

Gender and Restructuring: The Experiences of Unionized Women Production Workers with Work Reorganization

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ABSTRACT

The experiences of unionized women in an electronics manufacturing plant with work reorganization and managerial participation programs are explored in this paper. The intersection of gender and class dynamics in the women's responses to participation is discussed with a focus on democracy and empowerment, mental/manual work, and working collectively. The contradictions between the discourse of participation and the experience of lean production are examined.

RÉSUMÉ

Cet article explore les expériences vécues par les travailleuses syndiquées dans une usine de manufacture d'électronique qui a des programmes de réorganisation du travail et de participation des gestionnaires. Le croisement qu'il y a entre les sexes et la dynamique des classes sociales dans les réponses des femmes en ce qui concerne la participation est discuté avec un accent porté sur la démocratie et la capacité d'avoir du pouvoir, le travail mental/manuel, et le travail collectif. Les contradictions entre le discours de la participation et l'expérience de la production à coût moindre sont étudiés.

In the early 1990s, I researched the experiences of women assembly workers with workplace reorganization and employee participation at Northern Telecom's (now Nortel) flagship electronics manufacturing facility in Bramalea, Ontario.¹ At that time, human resource management initiatives such as Total Quality Management (TQM) and Continuous Improvement were popular with forward thinking managers in the manufacturing sector who were intent on restructuring the workplace to maximize productivity. Since then, employee participation programs have spread beyond the manufacturing sector, where they originated, into the service sector and are now ubiquitous throughout the economy. Today, TQM or similar programs can be found in almost all large private sector workplaces and in most areas of the public sector. They have even been implemented in facilities caring for the elderly where care givers are exhorted to "kaizen"² their jobs to eliminate any "wasteful" activity.

This paper will focus on three aspects of women assembly workers' involvement with employee participation at Bramalea: democracy

and empowerment; the distinction between mental and manual forms of work; and working collectively. In my interviews with women shop floor workers at the Northern Telecom plant in Bramalea, I observed that management's program of "participation" and "democratic" workplace reform struck a responsive chord with many women, and it was women who formed the majority of employee participation teams in the plant. At the time that I conducted my research, between twenty five percent and thirty percent of the shop floor workforce was involved in teams or other forms of participation (some enthusiastically, others less so). Certainly, the majority of women in this plant were not involved in team working, and most were either critical of, or neutral toward, participation. This plant was organized by the Canadian Auto Workers union (CAW), and I met women activists who found that organized resistance through the union was the most effective means for them to attain personal and collective power within the workplace. The union presented an alternative perspective on restructuring which assisted the activists in constructing a critical class

analysis of the changes in their workplace. This paper focuses on the experiences of those women who were involved in participation programs, and on the contradictions inherent in their involvement in these programs.

I wanted to know why the unionized women I interviewed were attracted to teams, and what they perceived as the benefits and drawbacks of "working together." I also wanted to understand what the contradictions were for unionized, shop floor women workers who became involved with managerial participation initiatives. From talking with women who were engaged to a greater or lesser extent in some form of team working, I concluded that the standard "false consciousness" argument used by some union members was not sufficient to explain women's voluntary involvement in management's participation schemes. The women who took part in team working were not necessarily "soft on management," "wannabes" (i.e., wanting to be managers), impossibly naïve or inherently right wing (although some individuals may have been some or all of these). Rather, given women's historical location in the bottom half of both class and gender hierarchies within this plant, and women's experience of being undervalued and excluded, it was not surprising that many women responded optimistically (at least initially) to management's message that the "we/they distinction is disappearing - among management, employees, unions." Participating in employee participation programs presented women in this plant with the possibility of assuming more central, and more powerful, positions in the workplace.

However, women's involvement with participation programs was inherently contradictory. While participating in team working and other employee participation initiatives may have appeared to some women to permit them to transcend their historical gender subordination, the benefits promised by management were far outweighed by the more tangible and lasting benefits women at this plant derived from their union in terms of job security, job ownership and transfer, promotion, benefits (including maternity benefits), wage increases, and protection from

some of management's arbitrary and frequently sexist controlling behaviour. Any erosion of their union could only increase women's vulnerability. Further, although management may have promised workers more power, involvement and recognition through participation, the imperatives of capitalist production limited the degree to which workers' involvement could be permitted. The discourse of participation was ultimately geared to encourage workers to accept a leaner and meaner organization of work, and, as it was primarily the repetitive assembly jobs traditionally done by women that were being standardized, fragmented, intensified and ultimately displaced, it was women who experienced the most negative, and dis-empowering, consequences of work reorganization.

