work involves the same monotonous and repetitive tasks experienced by auto-workers elsewhere. Terry Besser observes how at the Toyota plant in Georgetown, Kentucky, production work is “monotonous and mind numbing in spite of job-rotation, team work, and job enlargement programs.”²⁴ Likewise, expanding production workers responsibilities to include inspection and simple maintenance tasks can be characterised as the rationalization of indirect production tasks, resulting in increased workload for production staff, rather than genuine multi-skilling. Changing tips on a welding robot, replenishing supplies of bolts, or cleaning your workstation are not activities that constitute expanded skills.

Stewart and Garrahan challenge the erroneous definitions of skill in Nissan literature from the U.K., in which skill is equated with the ability to perform standard operating procedures, and argue that this form of knowledge is contrary to what is generally considered skill: it is reactive, rather than creative.²⁵ Workers on the line can only react to what the procedures stipulate, thereby limiting their creative capacities to think critically and creatively. Likewise, being trained on a variety of standard, factory specific operations is not multi-skilling, because genuine skills denote the possession of competencies that are of value to the labour market.²⁶ Production work in a lean operation provides the same kind of fragmented, alienating tasks that autoworkers have experienced since the inception of Ford’s assembly line. Characterizing job rotation between these routine tasks as ‘multi-skilling’ amounts to euphemistic play on words.

Kenney and Florida’s claim that the Japanese model represents a break from Fordism has also been debunked. The traditional means of work rationalization are still at work in lean producers. Parker and Slaughter observed how at the NUMMI plant workers have little control over job design, production layout, and the technologies used. “Teams” of engineers, supervisors and managers “chart” the jobs, detailing the separate acts of every job task, just as it is done in a Fordist plant.²⁷ Other critical scholars observe many affinities between the Japanese model and Fordism and are unanimous in their view that Japanese practices are simply a new means to extract more effort from workers’, rather than a way to create more fulfilling work. Many emphasize the role of ‘continuous improvement’ in diminishing workers’ ability to create ‘idle’ time, thereby limiting their ability to control their work pace. In this view, Japanese techniques represent a kind of perfection of scientific management, not an alternative to it. Dohse et al point out that lean producers employ different means (Kaizen) to attain the desired end of production rationalisation, making it a solution to management’s struggle to free up workers’ tacit knowledge for the service of rationalisation.²⁸ Similarly, Berggren observes that the standardization of retooling techniques for model changeovers represents an extension of the sphere of influence of scientific management, not a break from it.²⁹ As a participant observer at the Subaru-Isuzu (SIA) plant in Indiana,

Laurie Graham was told that employees, or 'associates', would always have input into decisions, but workers reported "the company only takes input from associates on subjects the company chooses", revealing that the scope of workers participation was significantly constrained.³⁰

While management rhetorically promotes *Kaizen* practices, the technical arrangement of an assembly line and the surveillance technologies equally facilitate 'continuous improvement', or work intensification.³¹ For instance, at the NUMMI plant, the *Andon* board illustrates how "continuous improvement" operates. The board is a display above the assembly line in which a rectangular area represents each operator's station, and if a worker cannot keep up, or if there is a quality problem, they pull a cord that lights up their square on the board. If the line is sped up, the *Andon* will reveal the "weak" points, and managers can focus on redesigning the tasks of these stations. As the weak points are reorganized, jobs become so loaded that there is no time to pause for breaks.³²

Survey research suggests that lean practices result in work intensification rather than worker empowerment. In a survey study involving 16 automotive parts firms in Ontario, Lewchuk and Robertson found that work reorganization towards lean practices was accompanied by work intensification, with the majority of workers reporting increased and heavier workloads.³³ Respondents from lean operations were more apt to report distaste with going to work than workers employed in traditional operations, and there was no evidence that workers at lean plants obtained greater freedom to vary their pace of work or change things they disliked about their jobs.³⁴ For the auto-parts workers in this study, work reorganization towards lean methods exacerbated some of the same alienating conditions faced by workers fifty years ago.

It is easily discerned that Japanese methods share the spirit of Fordism, and thereby produce the same alienating and unhealthy forms of work; however, what the consequences of the team model for inter-worker relations remains. Some contest whether lean production represents a perfected system of managerial control, the implication being that if it is, workers under such a system are more thoroughly alienated from their labour. Sewell and Wilkinson argue that management control is approaching absolute under lean systems wherein responsibility for quality control is diffused across all operators while "strategic control" is centralized in surveillance technologies.³⁵ Under this system, they make the case that workers have little option but to work in the manner dictated by management, thereby increasing the conditions that constitute alienating work. Webb and Palmer challenge this characterization of total managerial control under lean systems. In their study, they observed how workers' cooperated in evading surveillance when final inspectors sent defective parts back down the line to be corrected by assemblers rather than recorded for management.³⁶ Also, workers practiced shortcuts to standard procedures that enabled them to vary their work pace. The implication is that despite greater devolution of responsibility for quality control and more effective surveillance technologies, production workers can still devise ways to vary their pace and avoid perpetual scrutiny, and can thereby combat some of the alienating aspects of assembly work.

Webb and Palmer qualify this observation by outlining criteria that enable these deviations.³⁷ One of the most obvious factors shaping workers' ability to resist went unmentioned by the investigators: the physical dimensions of the product and the mechanics of the line. Small defective components can be easily reinserted up an assembly line for correction, making this practice inapplicable in other contexts; for instance, it would be unfeasible for automotive workers on final assembly to hide their mistakes this way. Inspectors in an auto assembly plant must take note of any quality issues and then let the vehicle continue down the line to be repaired offline, perhaps increasing the workload of a co-worker responsible for final repairs. The absence of opportunities to informally ameliorate quality problems-such as the manner outlined above-means that workers in vehicle assembly will have greater

pressure to get their job done correctly every time. This requires more vigilance and effort on the part of the assembler, and because they are working at a pace beyond their control, the work will be more stressful. This is where the role of co-workers and the team play a major role in shaping the quality of work under lean production.

Critical scholars have highlighted the central role played by peer pressure in the Japanese system. Dohse et al., observe how with no buffers, reciprocal performance pressure among workers under lean production functions to ensure production quotas are met.³⁸ If workers are expected to help do the work of absent workers or workers whose efforts are not up to par, it becomes a rational choice for workers to pass the pressure on to others, in an attempt to make sure everyone is doing their part. Kenney and Florida observe that teams are the “simultaneous source of motivation, discipline, and social control for team members”.³⁹ This can be seen in the comment by a production worker from the Kentucky Toyota plant who stated, “If I don’t do my job properly, the next person on the line is going to know about it and they’re going to tell me about it. For that reason I want to do my job better.”⁴⁰ In this example, the technical arrangement of assembly work and the expectations of teamwork create the opportunity for workers to correct one another. Workers at this plant are taught that the ‘feedback’ process between team members is not about placing blame, and Besser states that as team members become familiar with the problem solving techniques, they can be used in a non-threatening way that is less likely to cause hard feelings and defensiveness. Similarly, Nissan literature in the UK states, “it is wrong to presume that the downstream process is finding fault with your abilities. You should accept critical feedback in the same spirit as it has been provided and thank the provider accordingly”.⁴¹

Stewart and Garrahan confront this paternalistic and banal characterization of team work, arguing that the Kaizen and ‘Neighbor Check’ code at Nissan which encourages workers to assess one another’s quality and performance, substitutes workers for supervisors in maintaining discipline.⁴² Some of their interviewees reveal the potential for this practice to produce hostility between co-workers: “You have always got to impress people. I mean you might have all the best ideas in the world, but if someone hears of them and goes and tells the gaffer then he sounds like the good bloke. There is a lot of pressure and that type of thing.”⁴³ Another interviewee told how “On the morning we used to have a meeting—just our group, ten lads—and we’d sit in a circle and if you’d done anything wrong you got put in the middle and shouted at—‘You’ve done this wrong’.”⁴⁴ At SIA, Graham observed that her team colluded with the team leader to enact a plan that would humiliate a team member as a means to get the recalcitrant individual to comply with standard procedures.⁴⁵ These accounts reveal how the team model permits competition between workers to maintain and even “improve” procedures, while ostracizing those that deviate. Stewart and Garrahan argue this aspect of teamwork is the most important variable in creating a “new regime of subordination” in Japanese producers. The ‘Neighbor Check’ code is perpetuated through the rhetoric of quality control, which serves as a seemingly neutral and objective criterion that justifies workers’ regulation of one another.⁴⁶

To summarize, the critical literature that addresses the nature of work and *Kaizen* under lean production suggests: production workers experience the same alienating work tasks as their predecessors; characterizing this as “multi-skilling” is misleading; the role of the industrial engineer is still paramount; and the only difference is that workers now have formal opportunities to make suggestions to make improvements to production techniques. This latter observation means that the conceptualization and execution of work is moderately reunified for production employees in workplaces implementing Kaizen principles, so we can expect successful Kaizen practices at HCM to lead to more satisfying work. Secondly, the literature suggests that inter-worker relations amongst team members under the lean model are potentially more hostile because of the peer pressure to conform to quality standards and production pace. People may resent someone who can not keep up, or

someone who did not complete their job properly, or a shift or department that is perceived as not performing as well. The lack of buffers combined with the participatory expectations in the team-under the rubric of Quality- might be fomenting opportunities for greater inter-worker tensions at HCM than in traditional operations with more buffers and separate quality inspection personnel.

Methods

Research methods involved interviews with HCM and former HCM employees, as well as former temporary employees at HCM suppliers. The suppliers where participants worked included KTH, Shelburne and F&P, Tottenham, both Japanese owned suppliers that produce components exclusively for HCM. Participants were interviewed at a location of their choosing, such as coffee shops, libraries, or their homes, while the duration of interviews ranged from 45 minutes to one and three quarter hours. Initially, study adverts were placed in community newspapers such as the *Barrie Advance* and *Orangeville Banner*. These sources netted five participants, including one temporary employee. Snowball sampling was used to connect with seven present employees of HCM, a former student HCM employee, and two temporary agency workers, making the total study sample fifteen. The temporary associates worked for a few months at suppliers, included two females and one male, and ranged in age from late twenties to late fifties. Participants who were former HCM associates included one who was employed for three months, one was employed as a student for several years, while the remainder worked there for several years. Three of these participants are females in their mid to late thirties. The duration of employment of the seven participants who are presently employed at HCM ranges from several to twenty years, and these participants were all male, and their age ranged from late thirties to late forties.

To determine if the implementation of the Kaizen philosophy is leading to more satisfying work, I asked participants questions regarding the scope, frequency, and outcomes of participating in HCM Kaizen programs, and whether these opportunities were making their work more enjoyable. My second research question was much harder to answer: people do not readily discuss receiving or meting out pressure on their co-workers. Nonetheless, various topics discussed throughout the interviews implied the role of peer pressure and inter-worker tensions. The majority of study participants had sustained repetitive stress injuries at some point because of their time at HCM, so one could conclude that my participants are disgruntled people who might be using the study as an opportunity to vent their frustrations with Honda. But many are also long standing employees with at least several years experience, one a former team leader, and some have a few thousand points or more for making accepted 'continuous improvement' suggestions, which means my participants are dedicated, knowledgeable workers who have done what they can to make HCM a more safe and successful operation. I thank them for their time and sharing the ups and downs of their experience at HCM and its suppliers.