The first section of the paper examines the objectives of management in the Bramalea plant in implementing employee participation programs. The second section looks at the position of the CAW with respect to employee participation and reflects on the challenges the union faces in responding to diversity in the workplace. The next four sections examine the contradictions in women's experiences with restructuring and employee participation in this plant. The conclusion assesses what restructuring ultimately meant for the Bramalea Northern Telecom workers.

MANAGEMENT'S OBJECTIVES IN RESTRUCTURING NORTHERN TELECOM

Beginning in the mid-1980s and continuing through to the mid-1990s, Northern Telecom management systematically restructured the Bramalea plant, gradually implementing more and more features of lean production.³ These included the outsourcing of parts production, just-in-time production, the implementation of computerized technology, and the intensification of work through shorter work cycles, the elimination of all non-value adding activity, a heightened pace, multi-tasking and fragmented jobs (Robertson et al. 1993; Monden 1983). The

company's goal was to increase the firm's competitiveness through cutting costs and reducing waste. In a lean production model, "waste" is defined to mean anything that is not absolutely central to production, with a particular focus on the "wasteful" aspects of workers' time.

Concurrently, management was attempting a "cultural transformation" of the plant and its unionized workers, fifty two percent of whom were women. Through programs with names like "Working Together" and "Excellence," workers were encouraged to "take responsibility" to make incremental increases in the efficiency of their work process in order to continuously improve productivity. The company argued that learning problem-solving and team-working techniques would transform "manual" workers into empowered "knowledge" workers, would enhance their work experience and would even assist them to "realize their potential and growth as individuals" ("Excellence" orientation manual 50).

It became evident, during the course of my research, that continuous improvement techniques such as problem solving and team working were introduced into this plant less to empower workers than to encourage them to generate ideas on ways to eliminate "waste" or "unnecessary elements in production" (Monden 1983, 1) and to continuously streamline work processes, resulting in an intensification and a degradation of their work. The firm's implementation of participation programs also served another, parallel, agenda. They were an attempt to change the attitudes of the workforce and to persuade workers to adopt a managerial standpoint. This meant putting aside their interests as workers and unionists, and accepting an ideology of competitiveness within which the standardization, flexibilization and intensification of their jobs "made sense" and appeared to be the only logical route to take if the firm, and its jobs, were to remain viable.

THE ROLE OF THE UNION

Human resource management practices such as participation programs present very real dangers to unions. Management uses the discourse

of participation to distract workers from their class identification and to reconstruct them as individuals loyal to their firm. Ultimately, workers adopting a managerial standpoint will see other workers, whether next to them on the line, or thousands of miles away, as competitors, and will feel justified in intensifying their own and others' work. Further, by providing some workers with benefits and special privileges that are neither negotiated nor distributed equitably, and shifting managerial responsibilities onto their shoulders, participation programs challenge the traditional employment contract where workers and their unions consent to work under certain conditions in return for certain specified and negotiated rights. The result can be a seriously weakened union (Hadley 1995).

Additionally, in the context of lean production and continuous improvement, a few team members divulging information about their and others' jobs, bottlenecks and "idle" time can present management with enough data on the workplace to significantly assist them in the goal of combining job descriptions, eliminating jobs and intensifying work to create a lean and flexible workforce, in the process undermining years of struggle and sacrifice on the part of unions and their members to improve workplace conditions (Hadley 1997).

To effectively counter employers' efforts to elicit workers' identification with the cost-cutting, anti-union goals of the company, union strategy must address any weaknesses within the workplace and within their own practices and ideology, as these are the weaknesses which management attempts to exploit. As Mary Hollens has written, "Team concept can fill up the places the union leaves empty" (Hollens 1993, a).⁴ Because of the dangers that divisions, including divisions of gender, present to workers and their unions in a context of restructuring, it is vital that unions not simply dismiss workers who may take up management's discourse of participation. Instead, unions need to attempt to understand why some workers may find management's hollow promises to be seductive and to take workers' legitimate desires for recognition and democratic

participation in the workplace seriously.

The official policy of the CAW was to oppose "managerial efforts, under whatever name, which jeopardize workers' rights, undermine workplace conditions and erode the independence of the union" (CAW Statement on the Reorganization of Work 1989). The union recognized that autonomy, mobility and skill enrichment would only result from collective bargaining and from "trying to limit management control and advance workers' rights" (CAW Policy Document on Work Reorganization 1993) through strong unions, and would never arrive as a "gift" from management.