Ideally, randomly selected employees would have provided a more representative sample, but this would have meant greater involvement on the part of management in the study. After forwarding some questions addressing my study themes to HCM associate services, they declined participation; likewise, HR management at KTH-a supplier-met with me, but declined an interview. But approaching management to help with a case study of this kind is rare but not unheard of; for instance, management at two Magna operations aided Wells and Lewchuk (2007) in their study of Magna's work organization and employment practices. A more definitive study might consist of quantitative methods, perhaps a comparative study utilizing surveys distributed to production workers at HCM and an operation with traditional work organization such as Ford, Oakville plant.⁴⁷ Nonetheless, the findings permit one to conclude that work in an auto plant under Japanese inspired work organization is equally alienating as work in a Fordist plant.

The methodological shortcomings only inhibit verifying my second question, that is, my data can only *suggest* that this mode of work organization is resulting in more hostile and alienating social relations between workers on the shop floor.

Honda Comes to Alliston

Structural economic conditions facilitated the expansion of the Japanese auto-industry in the 1970's and 1980's. Up to 1985, assembly workers' wages in Japan were half those of their counterparts in Detroit, and since American vehicle prices were based on the cost recovery requirements of American based production, Japanese exports were very profitable.⁴⁸ From 1978 to 1982 world trade in automobiles increased by 30%, while world demand decreased by 13%, meaning that North American producers were under more intense competition from imports.⁴⁹ With the increased market share of Japanese automobiles, domestic political pressure mounted on the Canadian and U.S. governments to implement protectionist policies; Canada's Liberal government attempted to limit Japanese automakers' share of the domestic market to 18 percent.⁵⁰ Another means for resolving this growing trade dispute was to encourage Japanese automakers to begin production in North America. To quell protectionist politics and take advantage of the lower currency rates, Japanese auto producers began investment in North America.⁵¹

Production investment by large foreign manufacturers is not new to Canadians: our economic development strategy has utilized various policy devices such as tariffs and incentive packages to entice foreign capital. In the 1980's, this tradition was ramped up by the federal Conservatives who modified national trade policy in an effort to recruit new foreign investment to finance economic development.⁵² Bringing Honda to Ontario involved several trade expeditions to Japan led by the federal Department of Regional Industrial Expansion, Ontario's Industry Minister, and the Premier's office. Interestingly, Honda chose Alliston from among 100 communities proposed by the Ontario's Ministry of Industry, yet local officials in Alliston were left out of the negotiations, and provided no advance notice of the recruitment decision.⁵³

Like most Japanese transplants, Honda's decision to locate in Alliston was largely a result of their desire for what is called a "greenfield" site, a location where the lack of industrial experience amidst the local labour supply is seen as insurance that their workforce will not have "picked up bad habits".⁵⁴ In 1987, HCM plant manager Arnold Norris stated that line workers were deliberately picked for their inexperience and then trained in Honda ways.⁵⁵ At the same time, Honda president Tadashi Kume mentioned that workers at the Alliston plant were less costly than their Japanese counterparts. In addition to accessing a low cost and pliant workforce, locating in Alliston was advantageous in terms of land costs and the proximity of major means of transportation such as highway 400 and a rail line.

With 700 employees, production of Accords began in November 1986, making Honda the first Japanese auto producer to manufacture vehicles in Canada. Honda's initial investment totaled \$200 million, and in 1988 an \$80 million dollar expansion that included a stamping facility created 100 new jobs and was accompanied by the beginning of the production of the Civic Hatchback. Unlike other assembly operations, cars move down the line sideways, reducing both the length of the line and the steps between each assembly operation. By 1998, plant two opened with production of the Odyssey mini-van, and employment increased by 1200 by 1999. Plant two was deemed the MAPLE project: "Manufacturing Automobile Plant Lean Engineering". In 2000, production of the Acura MDX sports utility vehicle began on the same line, making plant two the only operation in North America-at the time-to assemble mini-vans and SUV's on the same line. HCM boasts about the flexibility in production this allows. VP Charles Chadwick stated, "The changeover from Odyssey to MDX is a matter of minutes....When the MDX

comes down, we just throw a switch".⁵⁶ The plant is also smaller than plant one, despite the fact that the vehicles it produces are larger.⁵⁷

Production capacity is now 390, 000 vehicles for the two plants.⁵⁸ To date, Honda has invested \$2.15 billion at the Alliston site including a \$154 million engine plant presently under construction and is scheduled to begin operations in 2008 with 340 employees.⁵⁹ The engine plant will have the capacity to produce 200,000 four-cylinder engines. As a result of high demand for the Civic, HCM recently started assembling the Civics in plant two on the same line the Ridgeline truck and Acura SUV are produced.⁶⁰ Each day, Plant Two produces approximately 250 Civic, 250 Ridgeline and 300 Acura MDX models.⁶¹ While HCM produces vehicles for a number of countries such as the UK, Japan, Saudi Arabia, the U.S. market is the destination for the majority of their vehicles.

Producing 'Associates'

To find the right people to produce Hondas under these 'flexible' arrangements, HCM engages in significant screening during recruitment. Japanese transplants are especially renowned for extensive recruitment methods in which an applicant's interpersonal performance during the selection process is the main criterion for employment.⁶² Willingness to work with others, concern over product quality, interest in solving problems as a group, attitude towards supervisors, and desire to learn new jobs and skills are typical criteria used by transplants to select employees. At HCM, recruitment was originally structured into an initial group interview, followed by a smaller group interview. In the group interviews, applicants were asked questions such as 'What would you do if a person beside you couldn't do the job?' Typical answers were 'try to help him...notify team leader'. Other questions included, 'Could you work if you were sick?' An individual hired in 1989 recalls being asked 'what is the biggest threat facing industry in Canada?' 'Globalization' was one answer. At the third interview, participants recalled being asked 'why do you want to work at Honda?'-'job security' was a typical answer. These questions were used to assess an applicant's compatibility with teamwork and awareness of the expectations of the lean model with respect to attendance and employment security. The applicant's age-and therefore their inexperience in manufacturing work-was probably the main selection criteria. In 1990, after four years of operating, the average employee age at HCM was only twenty-five!⁶³ Many employees came straight from the family farm. One participant recalled that HCM rarely hired anyone from "south of highway 9".

Regardless of what their main selection criteria are, the hiring process at Japanese transplants is structured to pass only the most determined applicants, leaving successful applicants generally feeling they had accomplished something significant. At Toyota Kentucky, Besser notes that the strenuous entrance requirements fostered respect and an, 'esprit do corps' amongst team members: associates knew their co-workers met the same challenges to gain entrance as they have.⁶⁴ One participant who was employed at the opening of HCM articulated this experience:

When you start working at Honda they bring you into the fold, they embrace you, they give you a week long orientation session, you are made to feel like a the most special person, they say the hiring ratio at Honda is harder than getting into Harvard, you are very special you got hired, you are unique, this plant becomes your family we'll look after you, for a whole week they coddle you and make you part of the company.⁶⁵

By the opening of plant two, HCM recruitment practices evolved to include physical tests, such as a manual dexterity test-the 'peg board test', a physical endurance test using weights, and blood and urine tests. Some recall being contacted

a year after applying, which is understandable considering 45 000 people applied for the 1200 job openings at plant two. At this time, the HRDC had distributed applications across Simcoe County, Newmarket, Orangeville and Owen Sound.⁶⁶ While HCM still prefers recruits with little prior manufacturing experience, their selection process is now based on utilizing 'contract' workers who get an initial 'contract' for 3 months, a second for seven months, and the third for ten months. 'Team leaders' evaluate the 'contractors' job performance and attendance when they consider renewing their contract, or when offering full time employment. The presence of these temporary 'contract' workers will be discussed later with respect to how they fare in a team oriented environment.

Producing Hondas and Alienation

Production work at HCM is broken down into several departments beginning with Stamping, followed by Welding, Paint, Assembly Frame (AF), and Vehicle Quality (VQ). Each department is further organized into a number of 'zones' where a 'team' of 'associates' complete the various jobs-called 'processes'-allotted to that team. Promoting this newly introduced Japanese style of organizing production work, Arnold Norris, a plant manager at HCM, stated how the "team approach provides a great deal of flexibility, and also increases the training that the associates receive, and the experience that they gain".⁶⁷ A team could consist of anywhere from several to twenty associates, and each member is ideally able to complete all the processes in their zone. The physical dimensions of production work at HCM varies little from workers' job duties in assembly plants thirty years ago, with perhaps the exception of jobs in the weld department where automation has increased. Work in the weld department consists of loading stamped parts onto a 'jig' that takes the parts in a 'cell' to be welded by robotic welders, whereas thirty years ago much welding was done manually. Also, the insertion of instrument panels is now highly automated. Despite the variety of tasks associates learn under the team model, all participants reported the work was mostly "mind-numbing", which suggests that production work at HCM creates the same alienating work as in traditional plants. The lack of job satisfaction experienced was also demonstrated by their instrumental attitude to work: all participants reported that they were simply there for a pay-check. They reported they are there to pay off student loans, bills, and mortgages and not for a career.

Nonetheless, the pace and complexity of the jobs vary by department and within every zone, resulting in different gradations of 'mind-numbing' work. Workers in weld are not as subordinate to production pace as associates in AF, because robots break down and need reprogramming or repair. A Participant from weld reported appreciation of the down time: "We are constantly upgrading our robots, I think that is what gives us the down time: thank god!"⁶⁸ There is also a buffer of over a hundred vehicle bodies after the weld and paint departments, allowing those departments some leeway when it comes to solving the problems that inevitably arise. When the paint line goes down AF can still produce, but only for so long. On one afternoon shift, a vehicle fell off a track into the bottom of a dip tank, shutting paint down: associates were made to stay until 6:30 in the morning to replenish the buffer.

Within paint, the pace of work will differ across jobs. Some 'white bodies' may need more sanding than others, while an associate's workload in main repair will vary as more or less bodies with paint defects enter their zone. The latter job requires more training; participants recalled how some people could not catch on even after working in this job for several years. Talent on this job amounts to what is generally understood as skills because your abilities could be valued elsewhere such as a body shop or a dealership. Another job in paint that permits associates to use discretion involved gathering jigs from various zones and returning them up the line where they are first placed on. It was reported as demanding greater mental

effort as “you had to plan yourself, you need ten of these, I’ll have to go here, than here, take this here”.⁶⁹ Unlike most processes, this job required the associate to conceptualize their own routine. Work in Material Services (MS) also requires the application of workers’ discretion: it is considered less monotonous because it demands great alertness on the part of the operator to drive safely, and figure out the most effective sequence to transport parts. The pace and intensity of this work is especially challenging, a participant reflected that you have to drive like a ‘madman’.

The nature of work in Vehicle Quality was harder to assess: interviewees’ perspectives were ambivalent. It was reported as more skilled work because it involves longer training periods: associates use computerized diagnostic equipment; make subtle assessments of what various noises represent while test-driving; and accumulate knowledge of the operation of various product components and the specific manner in which they are recorded. A participant reported this work as monotonous yet characterized it as skilled. Another reported it demanded greater mental effort but also reported it was monotonous: ‘they all became a blur’. Perhaps once the know-how of this job is attained it becomes less intrinsically rewarding. It is difficult to characterize the work as skilled because the knowledge accumulated has little application elsewhere; yet the complexities involved led participants to characterize it as skilled work.

By contrast, assembly work involved the least application of associates’ discretion and almost no variation in pace. Workers in AF don’t have the luxury of ‘down time’ that associates in Paint and Weld might experience, except perhaps during the first runs of a new model. Associates are told that shutting down the line in AF costs HCM one million dollars a minute. The accuracy of this number cannot be discerned, but the effect is to instill awareness in production associates that it is in the operation’s best interest to keep production constant. The pressure to keep the line moving is immense. One participant mentioned, “If you’re in Assembly, you don’t stop the line...If you stopped that line, there better be a vehicle on fire, there better be somebody dying, or somebody seriously hurt.”⁷⁰ A team leader (TL) could be demoted if they shut the line down: “if you shut that line down, you better have a damn good reason, you better be able to pin it on someone else. Cause if it is your fault, you’ll be back on line.”⁷¹ In one instance, a TL from MS was demoted after he shut the line down for six minutes. When parts were requested of him, he told a TL from AF, “I’ll get them to you when I get them to you”. To avoid demotions and other sanctions, all team members must do their utmost to maintain producing at line speed. The repercussions stemming from inadequate performance in assembly work constantly loom over every associate. Given this environment, it is easy to understand why the majority of participants deemed assembly work the most physically strenuous “You are basically running to keep up”.⁷² Assemblers perform their tasks on a vehicle approximately every sixty seconds and these jobs could take anywhere from two hours to three weeks to learn. Jobs on the door line might involve intricate hand motions that may take associates weeks to hit line speed. For the most part, the jobs in assembly involve little complexity: “I had a manager tell me ‘a monkey could do these jobs, so what are you bitching about?’”⁷³ Associates in AF experience the most alienating work as both their manner and pace of motion are pre-empted by standardized tasks and the regimented pace of the line.

The varying degree of alienating work across different departments is most likely why an informal hierarchy of jobs has developed at HCM. Associates are permitted to apply for transfers to more ‘preferred’ departments, insofar as they do not have a ‘level’ of discipline, or a poor attendance record.⁷⁴ Apparently the associate number is the exclusive criterion used to select who is eligible for the transfer, meaning that with greater years of service, an associate is more likely to be assigned a less strenuous job. After a successful contract, a new recruit is most likely to start in AF, Weld, or perhaps a zone in Paint. From AF, an associate’s next move would likely be to Weld, and from there, Material Services. This unofficial stratification of jobs by years of service is a work in progress: management has seen

it in their interest presently, but has the right to stop the policy at any time. Regular associates probably pressured management to administer transfers this way. Students used to be employed in all the departments, including the most preferred departments Vehicle Quality and Parts Quality, but after 1998 they became restricted to Weld, Paint, and Assembly. A student participant noted how “the full timers got upset cause we were doing cushy jobs when we should be slaving online cause we’re only there for three or four months”.⁷⁵

The Manifestation of Kaizen: REACH

Like other Japanese transplants, HCM has a formal system for encouraging employees to make improvements to their workplace. Honda’s affinity with the Kaizen philosophy has been apparent since 1984, when a Honda pamphlet stated:

Above all, a policy of strong emphasis on the human worker, through voluntary fostering of human resources by the workers themselves, is vital to quality. Honda employees create and accumulate production know-how, making their own suggestions for plant improvements. This is one of Honda’s greatest assets. When employees have the opportunity to improve or create new equipment based on their own experience, they become more involved in their work, take a greater interest and enjoy their tasks.⁷⁶

The manifestation of the principle of continuous improvement is in HCM’s REACH program: ‘Recognizing Efforts and Associates Contributions at Honda’. Associates can make formal reports in this program under the headings, ‘Kaizen’, ‘Safety Awards’, and ‘Hawkeye’, for which they can receive points if their contribution is deemed worthy. An associate can use their points like credit at the cafeteria, as credit towards the associate auto parts program, can cash them out at larger increments such as 5000, or even be eligible for a Honda vehicle with 25 000. The ‘Hawkeye’ component of the program is for rewarding associates who observe quality problems, such as if a part is missing or installed improperly, while ‘Kaizens’ are for making modifications to work processes or equipment to improve a job in some way. To gauge whether this program is leading to more satisfying work, I inquired as to the scope and frequency of these reports, the manner of their implementation, and if participants appreciated contributing in these ways.

The majority of participants interviewed had contributed to HCM through the REACH program. Kaizens could be something as simple as placing a new recycling bin, stop sign, or moving a broom to a different spot. These kinds of suggestions might be awarded 10 points. More complex suggestions might include a new specialized tool for assembling an awkward part, or removing an improperly installed part in a safe and fast manner, or a device that holds jigs permits them to be moved easily in and out of welding cells. Suggestions of this scope might be awarded 50 points. Because some zones are very large, improving the means of rapidly communicating equipment problems to a TL constitutes a Kaizen. One employee apparently recommended changes to their transportation methods from which HCM saved over \$ 100 000 yearly, and was awarded 70 points. At this rate or award, associates need several hundred recommendations implemented before they access significant rewards such as cash or a vehicle. Participants’ points were in the range of a few hundred to a few thousand. One participant estimated that perhaps only fifty of the 4200 associates get the plaque for having 2500 or 5000 points.

Associates interviewed appreciated the opportunity to ‘improve’ the workplace through Kaizens, but participants’ identification with the whole REACH program is more tenuous. One associate stated, “I feel good when I get a Kaizen through and it goes and makes a big deal and people say that’s a good idea, I feel good about it, I’m trying to help the workplace”.⁷⁷ Participants also reported positive

experiences when using the device they recommended or altered on a daily basis. In addition to individual Kaizens, one associate reported greater job satisfaction through participating in a successful 'NH Circle', which is a more extensive Kaizen conducted by a select team of associates. They also highlighted the challenges participants face in Kaizens of this scope:

In the NH circle you go to company meetings, presenting to people who run the company-it is self recognition when you can present your idea successfully that has been approved by plant management. But they are also very frustrating because you have to do it around your work, on volunteer time, and they could take up to two years.⁷⁸

Overall, participants responded positively to making visible changes to the workplace, suggesting that these limited instances of participation are constructing more fulfilling employment for production workers.

Nonetheless, associates' identification with the administration and objectives of these various avenues of participation was less assured. Initially, associates' perception of HCM's sincerity with respect to the program has been undermined by the modification of the point system. Management apparently believed it would be thirty years before someone could get enough points for a car, and in the early nineties after a few cars were given away, they 'clamped down' on the criteria for giving points. At the team level, many felt that the REACH program was inconsistently administered, like one participant who noted how the distribution of points can be arbitrarily controlled by a TL:

A team leader could go, 'Ahh, No, not you, he might get it but not you', he can be like that if he wants, like I say there are power trippers right, they can do whatever they want, its kind of fun, we all get a joke out of it, cause I don't fill out very many but the guys that do, '**Whys this one turned down?!'**, [TL says] 'You didn't do any overtime this week man'⁷⁹

Another long-standing associate, who is out of favour with a segment of management, noted how he is excluded from the program: "you're supposed to have two to three weeks turnaround to get points, but if you are blacklisted-I have had stuff in that's two or three months old, I don't get stuff looked at now that I'm labeled, I don't even get my points now."⁸⁰ Another participant's record of points was wiped out by an apparent computer failure, and this associate no longer bothers making any of the formal reports.

Likewise, participants also reflected on the arbitrary administration of the Hawkeye and Safety component of the REACH program. One associate who found a series of welds missing on the body while working in AF became disenchanted with the program after a group leader said they could not find their Hawkeye report, and the head of the REACH program said the report may have been lost in the move to the other department. Associates confronted with this kind of bureaucratic stalling believe that management intentionally lost the paperwork to protect their friends in the Weld department from scrutiny. Safety awards were also noted to be problematic: some feel that safety suggestions are "put in a box and forgotten about." In some instances workers have made significant efforts to get safety awards but had little support from management. One associate produced a REACH report that proposed a modification to their work area to better regulate temperature, and after nothing was done for two years, they threatened to contact the ministry of labour:

Two minutes after the bell went, I was in my area, the assistant manager of safety for the company was there and wanted to know what was going on, I had photocopies for four people and handed it to them, 'here you go' -if you are going to go to that extreme, I don't want to look like....

My department manager had to sign on the Kaizen, and-this is what management's like- he said 'I don't ever recall this, why didn't you come to me first?' I keep all my paper work, I handed out a copy of the Kaizen and asked 'is this your signature?' I got out one from the next year, and he said I have never seen this, and I asked 'is that your signature', and he said 'yes'. I said 'so don't stand there and say you have never heard of this.' He was quite offended and centred out.⁸¹

These instances of 'continuous improvement' at HCM suggest that an employee has to be persistent, assertive and ready to confront-or even humiliate-their superiors to try to get their suggestions implemented or rewarded. The cost-benefit balance for participating in Kaizen seems to be weighed heavily on the cost side because associates are supposed to complete the reports on their own time, and as the above instances demonstrate, there is no certainty that management has to fulfill their obligations under the program. If associates choose to be adamant and follow their reports up the chain of command, they will be 'stepping on someone's toes' and risk losing the favour of immediate supervisors. Moreover, because the rewards for participation are remote, there is little incentive to participate in the first place. The modest rewards and instances of the uneven administration of the program suggest that the know-how and 'assets' of associates are not considered equally, and that HCM's intentions underlying the REACH are less than sincere.

In an environment where associates are uncertain whether their contributions will be consistently recognized, it is understandable that participants' motivations for providing suggestions become more discriminating. An individual reported that they are 'big on recycling and the environment', so they helped find ways to reduce wastage of materials-which of course helped the company, but also decreased the tonnage going to the local landfill. Another participant stated the crucial paradox a production worker faces when confronted with the work intensification imperative underlying the Kaizen philosophy:

A lot of people bought in to the REACH program, I did...but you start to look at things like, 'will it help me, is this helping me?' I'll do it... if it makes it easier, not faster. Cause faster means I will have do more-easier-it might make it faster in the same respect, at least it will make it faster and safer.⁸²

Discriminating between Kaizens in this way reveals a worker-oriented approach to continuous improvement. Without this kind of critical reflection, associates Kaizen contributions would amount to internalizing the Taylorist logic which stipulates that every second of every minute they must be engaged in adding value to the product. In summary, the kind of employee participation elicited by HCM enables a limited reunification of mental and manual labour, but as the above instances of the REACH program illustrate, some contributions are more valued than others. Kaizens that made a process more efficient were readily rewarded while Safety suggestions that did not make a job faster were met with resistance by management. The outcome of this uneven consideration of employee's ideas is that associates identification with the REACH program becomes tenuous and workers take on a more discriminating, worker-oriented approach to their conceptualizations of workplace improvement.