At the time that I was conducting my research, local union leaders at the Bramalea plant refused to participate in teams or to collaborate in any managerial partnership initiatives. The union provided an education program for union members with the goal of increasing members' critical understanding of participation programs,⁵ and there were regular articles in the union local's newsletter pointing out the inconsistencies in management's participation schemes.

Nonetheless, and despite their many contradictions, teams appeared to some women at the Bramalea plant to present them with advantages they could not find elsewhere. Women's unequal position in the workplace represented a "crack in the union" (Hollens 1993 (b)) which management was able to use to weaken union solidarity. Although the CAW had made considerable progress in advancing women's interests in this plant, the majority of women continued to occupy a subordinate role in the workplace, to be under-represented in higher status positions and denied recognition of their very central contribution to the work process. Teams and other participation initiatives promised, and occasionally even provided, women with the recognition, challenge, respect and power that they found lacking in the workplace. Given their subordination in the workplace, it made sense that some women would respond, at least initially, by accommodating rather than resisting a scenario which seemed to offer them more power, involvement and acknowledgement than they were accustomed to.

While most of the team members I spoke with retained a strong identification with their union, it became difficult for team members concentrating on "working with rather than against management," as one woman put it, to reconcile conflicting ideologies of solidarity and competitiveness.

The CAW, which has always had a strong, radical analysis of class, has been responding to pressures from within its movement that have been generated by an increase in diversity among the membership. Dozens of mergers with groups as diverse as fish plant workers, hotel workers, restaurant workers and communications workers, as well as an active program of organizing, have doubled the membership since 1985 (Yates 1998). CAW leadership has demonstrated their commitment to diversity and inclusiveness by embarking upon new educational programs and campaigns such as their zero-tolerance campaign against violence against women, the inclusion of same-sex spousal benefits in collective agreements, a women's advocacy program, a women-only activist course, human rights courses, and, significantly, by negotiating the right of workers to stop work until the source of sexual or racial harassment is addressed. Debate within the union has shifted from a focus on solidarity for abstract, gender neutral workers that privileged white males to recognition of difference. Women, people of colour, youth and gays and lesbians are becoming visible within the CAW, and the union leadership is beginning to rethink solidarity in terms of diversity.

Nonetheless, CAW staff members and others trying to promote such initiatives often encounter resistance and backlash. Charlotte Yates, in her study of current challenges to the CAW, has found that "...sexism in the workplace, the collective bargaining arena and the union still abounds, and an aggressive male culture still defines relations both within the union and with employers" (Yates 1998, 111). While the CAW has made great strides in tackling the challenges of an increasingly diverse membership, certain challenges remain. To better understand why some

women members may be attracted to managerial participation initiatives, the union needs to continue to address the issues of a persistent gendered division of labour and the perpetuation of traditional gender ideologies in CAW workplaces, as well as the continuance of sexist social relations within these workplaces.

TARGETING WOMEN

Teams at Northern Telecom were voluntary, and those women who decided to "give them a try" had a variety of reasons for doing so. Management applied a great deal of pressure to workers to become involved, using both a carrot, in the shape of incentives and rewards, and a stick, in the form of threats that they could eliminate jobs at any time. At the same time, many women were genuinely curious about trying a new way of working and, to quote one young woman worker, "liked the idea of working together to try to make things better." Younger and older women gave different reasons for joining teams. Younger women were escaping the boredom and isolation of their low seniority, repetitive jobs, and older women appreciated the challenge of team working as "something new" and welcomed the opportunity to be respected for their contribution to the firm.

There was a consensus among the people I spoke with that team participation on the shop floor involved far more women than men. As one young woman assembly worker told me, "There are mostly women in teams, but there are mostly women on the shop floor."

She felt that management was deliberately organizing teams in production, by which she meant the various assembly and wiring jobs where most women were located in this plant, and in the case of this electronics manufacturing plant, she was right. Lean production is a work intensification strategy. It concentrates on production, those areas which add the greatest value to the product, and attempts to make them as lean and as productive as possible. In this plant, as in most electronics factories worldwide, women were located in the jobs that were the most central to production: the various circuit board assemblies and wiring jobs.

Ninety percent of the women in this plant worked in these jobs and eighty six percent of the workers in assembly and wiring were women. Consequently, as lean production and the accompanying "cultural transformation" were implemented, women's jobs were targeted.