Total Quality Management under the Team Model

The devolution of quality control is considered one of the crucial features that distinguish lean methods from traditional practices. Under the Japanese inspired model, all workers are expected to look out for product quality at every step in the production process, where as in traditional operations, there might be a separate inspection department or particular job classes exclusively responsible for inspection

and repair. According to the critical literature, this diffusion of quality control has two consequences for production workers: it increases their workload; and constructs an environment where workers police one another. This latter view is presented most strongly by Stewart and Garrahan in their study of Nissan, UK, in which they leave the impression that total quality management (TQM) is predominantly a way for management to get workers to regulate one another. In their words, it gives, “the autocratic internal regime a spurious air of employee participation and control in work” wherein workers become the agents of their own subordination.

The promotion and facilitation of TQM was apparent at HCM from day one. Speaking on quality, former VP Arnold Norris stated: “We ask our people when they are finished their process: is that product good enough that you want to put your family into it?... If it’s not, don’t expect us to give it to someone else’s family”. In 1990, banners on walls expressed slogans created by associates in corporate slogan contests, such as “Honda, The Art of Quality” and “A Safe Efficient Operation Builds Our Future”.⁸³ Ten years later, HCM president Masharu Hinayu reminded associates that: “We must all accept responsibility for our role in making our operation successful, and accept the challenge of striving for continuous improvement as we move forward.”⁸⁴ These communications imply that all participants are expected to carry out product quality and safety responsibilities and that by doing so, are empowered to determine the success of the operation. HCM reaffirms the importance of quality by providing material rewards; for instance, associates might receive bonuses if their products get a gold standard in JD Power & Associate studies. Concern for quality and its connection to sales and job security was expressed by several participants, and one who states:

I have saved the company lots. But, some of the stuff I’ve done has helped me keep my job-if you want to look at it that way-cause if you all put in we all get little bit out of it, that’s the kind of mindset they put into us.... if I buy a brand new car, and its missing a part, and my feet get soaked for no reason, the dealer is going to be pissed, and it comes back to Honda...that’s the way they sell it- your looking out for one another...the last thing you want is an unsatisfied customer, and *they sell that hard* cause if the quality of our car became less than what people expect, we wouldn’t have jobs, cause people who buy Honda expect quality.⁸⁵

On their own, the promotion of quality control and safety are seemingly neutral-even commendable goals-yet when mentioned in conjunction with the operations success, or, ‘Our Future’, they become underhanded threats. In other words, ‘if our quality declines, the plant is going down’. Management repeatedly reiterates the importance of quality in presentations of quality statistics at weekly department wide and monthly plant-wide meetings.

Like some of the critical scholarship, I found that TQM and the culture promoted in connection with it have negative outcomes for workers under the team model. The devolution of responsibility for quality and safety, and the manner in which HCM connects these to associate’s job security, constructs an environment where workers are encouraged to scrutinize their co-workers conduct, under the pretence that they are ‘looking out for one another’. The team is the level at which this peer pressure operates. Under the team concept with job rotation, one day you might be up line from a particular team member and the next day down the line, which means that team members will be able to keep track of how other team members’ fare with each job. One participant noted the positive side of this arrangement: people like the chance to mingle with other employees, “you’re not stuck with the same person all the time”.⁸⁶ But meanwhile, teammates are expected to treat each other like customers; you could be called on to account for having passed on an inferior product, which might lead to hostility towards team members that are not perceived as doing their part to maintain quality. HCM interviewees did

not refer to any specific instances of how inferior performance in quality control aroused open hostility in the team, but one mentioned that those responsible for quality problems are embarrassed at team meetings when the issue is announced. Perhaps the importance of maintaining quality was so ingrained in associates and the mechanisms of surveillance so complete that associates made sure their job was done correctly every time. Even if defects leave a zone or the plant, the vehicle identification number and information digitally recorded with it can specify when a vehicle left a particular zone, and when this information is combined with the TL's record of who was one each job every day, the associate responsible for the defect can be pin pointed. In other words, a surveillance system is in place that makes it less attractive to shirk on ones' responsibility for quality control.

At KTH, a Japanese owned Honda supplier that also operates using the team concept, devolution of quality control fomented opportunities for hostility amidst the team. When forklift operators carry part racks without the stops in place, parts could be projected from the rack if they make a sharp turn. Responsibility for the pins became an opportunity for compromising other team members' work:

This woman people didn't particularly like-people suggested she went around taking out pins off the people she didn't like and then people would in turn say I am going to take a pin from hers'-and you can't watch it, you can't watch the bin because your trees-its full, its done, you are just trying to get as many done in the two hours.⁸⁷

In this case, responsibility for placing the pins became an opportunity for aggravating relations that were already on unfriendly terms. If one employee was exclusively responsible for placing the pins, associates would not have to deflect responsibility onto team members already out of favour. At HCM, job rotation and total quality management also constructed opportunities to aggravate disputes between team members. If you get into a fight with someone while working in AF they could compromise your work by undoing things that you have attached.⁸⁸ This kind of retribution could be returned after the rotation changes.

Tensions within the team were certainly evident with respect to maintaining production quotas and responsibility for safety. Under the team model, workers are ready to replace one another on a job if an associate goes to the bathroom or is absent. Some participants expressed annoyance with associates who go to the washroom too often or phone in sick too much, because they have to 'pick up the slack' or cover for them. Meanwhile, the promotion of employee empowerment with respect to safety becomes another opportunity to aggravate team relationships. Associates at the opening of HCM were constantly reminded that "There Can Be No Production Without Safety", and were expected to be concerned with their co-worker's conduct:

They would have monthly meetings, and the vice president would stand on the stairs, we would get these messages that it was your responsibility to make sure everyone is wearing their safety glasses. And so some of us believed it, so some of us were walking around telling people, 'hey, you better put your safety glasses on'- *you think that didn't make us unpopular?*⁸⁹

One individual who was recently transferred to a new team became unwelcome as a result of his perceived inadequacies:

These individuals were harassing me, one guy, he concerned himself with the amount of overtime I was doing, and how often I was going to the washroom. It was really that bad. It is of no relevance to me how much overtime you are doing...they were scrutinizing the way I did my job.

Saying I was unsafe. One example is there are these Teflon sleeves you have to wear, you pull them on top. I was wearing them underneath my uniform, this guy came up to me and says, 'you are a fucking freak you can't wear {}', I turned around and said, 'pardon me, who do you think you are talking to', he says, 'you should know better ... put your sleeves on god damn it', he was swearing and carrying on, I said, 'these sleeves'⁹⁰

In this environment, it is as if a team member is simultaneously a co-worker and supervisor. Another HCM associate recalled how he and his co-workers did not follow the safety standards set up by a new team leader, but he was singled out and reprimanded after a team member "squealed" on him. These examples illustrate how in the team model, workers easily develop antagonistic relationships between each other under the pretence of employee participation in safety. They suggest that the team model of work organization foments more alienating relations between workers.

Repetitive Stress Injury and the Stressed Team?

The conduct of the team with respect to injured workers is also indicative of the latent role of peer pressure in this form of organizing work. While HCM covers the basics in respect to health and safety, their organization of production work inevitably leads to repetitive stress injuries (RSI) such as tendonitis and carpal tunnel syndrome.⁹¹ By themselves, the effort exerted and the awkward motions required to complete a process do not lead to injuries, but awkward movements that require significant force, and which are repeated minute after minute every day create the conditions for RSI. The same issue has been documented at other Japanese transplants. At Subaru, Graham witnessed how, at one point, seven of the twelve members of her team suffered from hand or wrist injuries. The company's rhetoric prioritized safety but as no jobs were redesigned to be less stressful, workers' shop floor experience revealed the emptiness of this philosophy.⁹² HCM employees are of the view that Honda prioritizes production over the creation of ergonomically sound jobs. Work in the assembly frame department is notorious for leading to repetitive stress injury. One assembly worker reported that in one day all twelve people in their zone went for a physiotherapy appointment at some point. After beginning work in AF, a new employee was asked by a co-worker if their hands were waking them up at night. Soon enough, this individual experienced problems- they described their injured fingers as "Oktoberfest sausages that were ready to split."⁹³ One noted that rotating jobs and moving to different departments would 'equally wear out' your body, and thereby the best way to maintain ones' overall health!⁹⁴

HCM acknowledges these risks. For instance, individuals are told in orientation that the number one injury at Honda is repetitive strain in hands and wrists.⁹⁵ HCM has a full time ergonomics associate who checks over stations, but one participant noted that management is more apt to wait for a model changeover to consider redesigning a problematic workstation. "They just make us put up with it for four years."⁹⁶ Safety Kaizens are supposed to be an opportunity for associates to create less stressful work, but associates noted monetary considerations trump ergonomics: "It has to be cost down. Let's say to implement it will cost a great deal of money and there will be little benefit. So what if it saves your back, they have a dozen people lined up at the door."⁹⁷

The intrinsic health risks stemming from the organization of work is common knowledge in the plant. An employee in training was told: "if you are still here in thirty years, and you are going to retire out of here, and if you make it that long, just leave here and check yourself into a nursing home, cause everything you have on your body is going to be wore out."⁹⁸ Under these work conditions, it is not surprising that drinking was described as 'self-medicating': "when you get home on a Friday everything hurts".⁹⁹ One new employee was told by a co-worker that, "if

you are not an alcoholic or drug addict by the time you get here you will be by the time you leave.”¹⁰⁰ While HCM prohibits employees from drinking or smoking pot on the job, they apparently turn a blind eye to people who are "popping pain pills like candy."¹⁰¹

Model changeover can be an opportunity to either improve or ignore ergonomic concerns. At the Toyota-GM NUMMI plant, repetitive stress injuries spiked after the introduction of a new model in 1993'. Workers were not permitted to rotate jobs until full production was reached, and because the injuries led to increased absenteeism, cross training was further delayed, thus compounding the problem. When injured workers were allowed leave or provided modified duties, other workers were exposed to the physically stressing processes. At Toyota Kentucky the same problem existed as Besser who noted that demoralization increased as the most skilled workers had to take more responsibility in either completing the more difficult tasks, or training new workers.¹⁰² The same scenario has played out at different times and in various departments at HCM. One participant noted how half their team was on modified duties and could not do the full rotation, resulting in less rotation for all team members. In a zone where they should be doing eight jobs each, they only rotated four: "the system is failing right now, we got too many people on modifications."¹⁰³ Another participant noted that a combination of people on modified and less trained contract workers resulted in a limited rotation of four jobs. Interestingly, these individuals did not resent those on modified or the contractors: it is as if modified duties are becoming the norm amongst many teams that many associates are co pathetic to their presence and the corresponding limitations it means for the rotation.

The Team versus the Injured: 'Worker Units' at HCM

The experiences of some injured workers interviewed explicitly illustrate how the team can operate as a mode of regulation. Some participants experienced intense hostility from co-workers once injured, and felt cast aside like a "worker unit" that was simply defective and needed to be replaced. One participant who worked as a student voiced the kind of distrust towards injured workers that might lead to hostility towards them: "There were some people who didn't want to work but couldn't afford not to who were trying to get hurt on the job so they could go on comp."¹⁰⁴ However, management has orchestrated the development of resentment towards injured workers via the team. After a model changeover, one department ceased rotation and after nine months, one participant developed severe tendonitis:

They had him come into work, and sit there in the office in front of-the office is glass windowed-so all the employees, all your co-workers... that are out there working on the line and sweating, are walking by you everyday seeing you sitting there doing nothing, and then it creates animosity between your co-workers-and people that used to be your friends, going, 'well what's that guy sitting there doing nothing'....they start putting this wedge in your relationship with your co-workers.... and they use the team concept very well in that, because what they do is they leave the team shorthanded, so your sitting in the office so your teams all mad cause they have to pick up the slack doing the extra work cause your not helping, so they all turn against you.¹⁰⁵

This individual was further ostracized by former peers in his team who began to call him a "safety fag" after he went on modified duties. It is easy to see how a lean approach to staffing can produce great hostility towards injured workers. Since 1998', contractors have been brought in to keep the teams fully staffed, but even with their presence, some teams still shun injured workers:

I had an injury, and when you are injured, nobody from your team calls you. Nothing, I never spoke to a single person from my team. No one checks up to make sure how you are coming along. In the whole time going to physio, nobody checks up on you. You're assessed, they say how long they think you'll have to be there.... One person in HR coordinates that. After that, you are completely on your own. How does that make you feel like anymore than a badge number? It doesn't.¹⁰⁶

The dissatisfaction this injured worker expressed as a result of being neglected by their team suggests that the relations with their co-workers was congenial before the injury. The above two injured workers are no longer employed at HCM, but it is important to contrast their experience with the perspective of presently employed associates. Once injured, the former associates felt greater alienation from their team either in the form of isolation or hostility, yet the present Honda employees expressed little ridicule or resentment towards workers on modified duties in their team. This does not mean the injured workers are exaggerating or misconstruing their experience. Present associates I interviewed did not harbour negative feelings towards injured workers because the majority of them had sustained injuries at some time, and so unlike the student interviewee, they took their co-workers' condition more seriously. The above instances of how the team ostracizes injured workers are legitimate examples of how the team model of work organization operates using peer pressure as a mode of regulation.

Precarious Work at HCM

Temporary associates are employed in a number of departments at HCM, and their tenuous status within the teams produces even more tensions between workers under the team model. The employment relationship permitted through the use of temporary workers dovetails with the lean production model. Temporary employees are usually not awarded the same wages and benefits as their full-time counterparts, and since they are not guaranteed full-time hours, their hours can be scheduled to meet demand.¹⁰⁷ Mangum et al. argue that the use of temporary workers is a result of businesses utilization of a segmented or "dual internal labour market". In this model, a core-periphery relationship is established between a core group of workers who experience job security, career ladders, and fringe benefits, and a peripheral group of workers who have few benefits, lower wages, and little security.¹⁰⁸

The utilization of temporary workers during periods of increased product demand would be crucial in a JIT operation in order to keep labour costs down. A Japanese auto-supplier in the US reported that their commitment to avoiding lay-offs was their reason for hiring temporaries. They reported that about 10% of their workforce had to be composed of temporaries to protect regular employees from lay-off; however, around 25 percent of their workforce was temporary at the time of the study.¹⁰⁹ Honda's commitment to avoiding lay-offs is surely one of their primary motives for using temporary workers. Vaughn Hibbits, Vice-President of Administration for Honda, bragged about their personnel policy: "when times get tough, we have not laid people off. We have not transferred our costs to the taxpayer".¹¹⁰ Whether Honda actually lives up to this goal was questioned by one temporary associate interviewee: "these Japanese big companies pride themselves that they never have a lay off, but they do, they let all their Manpower staff go. It is....Semantics"¹¹¹

The temporary employment relationship also dovetails well with lean production with respect to work organization because it permits more extensive screening functions: it is easier to replace a temporary worker that does not fit the team model than to fire a permanent employee. Japanese auto-suppliers in the US report recruiting exclusively through temporary agencies; supervisors reported that

screening potential workers through a temporary agency reduced 'hiring risks'.¹¹² This screening role is permitted because of the unique status of temporary help agencies. These 'agencies' are simultaneously an employer and a labour market intermediary. They sell the services of their employees to client companies, pay them wages and in some cases benefits, while the client company supervises the temporary worker.¹¹³ It is a legally ambiguous relationship where the client company can dismiss a temporary worker without any responsibility for providing a 'just cause'.¹¹⁴ They are basically an 'at will' employee; their job can be arbitrarily ended with little recourse.

Under the team model, this two tier system of employment is producing more alienating and stressful social relations between production workers. Temporary workers often perform the same jobs as their full time counterparts under the team model, yet without the same employment security, their experience will include heightened concern for their vulnerability, resulting in more stressful work. Their secondary status is frustrating and demeaning: they receive less remuneration, recognition, and rights as regular employees. To the regular employee, the temporary worker represents both an assurance and threat to their job security; in the event of lay-offs, temporaries are the first to go, but in the mean time, temporary associates compete with regular staff for overtime, access to less strenuous jobs, and serve as constant reminder that they are easily replaceable.

Temporary workers join teams at HCM and its suppliers where supervisors can directly assess whether the worker has the desirable "team" oriented work ethic. HCM utilizes both 'direct hire' temporaries and temporary agency employees. Manpower and other temp agencies provide a just in time staff responsible for jobs not usually assigned to regular team members: "They do the most menial tasks you could think of. They used to give them to injured full timers."¹¹⁵ Meanwhile, 'contract' staff sign an initial three month contract where they acknowledge the limited duration of their employment and substandard wages and benefits in relation to regular HCM staff. Full time staff makes approximately \$30 an hour, contract staff around \$20, and temporary agency employees \$10. Full time staff have extended benefits, a retirement plan, the right to modified duties, while 'contractors' have limited benefits, a few days vacation, and only a couple weeks of modified duties. Unlike temporary agency workers, 'contract' staff are trained on the same processes as HCM staff, and eventually are expected to rotate amongst the different jobs the team is responsible for.

The employment relationship between HCM and its 'contractor' is ambiguous and continually evolving. Contractors have challenged the discriminatory wage and benefits awarded to this segment of workers, who, for all intents and purposes are employees of Honda. HCM recruits, trains, and oversees these workers. Nonetheless, the signing of this 'contract' signifies in the temporary worker their secondary status. Team leaders treatment of these temporary workers reinforces their inferior status: "I have heard Team leaders tell contractors on more than one occasion, 'you are a contractor, if you want to get hired full time, you will do this,' ...By the time they got to that threatening stage, you know his job's done, you know he's not coming back, there's tons of people lined up at the door. You got to be a push over [to get hired]."¹¹⁶ Team leaders are reported to favor contractors for overtime because they cost less. Another full time participant recalled the dilemma faced by contractors:

It's kind of unfair, at Honda, it was not said but it was known that as a contractor, if you say no to overtime, you will not be getting a full time job there. *They worked those people.* They were expected to come in for the other shifts overtime as well, not just their shifts. So there is an hour and half between shifts, 3-4:30, if we worked until 3, then they expect you to stay till 3:30, and you did half hour, and the they would say to those people, 'you can stay and work the other shift, they are coming in at four',

they would pay them from 3:30 to four, to sit there and wait. They are kind of giving them that incentive, of being paid for that half hour break but also, they are kind of forced because if you don't stay for the other shift's overtime before shift, you are your lessening your chance of job each time you say no.¹¹⁷

The combination of incentives and deterrents available to these temporary workers create tough choices: on the one hand, the promise of regular employment with pay and benefits that exceed that offered by most employers in the area encourage contractors to be pliant and eager to please their team leader. One participant aptly summarized their situation, "it's that carrot, 'do all the overtime and we might' [hire you]". At the same time, this participant noted how many contractors become demoralized as they watch others finish their contract without attaining regular employment. As this happens the reality of the promise is undermined, contractors lose faith in the relationship, and they just 'put in their time'. For contract associates who establish this instrumental attitude, the work becomes less stressful because they are not as worried about whether their job performance, and readiness to make contributions are being recognized by their TL.

The uneven distribution of contractors across departments in the plant is also indicative of their secondary status: they are in the least preferred jobs. In one Weld zone, a participant noted that the vast majority of associates were contractors, while in AF approximately 40% of associates were reported to be contractors.¹¹⁸ Contractors are also in the Paint, with the exception of main and final repair, while in Vehicle quality there was reported to be no contractors. I was not able to interview any 'contract' associates, but full time associates reported some of the tensions that arise from their presence. While most interviewees sympathized for their precarious situation, one participant expressed ambivalence when noting that there have been fist fights between full-time and contract staff: some contractors try to "push full-timers buttons" while some are quiet.¹¹⁹ It is evident that some contractors are ready to antagonize their relations with full time associates, and vice versa. A full time associate could be bothered by the contractor who gets to work an easier process, is chosen over them for overtime, or is always making mistakes that they have to fix. For the contractor, their work in the team is under constant scrutiny by more trained full time associates, and because of their precarious status, every mistake they make could have more consequences.

Temporary Workers at Suppliers

The experience of temporary workers at HCM suppliers also suggests how a two-tier system of employment under the team model results in more stressful work. The three temporary associates interviewed worked at two Japanese owned HCM suppliers, F&P and KTH. Unlike HCM, KTH Shelburne exclusively utilizes agency temporaries who make \$10 to \$11 dollars an hour in contrast to full time staff that make \$16 to \$22.¹²⁰ KTH is a satellite company formed by Honda in the U.S., and its Shelburne site produces frame parts exclusively for HCM.¹²¹ KTH primarily recruits through Adecco and other temporary agencies. While other auto-manufacturers across the province lay off workers, these agencies are always looking for more: a recent Adecco Employment Services ad reads that it "has partnered with an automotive company in Shelburne to fill 21 immediate openings."¹²² Adecco is now the world's largest temporary employment agency. It portrays itself as a neutral agent that facilitates and reconciles the interests of workers and employers, as seen by their senior vice president's comment: "Get in there and let them get to know you... Taking temporary or part-time positions are proving to be ideal ways to get to know a company and sell them your abilities".¹²³ The employment relationship constructed in this arrangement has been deemed 'triangular': Adecco notifies their

employees of KTH's basic safety protocols, while TL's at KTH provide the on the job training and assessment of job performance.

The nature of work at KTH and at F&P weld department is similar to the welding shop at HCM.¹²⁴ Like their counterparts at HCM, temporary associates at these suppliers noted it was 'shitty' and 'mind-numbing' work, but unlike HCM associates, they commonly discussed how they did not receive proper training. All the temporary interviewees recall how they could not differentiate between parts for different models: "all the parts looked similar but were for completely different models."¹²⁵ Another temporary associate at F&P stated how they were not involved in making any continuous improvement suggestions because, "A lot of their concerns I did not understand anyway cause I did not know the terms for the parts, which machines they'd be talking about, or the welders. So I was kind of in the dark."¹²⁶ Temporary associates reported difficulty conducting any of the limited maintenance roles their full time counterparts were responsible for, with the exception that they could change tips on weld robots. Full-timers replace tubes that carry water to the tips, and temporary participants reported seeking full time associates' help in order to reset the robot in their process. The frustration expressed by participants as a result of their lack of training suggests that their work environment was not congenial to their adaptation to the job.