THE PROMISE OF DEMOCRACY: THE LIMITS OF EMPOWERMENT

Management at Northern used the ideology of democracy to legitimate their team-working agenda. When a past president of the company was asked how he viewed his employees, he answered, "Business is recognizing that it really is a democracy out there." In his view, "everybody's not president yet, but the boundaries that used to hem people in are being torn down." Democracy for him meant that workers had a responsibility to make a "general management contribution...to the company." The "people" were the "ones that know the product best anyway, so they're the ones that should be making a lot of the decisions."

The company's vision of democracy involved "putting everybody on an even playing field" and "breaking down the barriers that get in the way" between managers and workers in order to increase communication. Managers were to change their style, take off their ties, even wear blue jeans and move from being a "dictator" to becoming a "coach" ("Playing in the Big Leagues" 1990). Workers and managers were to talk together, to solve problems together and learn to trust one another. Class was no longer to be a variable. As one team enthusiast (a woman worker) told me, "the class distinction is almost gone." This vision of democracy assumed a common interest between workers and employer where the goal, and responsibility, of both was to further the competitive position of the company.

Northern's discourse of democracy and participation sent a powerful message to the women in this plant who, despite years of fighting to be included on the same basis as men, had not participated in their workplace as equals. Although wages and benefits in their plant were above the

average for manufacturing work in southern Ontario, and most of the women I interviewed had relatively comfortable incomes, women had historically been viewed as, in the words of one woman worker "the lower part of the company," and effectively excluded from what were seen as the "skilled" higher status jobs occupied primarily by men. ⁶ Most women at the Bramalea plant had received very little acknowledgement of the value of their contribution to the work process, and had rarely been asked to provide input to workplace decisions. It followed that improved relations with "higher-ups," and an opportunity to have input into the workplace would be appreciated most by those on the lower rungs of the hierarchy whose voices had traditionally not been heard.

Most women I talked with, even those critical of team working, reported that they appreciated the new, approachable face of management and the emphasis on improved communication between all levels in the plant. High seniority women could remember decades of intimidation and humiliation from male managers and engineers, and even from some of their higher-graded male co-workers. Women recalled that in the "old days," they rarely stood up to anyone "above them," and if they did, they were seldom listened to. Most senior women I spoke with reported that if women spoke up, or tried to complain about some aspect of the work or the workplace conditions, they could expect a humiliating response ranging from being ignored to being insulted, while men could at least expect to be listened to. As one senior woman remembered:

If a guy were complaining about something the boss would probably listen, if he disagreed with a guy he'd probably sit down and disagree with him quite openly. If he disagreed with a woman he'd say "you women" or "she's a scatterbrain, don't pay any attention to that." You never hear a man called a scatterbrain.

Despite being ignored and dismissed, senior women maintained that women in the plant had always worked harder than men. As one told

me, "Nothing would ever go out of there if it weren't for the women." Nonetheless, over the years, there had been little recognition of women's contribution to the plant's success from either managers or engineers. A woman told me that when engineers came onto the floor needing some information, they very often asked the nearest man, bypassing the women even though they had more experience than the men and knew all the jobs. According to her:

If no man happens to be there at the time, I think they wait for one. They'll grab one in off the aisle and say "come and help me with this" before they'll ask these women.

Most of the women I spoke with could hardly have been considered shy or retiring, yet years of subordination in the workplace had led many to feel inhibited and fearful in their relations with "higher ups," and it was these relations that were changing. A woman with twenty-seven years seniority who was active on a team described how her relationship with "the boss" had changed:

At one time your boss had an office over there, it was rare you spoke to him unless he called you in or you had to ask for time off. If the boss called you in, it was scary time. My boss calls me in five, six times a day asking, "what do we do about this?" I would never feel intimidated when he calls me in because I know we're working together.

Another woman who was a team leader emphasized that "management used to ignore women especially." She went on to describe how she felt the women in her team had benefited from the experience of team working:

Before, we were just the lower part of the company that nobody really cared about what we did. Now they [women] realize that their job is the most important job because without the people doing the

assembling and putting the circuit boards together properly, Northern wouldn't have customers.