The frustration over workload experienced by full time staff responsible for helping temporary associates was explicit at F&P Manufacturing where the regular staff was reported to be dissatisfied with the companies recruitment practices. F&P is a Japanese owned supplier of Civic sub-frames to HCM, and it exclusively recruits through U.S. based temporary agency, Manpower and Adecco. Manpower has a full time office at F&P and there are approximately one hundred fifty temporary associates of a total workforce of seven hundred. A TL at F&P complained that 'temporary associates' are turning over so fast they are training all the time, some temporary associates leave half way through a shift on some of the menial jobs allotted to them. The utilization of temporary associates at this supplier is becoming a permanent part of their employment practices, the company apparently has no commitment to hire more full-time staff: "they haven't hired in two years." TLs' and full time associates' workloads are increased as they constantly train new people, creating opportunities for their frustration to be directed against the temporary associates who are perceived as unreliable. While many full time staff rightfully attributed the source of this problem in the company's recruitment policies, on the shop-floor this frustration can be readily displaced onto the temporary associates.

For retirees, students, and other workers looking for truly temporary work, carrying out off-line tasks is not as stressful as someone looking for full-time work and who is performing the same jobs as full time staff. Some jobs allotted to temporaries, such as stocking parts bins that directly feed the cells, permitted a degree of discretion and forethought. Training for this job could take several days, as one would have to learn the codes and locations of the different kinds of parts. Interviewees responded that bin stocking was more interesting than other jobs, you had to "keep alert physically and mentally and keep ahead."¹²⁷ Off line jobs also provided a variation in pace: a temporary worker noted how banging parts together allowed them to get ahead so they could work on a spot welder, suggesting that they could moderately control their pace. Even so, the lack of complexity was still alienating, and this kind of assignment reaffirmed the temporary associate's inferior position vis a vis the team: "it was boring, and it was strenuous, repetitive, and it's hard to feel part of the process when all you do is bang a couple pieces together and put them in a cart."¹²⁸ The alienation stemming from this off line job was two faced: the temporary associate is given a menial task and is physically segregated from the team's work.

By contrast, for those temporaries in the team, their work is more alienating because the regimented pace of the welding cell line and standardized manner in which they carry out their work. Moreover, the sanctions that accompany every

mistake or slack in pace on a welding process that jeopardizes the teams' quality and production rate are more severe for the temporary. It might arouse the antagonism of a full time team member, or become a reason for the TL to not ask them back. Full time associates have the companies' 'progressive discipline' policy, whereas the temporary worker is under the arbitrary whim of a TL. At F&P, TLs have to initially request an agency worker back to their section on a weekly basis; at the end of every week, the temporary agency worker waits for that phone call to let them know if they will be back. Many temporaries are simply passed on from department to department by different TL's until eventually the agency reassigns them out of the operation. The outcome of this fragile employment relation for the temporary in the team is that every lapse in job performance carries greater consequences, which means that their experience as a temporary on the team will be more alienating and stressful.

In addition to frustration with the lack of training, and the menial tasks allotted to them, temporary associates also reported demeaning experiences as a consequence of their secondary status. In spite of egalitarian underpinnings of the team concept, temporary workers faced an environment where they were clearly not equals. One illustration of this is found at F& P. Sparks fly everywhere from the welding cells, and to prevent the damage of uniforms, they are washed in fire retardants, and many employees experience hives as a result:

The night we had the discussion about fire retardants in the uniform, there was two full time ladies, I was the only temp, and [the supervisor] would not acknowledge me whatsoever when I said I was getting rashes too....It was like he didn't see me-I was really ticked that night-because I got hives just the same.... When the temp said something-it's nothing.¹²⁹

At this operation the secondary status of temporary associates manifests itself in the locker room where they are provided a small locker that can only fit a gym bag, in contrast to full timers who receive a half locker. Temporary associates' identification with the company team is diminished as a result of their substandard wages and benefits. At KTH during a plant wide meeting, one temporary associate reported the estrangement from company team, "a lot of us are temps just sitting there as the full time employees get year end bonuses or increases in benefits, while we just sit there and umm-we get none of this."¹³⁰ Like their counterparts at HCM, some temporary workers at KTH recognize that the company does not play fair and live up to its promise to recruit even the most dedicated agency workers:

This one women, she had been there a year, and she started getting interviews-apparently the interview process is that you get three interviews, and if you are not called back, you cannot work there as a temp anymore, and your not full time. And she did one of the hardest jobs, and everyone around her was like, 'that job is hard, and she just keeps doing it'. And then they dismissed her....she was upset, because she had been laid off and when asked why, Adecco was like, that is something KTH told us to too do and when she asked KTH, they said that is something we don't have to disclose to you. So after working there for a year, working six days a week in physically demanding labour, just to be dismissed as if nothing-and they do tell you-'work hard, do overtime, and you'll get full time'-but what they don't tell you is that a lot of people do that and they still don't get full time.¹³¹

When this scenario is demonstrated enough, temporary agency workers identification with client company is undermined, and the costs of following through on ones end of the bargain-in the form of overtime-outweigh the benefits. Again, for individuals who recognize this, there is relief from the constant pressure to meet production and

quality standards amongst your team. The experience of temporary workers at the above suppliers parallels the situation faced by 'contract' workers at HCM: they are part of the team with all the responsibilities that entails, yet without equal status, their work experience is more alienating and stressful.

Conclusions

For both regular and temporary associates, production-work under Japanese work-organization results in some of the same alienating working conditions experienced by auto-workers in traditional operations. Associates are responsible for carrying out a limited number of tasks in a prescribed manner, repeated approximately minute after minute. They are using the same equipment and hand tools that autoworkers have been using for at least fifty years, with the exception of weld department where there are robotics. Even with a limited amount of job rotation, associates comments regarding their work echoed the statements made by autoworkers since the inception of Ford's assembly line: the work was mind-numbing, and that they were simply there for a pay-cheque. Their accounts also shared the spirit of a Honda employee in Ohio who stated, "If it doesn't get you physically, it will mentally sooner or later."¹³² Moreover, workers explicitly reported that job rotation was merely a way to save parts of your body from wearing out, not a means to expand skills.

With that said, the formal mechanism for encouraging and administering employee participation, the REACH program, permits more positive work experiences. HCM's implementation of the Kaizen philosophy is facilitating limited instances of the reunification of mental and manual labour. Through 'kaizen', and some 'safety' reports, HCM associates can use their innate ability to conceptualize new devices and procedures to make their job either faster, safer, or both. Even if the day-to-day work is still a physically demanding, 'nuts and bolts' kind of job, associates reported increased job satisfaction and pride in making visible changes to the workplace, especially changes that made a job safer and easier.

However, associates identification with the program was tenuous. They highlighted the arbitrary manner the REACH program is often administered, and how only suggestions that were a 'cost down' were readily considered. While successful participation does lead to more job satisfaction, such moments seem to be the exception rather than the rule. Only a small minority of associates have made enough suggestions to attain any significant rewards. Given the arbitrary way the program can be administered, and the unlikelihood of one ever accumulating enough points for significant rewards, many have lost faith in it. The case of the REACH program demonstrates the limitations of such employee participation schemes in making a workplace seem more democratic. More senior workers realize that the company is seeking only certain kinds of suggestions, such as ones that make a process more efficient, or ones that save money through reduction of materials, and will learn to discriminate between making suggestions that will be beneficial to themselves, the company, or both. Without this nuanced and worker centred orientation to the REACH program, Kaizen contributions that increased standardization and speed up would amount to workers intensifying their own exploitation.

What is especially different about this workplace in comparison to traditional operations is the kind of relations constructed through teamwork and the culture generated by total quality management. Under the pretence that workers are looking out for the operation, and therefore their jobs, workers are ready to supervise and report on one another if they are perceived as not doing what's expected of them. While the operation of peer pressure was not explicit with respect to quality, it was apparent around other issues such as production, safety, and injured workers. Team members that were perceived as working unsafely or who were taking an unnecessary amount of bathroom breaks or time off were shunned by their

teammates. Injured workers were especially ostracized if their teammates had to carry on short staffed. Perhaps the reason quality performance is not a thorn of contention amongst the team is because associates always make sure they complete their job properly. If one lets mistakes leave their station they can provoke the temper of a team mate in the inspection station that has to fix the problem, and even if it leaves their team, associates know there is an effective surveillance system in place that keeps track of those responsible. Nonetheless, interviewees' account of disputes amidst the team suggests that TQM and the team model are constructing greater hostility amongst production workers.

Lastly, a secondary conclusion with respect to the team model was made after observing the significant role of temporary workers at HCM and their suppliers. It seems as if the alienating relations constructed through teamwork might be more pronounced for temporary associates as a result of their lack of employment security. At HCM and its suppliers temporary associates perform the same jobs as their regular counterparts yet because their employment is less secure every mistake they make or falling out with the team carries more weight. While the evidence demonstrating animosity within the team between temporaries and full-timers was limited, the temporary associates interviewed did reflect on the frustrations they experienced with their unequal status and lack of training, which implies that their tenuous position within the team was making the job more stressful. The anxiety one might experience finding a job was ever present for these temporaries because the HCM and their suppliers are not under any obligation to maintain their employment.

In summary, if the Japanese model is minutely alleviating workers alienation from their labour through Kaizen practices, these benefits are overshadowed by the greater alienation they experience from their co-workers. It is almost as if the social relations under the team model are approaching the highly alienating state that Marx envisioned when he noted that capitalism would continually break down the traditional ties that bonded people together, leaving them as atomized individuals competing in the labour market. The team model at HCM accentuates this atomization by permitting greater inter-worker tensions and competition on the line, at the point of production.

Notes

¹ John Holmes, "Industrial Restructuring In A Period of Crisis: An Analysis of The Canadian Automobile Industry, 1973-1983", *Antipode*, 20: 1, 1988.

² Paul S. Adler and Robert E. Cole, "Designed for Learning: A tale of Two Auto Plants", *Sloan Management Review*, 1993.

³ Laurie Graham, *On the line at Subaru-Isuzu: The Japanese Model and the American Worker*, (Cornell University Press, 1995).

⁴ James P. Womack., Daniel T. Jones, Daniel Roos. *The machine that changed the world: how Japan's secret weapon in the global auto wars will revolutionize western industry*. (New York, NY: Harper Perennial) 1991.

⁵ John Holmes and Pradeep Kumar, "Canada: Continuity and Change", *After Lean Production: Evolving Employment Practices In the World Auto-Industry*, Eds., Thomas Kochan, Russell D. Lansbury and John Paul MacDuffe, (Cornell University Press, 1997). Pg 96. The market share of Japanese transplants in North America was less than 1 percent in 1987, and grew to 11 percent in 1994.