Eventually, even the most committed team members realized that there were limits to "empowerment." Northern's management wanted to download responsibility for the firm's competitiveness onto workers' shoulders, but it continued to deny workers the authority to make really significant decisions. Workers' decision making was limited to looking for ways to increase their own productivity. Managers retained the authority to decide what was produced, how it was marketed, how quality was defined, what production would be shifted to a lower-waged site (and when), how technology would be used, what the production targets would be, how many would be laid off, and what would be done with the benefits of workers' increased productivity. As one woman worker commented:

We're supposedly in a team situation now, and what I'm finding is that management thinks they want you to be a team and take away some of the responsibilities they have until you actually make a decision that will affect whether the line shuts down, or whether you refuse to ship something, and then they don't want you to make a decision anymore.

Within a context of competitiveness, management was not willing, nor even able, to permit genuine worker empowerment or democratic involvement. While some women answered the call to participate in teams because they believed it offered them possibilities for recognition, inclusion and even leadership where few had existed before, most eventually realized that there was a gap between management's rhetoric of participation and what they actually experienced in teams.

INTELLECTUAL DEXTERITY; WORKING SMARTER OR WORKING HARDER?

A chart used by Northern Telecom management entitled "The People Revolution" listed the changes that workers were expected to make as part of the transformation of the workplace. One change was a shift from "physical dexterity" to "intellectual dexterity." The message that "the new way of working" meant increasing involvement in intellectual, or "knowledge," work had a particular allure for women who had always been most closely associated with manual work at this plant. However, while women assembly workers may have been asked to use analytical skills to troubleshoot problems in the work process and to seek out and eliminate "waste," the jobs which remained their primary responsibility were becoming increasingly deskilled and standardized to the point of what one assembly worker called "mind-numbing monotony."

Management claimed that it needed more than the "arms and legs" of production workers to retain its competitive edge. It now wanted to appropriate workers' intellectual capacities. Management needed workers' "brain power" so that it could harness the knowledge that workers had accumulated about their jobs and apply it toward the objectives of lean production. As one manager described:

Whereas in the past we used to manage the production worker from the neck down, in other words, arms and legs, in the future we are seeing ourselves managing the production employee from the neck up, that is, their brain power.

At Northern Telecom, much of the "intellectual" or "knowledge" work of a team involved learning "white-collarized" skills (Koike 1987). These were skills needed to do surveys, time studies, cost-benefit analyses, data analyses, and various charts and tables, tasks that were previously the responsibility of managers, and in some cases, engineers. They were all techniques used to generate data on the work process so that

operations at the point of production could be simplified, and productivity continuously increased.

This "white-collarization" of assembly workers' "blue-collar" work was challenging the established mental/manual division of labour, which had always been gendered at this plant. What had traditionally been considered intellectual work had been done by men, whether it was engineers designing the product and creating the blueprints that the women followed, managers who did the planning, coordinating, budgeting, etc., technicians who understood and applied the theory of electronics, or tradespeople who had the responsibility for maintaining the complex automation. Women on the shop floor had been written out of the intellectual arena, their work defined as almost exclusively manual. Even in the 1980s and early 1990s, the message they received was that men were respected because they had real skills and careers, whereas it was assumed, as one woman worker observed, that women were "just out working because they had nothing else to do." With management's "new way of working," women were invited to transcend their manual work identities and to enact new "intellectual" work identities; thereby disrupting established divisions of work.

Active team members told me that becoming involved in the intellectual work associated with a team project was "enjoyable," and made them feel appreciated for what they could contribute. One senior woman told me, "now you can talk intelligently about the [work] process." A young woman liked the opportunity to "take initiative and ask questions." Even a woman who wanted no part of teams conceded that "lots of people find [teams] interesting." One woman assembly worker who had been part of a successful project described what it had meant for her:

It gives me a rush sometimes to have accomplished what we accomplished when we did the project for the [circuit board]. It was quite exciting and you feel good when you get recognition from people that you would not normally even

see or talk to.

One senior woman worker told me that she regularly took work that she was doing on her team's project home with her. She justified this unpaid overtime by pointing out that male engineers and other "professional" employees at the plant took their work home with them. They didn't simply turn off their interest and involvement in their careers at closing time, so why should she? This woman wanted to feel that, like the male professionals, she too had a serious, challenging involvement with her work. Her work on her team's project filled a need for a more satisfying, and more highly valued, involvement with their work, and for recognition of the skills and knowledge she knew she possessed after twenty years of working for Northern Telecom.

While participating in teams may have provided some women with more satisfying work, management was capitalizing upon workers' needs for more fulfilling work to further their own objectives. By engaging in the work of continuous improvement, workers were, wittingly or not, advancing the goals of management's lean production agenda. They were providing information on the work process which management could not get from any other source. This information would be used to further standardize their jobs, intensify their work, and ultimately to eliminate jobs.

As an example of this process, one woman told me of her team experience where a group of inspectors was brought together to talk about how to improve quality and make their work more efficient. After the group had met a few times and divulged what they knew about the bottlenecks in their jobs, management began to eliminate inspectors, something that the team had not been expecting. In another example, a team worked on "kaizenizing" out wasteful labour from their work area. Eventually, they "kaizenized" an entire job from the area, thereby intensifying the work of all the others in that group.

The contradiction at the heart of continuous improvement is that the "intellectual" work on team projects which many women found

to be satisfying and challenging in contrast to their "monotonous" and increasingly isolating assembly jobs, led to those jobs becoming even more deskilled, monotonous and pressured. It also led to those jobs being eliminated; whether through intensification (doing more with less), the application of technology to streamlined work processes, or the shipping of jobs elsewhere after the bugs had been worked out of them. As one woman worker despairingly (and as it turned out, accurately) observed, "We're involved in changes [improvements to the work process] that will keep Mexicans in their jobs."

PLEASURE AND PRESSURE IN WORKING TOGETHER

A theme that I encountered in talking with women at the Bramalea plant who were involved with teams was the often considerable pleasure they found in "working together" in groups. At the same time, "working together" in a context of competitiveness increased pressure between workers, often creating unbearable stress for women.

There was much that women I talked with enjoyed about being in a team. They liked growing closer to the people they worked with, the confidence they gained in voicing their opinions and being listened to, and the feeling that as a group they had greater credibility and power in the workplace than they had as individual women. In a context of gendered power relations where women's contribution was continually denied, these positive qualities could make joining a team seem to be a sensible strategy for "making the best" of an increasingly stress-filled workplace.

However, women frequently found, often to their dismay, that working together in teams led to in-fighting between workers, and "finger pointing" at workers who were seen as not pulling their weight. They also found that in the leaner and more flexible workplace that accompanied participation initiatives such as teams, there was greater pressure on them than before, their injury rates were higher, they felt more tired than they ever had, and their "double day" became even more

difficult to accommodate.

Women workers' exclusion from decision making, their experience of inequality, and the lack of recognition for their work both inside and outside the workplace may explain their greater interest in being part of a team where everyone was encouraged to contribute, where they could develop confidence in speaking in front of others, and where power appeared to be shared. It may also explain their positive response to management's emphasis on communication and "working together," as well as to terms such as "empowerment" and "participation," words associated with feminist forms of organizing (Phillips 1991).

Several women spoke of the informal work groups that had always been a feature of their work life. They saw working cooperatively in groups as a good way to solve problems, to lend each other support and to share tips on how to make the job easier. It seemed to make more "sense" to women to work collaboratively rather than individually. As one woman told me:

We've [the women in her area] always worked as a team to make our jobs easier for each other, informally. I think that generally when you have a group of people that work together for a long time that happens. [X] might be good at some things and not good at others, whereas [Y] might be good at the things [X] can't to do so you switch off and you make it easier for yourselves.

In the new flexible workplace, it was increasingly difficult to develop and maintain informal work groups. In such an insecure context, formalized teams could seem to provide some much-needed stability and support.

Working together in teams gave some women at the Bramalea plant the confidence to make demands or suggestions, confidence they felt they lacked as relatively powerless individuals. One woman involved in a team pointed out, "as a group you have strength." Women were harder to ignore in teams; management took them more

seriously and were unlikely to dismiss them as "scatterbrains." For example, a woman team leader observed that the women in her team:

...were intimidated by upper management before, and now we can work together as a team. We're not afraid to talk. We all do it as a team instead of one person saying whatever they have to say and getting put down for it.

Of course, not all was rosy within teams. The most frequently mentioned complaint about working in teams was the prevalence of "bickering" amongst team members. One young woman team member reported that her manager's explanation to the workers of interpersonal tension within teams was that the group members were not yet "developed enough." This explanation implied that, because of personal inadequacies, workers were inherently unable to get along, and only by participating in a management-orchestrated team could they learn to work together effectively.

Many workers with experiences of team working understood the tensions differently. With lean production, the system was designed so tightly, with so little leeway, that anyone not "pulling their weight" for any reason was resented. One woman described a team meeting she had attended where some of the other members began "finger pointing" at co-workers who were unable to keep up the pace of production because of their repetitive strain injuries (RSIs). This was an area that was notorious for RSIs; at one point, thirty percent of the workers in that area had an RSI. The woman felt that the manager facilitating the meeting was goading workers to blame one another for the pressures of production.