⁶ "Catching, keeping customers: What's the Secret?; Cadillac and Honda have figured out how to do both", *Automotive News*, August 16, 2004. pg 14. Lindsey Chappell, "How did 1 investment pay? Let us count the ways", *Automotive News*, Nov 11, 2002. pg 18.

⁷ Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*, (New York: Monthly Review Press, 1974) pg 47-50.

⁸ Braverman, 1974.

⁹ Braverman, 1974

¹⁰ Womack et al. 1991. Womack et al suggest the interchangeability of parts and the fragmentation of tasks was key to Fords new production system they were the necessary preconditions for the introduction of the moving assembly line. Also see David Gartman, *Auto Slavery: The Labor Process in the American Automobile Industry, 1897-1950*, (London: Rutgers University Press) 1986.

¹¹ Robert Blauner, *Alienation and Freedom: The Factory Worker and His Industry*, (Chicago: University of Chicago Press, 1964). pg 5

¹² Blauner, 1964.

¹³ Blauner, 1964.

¹⁴ Blauner, 1964.

¹⁵ Blauner, 1964.

¹⁶ Blauner, 1964.

¹⁷ Womack, 1991. Ohno had observed production in Ford plants and decided that their methods would not be adequate for Toyota. In Detroit, massive stamping

presses specialized in producing thousands of one particular part, where as Ohno knew Toyota needed something less capital intensive that could be utilized for smaller batches of a variety of parts. See Mike Rawlinson and Peter Wells. "Taylorism, Lean Production and the Automotive Industry", *Beyond Japanese Management: The End of Modern Times?*, ed Paul Stewart, (Frank Cass and Company Limited, 1996). Pg 189.

¹⁸ Womack, 1991

¹⁹ Martin Kenney and Richard Florida, "Transplanted Organizations: The Transfer of Japanese Industrial Organization to the U.S.", *American Sociological Review*, 56:3, 1991. pg 385.

²⁰ Womack, 1991

²¹ Womack, 1991

²² Martin Kenney and Richard Florida, 1991.

²³ Christian Berggren, *Alternatives to Lean Production: Work Organization in the Swedish Auto Industry*, (NY: ILR Press, 1992).

²⁴ Terry L. Besser, *Team Toyota: Transplanting the Toyota Culture to the Camry Plant in Kentucky* (State University of New York Press, Albany, 1996). Pg 25.

²⁵ Paul Stewart and Philip Garrahan. *The Nissan Enigma: Flexibility at Work in a Local Economy*. London: Mansell. 1992. pg 61.

²⁶ Berggren, 1992.

²⁷ Mike Parker and Jane Slaughter, "Management by Stress", *Technology Review*, October 1988.

²⁸ Knuth Dohse, Ulrich Jurgens, and Thomas Malsch, "From 'Fordism' to 'Toyotism'? The Social Organization of the Labor Process in the Japanese Automobile Industry", *Politics & Society*, Vol. 74.

²⁹ Berggren, 1992

³⁰ Graham, 1995

³² Mike Parker and Jane Slaughter, "Management by Stress", *Technology Review*, October 1988.

³³ Wayne Lewchuk and David Robertson, *Beyond Japanese Management: The End of Modern Times?*, ed Paul Stewart, (Frank Cass and Company Limited, 1996) Pg 67. Workers in lean operations were 20% more likely to report increased tension than workers from traditional operations. Also, they were 25 % and 30% more likely to report increased workload and work pace respectively than workers in Fordist plants.

Another Study using quantitative methods found that the introduction of lean production methods resulted in less job autonomy, skill utilization, and greater job depression for assembly workers. Sharon K. Parker, "Longitudinal Effects of Lean Production on Employee Outcomes and the Mediating Role of Work Characteristics", *Journal of Applied Psychology*, 2003, Vol. 88. No. 4. pg 620-634.

³⁴ Lewchuk and Robertson, 1996.

³⁵ G. Sewell and B. Wilkinson, "Someone to Watch Over Me: Surveillance Discipline and the Just in Time Labour Process" *Sociology*, 1992, vol 26. 2. At "Kay" electronics, they observed how an electronic test on the final product could instantly identify any defect and trace it to the person responsible, making operators aware that their work is subject to constant scrutiny. A normative sanction in the form of a 'black' mark was placed above the station of the operator responsible

³⁶ Mike Webb and Gerry Palmer, "Evading Surveillance and Making Time: an Ethnographic View of the Japanese Factory Floor in Britain", *British Journal of Industrial Relations*, 36: 4, December, 1998. pg 617

³⁷ For example, the buyer supplier relationship conditioned resistance: mislabeling defective parts could be done without recourse as a result of a history of poor quality parts with certain suppliers

³⁸ Knuth Dohse, Ulrich Jurgens, and Thomas Malsch, "From 'Fordism' to 'Toyotism'? The Social Organization of the Labor Process in the Japanese Automobile Industry", *Politics & Society*, Vol. 74. pg 132. What is especially important in their perspective is how they draw a connection between the lack of independent forums for Japanese workers to express their collective interests and the peer group pressure.

³⁹ Kenney and Florida, 1991.

⁴⁰ Besser, 1996. A group leader stated that, "90 percent of the emphasis of what was done [under kaizen practices] came from me as well as the majority of the ideas for what to do. I think only the group leader is really in a position to see the big picture as far as the group goes."

⁴¹ Paul Stewart and Philip Garrahan. *The Nissan Enigma: Flexibility at Work in a Local Economy*. London: Mansell. 1992.

⁴² Stewart, 1992

⁴³ Stewart, 1992.

⁴⁴ Stewart, 1992.

⁴⁵ Graham, 1995.

⁴⁶ Stewart, 1992.

⁴⁷ Ford, Oakville plant could be considered a 'traditional' operation. There is detailed job classification scheme in the collective agreement, and little-if any-job rotation. Questions in this survey could include, 'How often do your co-workers comment on your work? Does it bother you when your co-workers cannot maintain the necessary quality standards? How often is your workload increased because others cannot pull their weight?

⁴⁸ Colin Haslam et. al. "A Fallen Idol? Japanese Management in the 1990's" in ed. Paul Stewart. *Beyond Japanese Management: The End of Modern Times?*, (London: Frank Cass and Company Limited, 1996).

⁴⁹ Holmes, 1988.

⁵⁰ Ernest J. Yanarella and William C. Green, "Canadian Recruitment of East Asian Automobile Transplants: Cultural, Economic, and Political Perspectives", *Canadian Journal of Sociology*. Vol. 18. No. 4. 1993.

⁵¹ Richard Florida and Martin Kenney, *Beyond Mass Production: The Japanese System and its transfer to the U.S.* (Oxford University Press, 1993). In the US where between 1982 and 1992, Japanese automotive investment totalled 8.9 billion

⁵² Yanarella, 1993.

⁵³ Yanarella 1993. Unlike Toyota's recruitment to Cambridge Ontario-which involved an 81 million provincial government incentive package-Honda expected no financial inducements. Nonetheless, Alliston and Tecumseth County did pay an initial 11 million for infrastructure improvements for which they were later reimbursed by the federal government.

⁵⁴ Martin Kenney and Richard Florida, 1993.

⁵⁵ Jim Kenzie and Kelly Toughill, "Ontario builds best Honda: Japanese say", *The Toronto Star*, March 12, 1987. A1.

⁵⁶ Greg Keenan, "Honda betting on speed and efficiency; Believes it can go it alone with high-tech manufacturing and smaller, flexible plants", *The Globe and Mail*, October 10, 2000. B1

⁵⁷ Greg Keenan, "Honda selects Ontario plant for major expansion: 400million deal will create 1,000 jobs", *The Globe and Mail*, December 19, 1995.

Greg Keenan, "New Honda SUV to be made in Canada: Move to bring 300 jobs to Alliston operation", *The Globe and Mail*, May 7, 1999. B3

Greg Keenan, "Honda betting on speed and efficiency; Believes it can go it alone with high-tech manufacturing and smaller, flexible plants", *The Globe and Mail*, October 10, 2000. B1 When Honda announced the introduction of the SUV to plant two in 1999, it also announced plans to build an assembly plant in Alabama using the minivan platform developed for plant two, making it also capable of producing Vans and SUV's.

⁵⁸ Tony Van Alphen, "Honda Canada Alliston plants near capacity" *The Toronto Star*, February 1, 2005. Production peaked in 2004 when 392 528 vehicles were produced.

⁵⁹ Tony Van Alphen, "Honda Celebrates 20 years in Canada", *The Toronto Star*, September 7, 2006.

⁶⁰ Canada News Wire, "Honda's flexible manufacturing allows building Civic and trucks on same assembly line", April 4, 2007.

⁶¹ Ralph Kisiel, "Honda plant becomes a model of flexibility; Alliston Plant 2 line builds Civic, Ridgeline, MDX", *Automotive News*, May 14, 2007. Pg. 30F

⁶² Graham, 1995. The attitude questionnaire in the first phase of the selection process at SIA were clustered around the following: willing to work with others,

concern over product quality, interest in solving problems as a group, attitude towards supervisors, and desire to learn new jobs and skills.

⁶³ James Daw, "Housing poses problem for Honda workers: Long commute to Alliston leads some to seek other jobs", *The Toronto Star*, May 15, 1990. B3.

⁶⁴ Besser, 1996.

⁶⁵ Former Honda Associate # 1.

⁶⁶ Pat Conroy, "Honda Plant inundated by job applicants", *Toronto Star*, November 6, 1997. D 20.

⁶⁷ "On-Line: Honda", A Publication of Honda Canada Inc. November, 1986. Vol 1, No. 1.

⁶⁸ Honda Associate # 2.

⁶⁹ Former Honda Associate # 4.

⁷⁰ Former Honda Associate # 4.

⁷¹ Honda Associate # 6.

⁷² Honda Associate # 2.

⁷³ Honda Associate # 6.

⁷⁴ HCM's progressive discipline policy begins with a 'coach' for a first infraction, then a 'level one' up to a 'level four'. Missing more than your allotted two sick days a month could result in a coach. It takes six months of good attendance and job performance to remove a 'level'. If you get a level one for something you believe should only call for a 'coach', an associate can go to someone in associate services who has access to a database that lists all the kinds of infractions, such as pushing, verbal abuse, sexual harassment, and what level of discipline they received. The idea being that discipline is consistently distributed across the organization, and for similar infractions.

⁷⁵ Former Honda Associate # 4.

⁷⁶ *Honda*, Honda Motor Co. Ltd., Tokyo Japan. Alliston Memorial Branch Library. Dated December 10th, 1984.

⁷⁷ Honda Associate # 1.

⁷⁸ Honda Associate # 5. One successful NH circle was a test to see what kind of substance would be best suitable for cleaning gloves without deteriorating them, and apparently saved the company over a hundred thousand dollars in the first year of implementation. Associates participating in an NH circle are paid one extra hour overtime every week, and if they are successful, they can be sent to an NHC conference that occurs every spring and fall to demonstrate their project to other Honda associates from around the world. Participants in successful NH circles are awarded a minimum of 150 points under the REACH program.

⁷⁹ Honda Associate # 2.

⁸⁰ Honda Associate # 5.

⁸¹ Honda Associate # 5.

⁸² Honda Associate # 6.