While participation programs may have brought workers together and involved them in some production related decisions, workers were being empowered only to compete against their co-workers, both those within their own plant and those in plants thousands of miles away with whom they competed for contracts. So, while management claimed that teams allowed people to "work together," the ideology of competitiveness

embedded in participation was actually designed to set workers against each other as it redefined solidarity from a class-based collectivity to a solidarity between individual workers and their firm.

The great paradox of team working at the Bramalea plant was that while teams were set up to promote management's agenda of control and continually increasing productivity, they nonetheless presented workers with a potential for democratic participation (Rosenfeld 1993). But, within the existing structure of capitalist relationships, this potential could never be realized. Many of the women I talked with were initially excited by the possibilities they saw in the "new way of working." However, when I spoke with them again months later, most felt "let down" by a management which, as one woman team member observed, "blocks anything you suggest." Another woman felt that management was playing with fire by "awakening" workers to new possibilities, only to disappoint them with the limits of a management defined "participation:"

I think their idea is a good one, but I don't think that they've really thought about what they're going to do once they've awakened all these people, and all these people are ready to contribute. What are you going to do with them because now they're motivated and you'd better not disappoint that motivation? It's like, don't prod the sleeping tiger because he might wake up and bite you.

CONCLUSION

I began my research at the Bramalea plant in 1991. By 1998, there were a mere 354 workers remaining from the 1700 that were employed at this site in the mid-1990s. Most of the production jobs done by the women I interviewed have been shifted to lower-waged, non-union Nortel sites in China, Mexico and North Carolina. Over a thousand skilled and highly productive workers "went out the door" in 1995. The layoffs at the Bramalea plant were not an isolated incident. In

the two years prior to that layoff, Northern Telecom shed thirty-five hundred manufacturing jobs in Canada, amounting to one-quarter of its total Canadian workforce. Significantly, the layoffs were concentrated in the company's unionized jobs, specifically those jobs organized by the CAW. In 1998, Nortel announced further layoffs in CAW plants.

The plant the Bramalea women worked in, some since the 1960s, has been converted into a "new-age" office building for more than two thousand managers and engineers complete with street signs (eg., Network Street, Memory Lane, Perception Point), cafes, fountains, a mini-mall, and a Japanese-inspired reflection courtyard. For the workers that remain, the transformation of their former workplace into an office for the company elite is a source of emotional pain. One woman, still employed by Nortel, described the displacement of the previous long-standing community of workers by a community of managers and engineers as analogous to colonization. She related how workers with decades of seniority had their work stations dismantled around them while they continued to work, and compared the experience to rape, explaining, "We knew we were being exploited for years but it wasn't until they did this to us that we felt the pain."

Ultimately, Northern Telecom's promises of empowerment, involvement and recognition were proven false as the jobs to which workers had given their lives were shipped offshore. The company was evidently less interested in the "brain power" and decision-making abilities of its production workers than in cutting production costs and maximizing productivity. The union was shown to be correct in challenging the concept of a partnership between management and labour which is embedded in an ideology of competitiveness, which undermines union solidarity and which does not support the interests of workers. As workplaces become leaner and workers increasingly vulnerable, unions, and union solidarity become ever more important. Anything that weakens union solidarity, even temporarily, must be addressed. Eliminating the barriers to equality that stem from gender-biased social relations, and that can lead to an erosion of union solidarity, will require a deeper understanding of the ways that relations of gender and class - as well as race and sexual orientation - intersect and shape the experiences of workers as they respond to restructuring.

ENDNOTES

1. This paper is based on a larger study of restructuring at Northern Telecom's Bramalea plant that was completed for my doctoral thesis at the Ontario Institute for Studies in Education in 1994. I gained access to the plant and its workers through the local union (CAW). Union officials put me in touch with the initial people I interviewed, they took me around the plant on several occasions, and they were generous in providing me with a great deal of documentary data. I received some cooperation from management in terms of plant visits and interviews. The bulk of my data came from thirty in-depth interviews with production workers, including six men. All but two were white. Over 80% of the approximately fifteen hundred person workforce was white at that time. The average age of production workers at that time was forty-four. I also interviewed six local union representatives and eight managers. The average seniority for the women I interviewed was over seventeen years. The jobs the women worked in included machine operator, unit wiring, circuit board assembly, update and repair, inspection, cable forming and testing. Interviews averaged one and a half hours each. I interviewed most women in their homes. All interviews were taped and transcribed and all quotes come from these tapes. I accessed the women through social networks beginning with two key informants. The people I spoke with represented a full spectrum of positions on restructuring (from union activist to pro-team work).

2. Another name for "kaizen" is continuous improvement. It is the process of eliminating wasteful activity from jobs. Kaizen relies on the harnessing of workers' intimate knowledge of the work process through suggestion programs or team activities. Workers are expected to continuously find ways to cut costs and improve efficiency, with the ultimate goal of eliminating workers.

3. The term "lean production" was coined by three academics from MIT, James Womack, Daniel Jones and Daniel Roos, who defined lean production in the following way: "Lean production...is 'lean' because it uses less of everything compared with mass production - half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering hours to develop a new product in half the time" (Womack, Jones and Roos 1990, 13).

4. Mary Hollens was primarily discussing the need for unions to address issues of race. However, her argument is equally relevant in discussions of gender and unions. While I recognize the need to address the intersecting relationship of gender, class, and race, sexual orientation and age, I have focused specifically on gender in this paper.

5. As part of my research, I attended a weekend workshop on work reorganization for union members at the CAW's education centre at Port Elgin. Through this experience, I was able to learn about the union's perspective on reorganization, and about their member education programs.

6. There was only a handful of women who ever reached the level of electronics systems tester - the highest ranking production job - and those who did had to contend with sexist resistance from their male managers and co-workers, and, because training for these jobs was not offered during work hours, somehow incorporate taking the required courses into the demands of their double day.

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Mabel F. Timlin, 1891-1976: A Woman Economist in The World of Men

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ABSTRACT

Mabel Timlin, FRSC (1891-1976), was the first woman full professor of economics in Canada. During her long career at the University of Saskatchewan, Saskatoon, SK, she developed a new interpretation of Keynesian economics, published books and articles on economic theory and immigration policy, and taught and influenced hundreds of students.

RÉSUMÉ

Mabel Timlin, FRSC (1891-1976), fut la première femme professeur d'économie au Canada. Durant sa longue carrière à l'université de Saskatchewan, à Saskatoon, SK, elle a élaboré une nouvelle interprétation de l'économie Keynésienne, a publié des livres et des articles sur la théorie de l'économie et sur la politique de l'immigration, et a enseigné et a influencé des centaines d'étudiants.

Writing about Mabel Timlin has become, for me, part of a dynamic process of discovery.¹ It began nearly twenty years ago when, as a middle-aged graduate student of the history of science, I read *Zinger and Me* (1979), Jack McLeod's academic spoof about students and faculty from the University of Saskatchewan's Department of Economics. The book included passages about a woman named Timmie (Dr. Mabel Timlin, a Professor of Economics) and praised her scholarship, teaching, and impact on her students. The author recounted her various escapades. For me at the time, this amusing and sometimes "wild" woman professor did not seem quite real.

I found her again, a decade later, while doing research on women scientists at the University of Saskatchewan Archives. The archivist assured me that Dr. Mabel Timlin, Fellow of the Royal Society of Canada, was indeed real. I learned that she had a long career at the university. I was shown numerous large acid-proof boxes of her papers, took a cursory look at their content and became fascinated. There were many stories to tell about her, but writing in detail about a woman economist was not something I felt ready to undertake.

As an historian of science, I had been

interested in Canadian women scientists in a variety of fields, had already done labour-intensive archival research across the country, but, up to that time, had not found another woman scientist on whom such extensive documentation was available. I asked that certain letters and her *curriculum vitae* be photocopied for my files. Friends in Saskatoon encouraged me to tell her story. The prospect of researching Mabel Timlin's life was exciting, and I asked for more archival material to be sent to me. On subsequent trips to Saskatoon, I talked to several of her students who became economists. I corresponded with and talked to her first secretary. With each interview, I liked more and more the person emerging from this research. Intelligent, strong-minded, warm, human, poor, single, a pioneering theorist going against the grain of Canadian economic theory, this silver-haired, chain-smoking woman became an important part of my historical work on Canadian women and science.

Who was this person, the first woman full professor of economics at a Canadian university, who had made major contributions to the fields of economic theory and immigration policy and also left a lasting impact on her students and colleagues? Although a detailed treatment of her complex