⁸³ "Is the Japanese style Management by Stress?" *Toronto Star*, April 1, 1990. D 2.

⁸⁴ *15 years of Production: HONDA, Honda of Canada Mfg.* Alliston Memorial Branch Library. 2001.

⁸⁵ Honda Associate # 6.

⁸⁶ Honda Associate # 1. Although job rotation is beneficial for workers in the sense that it provides slight variation in tasks, it can be used arbitrarily by management to reward their favorites. One TL who was out of favour with management in their department stated: "so I was online doing my job, and I've got my team, we had a good team, job rotation on paper, it was fair for everybody, we rotated on every quarter, and I filled in wherever there was no one, [the new coordinator] came up to me and said I want you to go on break now, it wasn't break time but I went, when I came back, he had changed my whole team around, and put his buddy on the easiest job, the guy that was supposed to be doing that job was on the hardest job, and that was the only time that week he was supposed to be doing that job, and now he's been yanked off it, when I came back to after break, he's...so upset cause [the new coordinator] was really abusive with him, telling him that he was 'no good for nothing', didn't know what he was doing, 'get off that job and go do this one,' and he put his buddy...on the easy job.... I said to him 'you don't understand, we have a rotation, we have a schedule', we got into a big argument, he said he was the boss, I didn't know what I was talking about, how dare I talk back to him." (Former Honda Associate # 1)

Others noted how the informal socializing aspect of the team became too much: "there is this pressure to fit in, this pressure to come out, and the more you say no, the more pressure is put on you. I said I have stuff to do, I am going home to be with my kids or whatever.... this is not what I want, I want my family-then, people hated me, would not speak one word to me, after I decided I wanted out, that I didn't want to be part of the Honda social scene, I just wanted to work and go home." (Former Honda Associate # 2) The pressure to be a 'joiner' and do as the team does outside of work may or may not be a unique feature of this organization of work.

⁸⁷ Temporary Associate # 1.

⁸⁸ Honda Associate # 4. In MS, associates rotate between forklifts and tow motor jobs over the course of a day and if one forgets to recharge tow motor batteries at lunch for instance, the next person who uses it has to replace the batteries and consequently falls behind.

⁸⁹ Former Honda Associate # 1

⁹⁰ Honda Associate # 6.

⁹¹ In addition to implementing basic safety protocols on the shop floor, HCM holds monthly safety meetings involving a lecture for an hour on issues relevant to their employees' safety outside of work, such winter driving, boating safety, motorcycle safety. Sometimes OPP officers are present lectures reminding people not to drink

and drive, and notify them that they will not evade the law by driving on back roads. While these topics seem appear irrelevant-or even patronizing-it must be noted that HCM associates take significant risks outside of the plant to keep their jobs, or receive attendance bonuses. Associates are only permitted two sick days a month, and there is weekly, monthly, and yearly bonuses for perfect attendance-including 'production Saturdays'. After six months perfect attendance for instance, an associate could get an additional two thousand dollars on top of base pay. Participants recalled the significant amount of stress this placed on them. One individual hit a deer near Cookstown on his way to HCM and it hooked onto his rear bumper, he was afraid of losing his attendance bonus and continued on to work with the deer dragging from his vehicle. Some have tried driving in the exit to swipe in on time. Approximately two thirds of Honda employees do not live in the immediate area; associates come from great distances, such as Owen Sound, Walkerton, Lindsay, and risk their lives driving on roads that are closed during winter storms. Unlike other major employers in the area, Honda rarely shuts down due to increment whether. After a major snow storm in 2006, when just half of the employees were able to show up, HCM called off production for the day.

⁹² Graham, 1995.

⁹³ Former Honda Associate # 3. The kinds of injuries varied: constantly leaning over the front of a vehicle to complete a process could lead to back injuries, while constantly working with your arms above your head-such as when using an assist-can make one to susceptible to tendonitis in the shoulder

⁹⁴ Honda Associate # 4.

⁹⁵ Former Honda Associate # 3. While Honda acknowledges these risks, it is uncertain whether they actually take responsibility for dealing with the consequences with respect to injured workers. Some injured workers reported great difficulty getting compensation. One injured worker was told by associate services: "it takes a long time to get workers' comp... 'its really difficult, and I know you need your money right away to pay your bills, if you sign this piece of paper that says it's not work related, you can get your STB [short term disability] benefits today, just sign this piece of paper.'" (Former Honda Associate # 1) Some injured workers face difficulty even getting the company to accept that the injury was attained at HCM: "my wrists are wrote off from pushing pins in. I went, they said-there were five that sat in front of me, two plant safety people, a doctor, a nurse, and three mangers and they said 'we are going to fight this, this is hereditary, there is no way you can claim this for compensation', and they brow beat me for half an hour. And I gave up. It was the first time they made me give up. I wasn't in a position to take on this battle-I didn't think I was." (Honda Associate # 6) It was reported that the company wants people there on average of five years: "I asked a manager about early retirement, 'what are you going to do about early retirement?' he goes 'oh you know people either quit or get fired, termination.' I said 'do you know what you just said to me?' he said 'ya I think so.' He didn't hide it. There was no one else around. I thought, you got to be kidding me, this guy just told me I'm going to have to quit or get fired." (Honda Associate # 6)

⁹⁶ Honda Associate # 4.

⁹⁷ Honda Associate # 6.

⁹⁸ Former Honda Associate # 3.

⁹⁹ Former Honda Associate # 3.

¹⁰⁰ Former Honda Associate # 3.

¹⁰¹ Honda Associate # 4.

¹⁰² Besser, 1996.

¹⁰³ Honda Associate # 1.

¹⁰⁴ Former Honda Associate # 4.

¹⁰⁵ Former Honda Associate # 1. The issue of injured workers weighed heavily in some participants reflections on their experience at HCM: “there’s language that’s unique to Honda, your part of the team, it’s a wonderful place, we’ll take care of you... and for most of us, myself included, I got sucked right into that, Honda became my family, but when you are...[injured] then the family starts to turn on you, there’s that pressure, people are still believing that Honda is this wonderful, amazing place that is my life, and here is a person that says they’re injured and ‘I’m going to make a workers comp’, well then ‘how dare you disgrace the family’, then workers start putting pressure on other workers, ‘your disgracing the family, your putting a black mark on Honda’s name, this is our life and our livelihood, how dare you put in a workers comp claim... how dare you be off sick for three or four days cause you’ve injured yourself’, so you get this pressure from your co-workers, your team, to either conform or quit....most [employees] are of the belief that anyone who got terminated, well it was your own fault., and again, you were completely cut off from the family, if you were terminated by Honda, it didn’t matter whether it was just or not, people working there-‘well it was that persons fault, it had to be that persons fault’. And some are starting to realize that no, that is not the case, Honda is terminating people unjustly. But, so many of us, and I was part of that, for the first couple years I fully believed that anyone who did anything that looked bad for Honda, had to get out of the plant, Honda should fire them, they should be gone, then I ended up on the receiving end of it, you get your eyes opened.” (Former Honda Associate # 1)

¹⁰⁶ Former Honda Associate # 2.

¹⁰⁷ Judith L. MacBride-King, “Contingent Work: Lessons from Individuals and Organizations”, The Conference Board of Canada, 1997.

¹⁰⁸ Mangum, Garth, Donald Mayall, and Kristin Nelson, “The Temporary Help Industry: A Response to the Dual Internal Labor Market”, *Industrial and Labor Relations Review*, Vol. 38. No. 4. 1985. For an understanding of the use of the terms ‘core’ and ‘periphery’ and labour market segmentation theory see, “The Economics of Market Dualism” in P. Phillips and E. Phillips, *Women and Work: Inequality in the Canadian Labour Market*, (James Lorimer and Company, 2000). pg 87-88

¹⁰⁹ Susan Houseman, Arne L. Kalleberg and George A. Erickeck, “The Role of Temporary Agency Employment in Tight Labour Markets”, *Industrial and Labor Relations Review*, Vol. 57. No. 1. Oct. 2003. Meanwhile, the accounting department at the Japanese supplier in this study reported that a five percentage point reduction in the portion of temporaries would increase labour costs by 1 million over a year, suggesting that labour cost advantages is the primary reason for utilizing so many temporaries.

¹¹⁰ Greg Keenan, "Honda, Toyota don't need tariff break: GM Canada Japanese already have cost advantages, president says", *The Globe and Mail*. September 26, 1995.

¹¹¹ Temporary Associate # 2.

¹¹² Susan N. Houseman, Arne L. Kalleberg and George A. Erickeck, 2003.

¹¹³ Garth Mangum, et al., 1985.

¹¹⁴ Leah F. Vosko, *Temporary Work: The Gendered Rise of a Precarious Employment Relationship*, University of Toronto Press, 2000.

¹¹⁵ Honda Associate # 6.

¹¹⁶ Honda Associate # 5.

¹¹⁷ Former Honda Associate # 2.

¹¹⁸ Because this study was conducted in the summer when many full time staff take their vacation time, the reported proportion of contractors may not be representative of HCM's overall utilization of them. It has been estimated that 'contract' workers represent 20-25% percent of HCM's all production employees.

¹¹⁹ Honda Associate # 4.

¹²⁰ Greg Keenan, "Japan units to open 3 Ontario auto parts plants", *The Globe and Mail*. December 13, 1996. B5. Beginning in March 1998, KTH Shelburne Manufacturing Inc. began production with a workforce of 80 people, with employment reaching 250 by 2001. A subsidiary of KTH Parts Industries Inc. of St. Paris, Ohio, the parent companies Hirata Technical Co. ltd and Hongo Co. ltd invested 26.6 million in the operation.

¹²¹ Kenney and Florida, 1993.

¹²² "The Orangeville Banner", April 3, 2007. pg 15. Shelburne Ontario is home to two HCM suppliers, KTH and Setex/JCI. At Magna, the Canada's largest auto sector employer, it has been found at some of their operations that "a large tier of temporary labour...provides Magna with numerical flexibility, and permanent workers with a buffer against layoffs." Wayne Lewchuk and Don Wells, "When Corporations Substitute for Adversarial Unions: Labour Markets and Human Resource Management at Magna", *Relations Industrielles/Industrial Relations*, 2006, Vol. 61, No. 4.

¹²³ Canada NewsWire, "New President for Adecco Employment Services; Founder of Quebec operation to head all of Canada", May 14, 2002.

¹²⁴ Work at KTH and in the weld plant at F&P involves loading metal parts onto a jig and swiping the operator controls that signal the robot to begin its process. Also, a quick inspection of the welds after the robots are finished complete the work cycle of approximately one minute. These jobs take anywhere from a few minutes to a day to learn: learning how to operate a spot welder may take moments, where as learning to properly place several stamped parts onto a jig, in the allotted time, could take a couple hours to a day.

¹²⁵ Temporary Associate # 1.

¹²⁶ Temporary Associate # 3.

¹²⁷ Temporary Associate # 3.

¹²⁸ Temporary Associate # 3.

¹²⁹ Temporary Associate # 2.

¹³⁰ Temporary Associate # 1.

¹³¹ Temporary Associate # 1.

¹³² Berggren, 1992.

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