The Social Construction of Skill: Skill and Working Knowledge of Garment Workers in a Vancouver Clothing Factory

by

Ulrich Rauch

M.A., Albert-Ludwigs-Universität, Freiburg, 1983

A Thesis Submitted in Partial Fulfilment Of The Requirements For
The Degree Of Doctor Of Philosophy
in
The Faculty of Graduate Studies
(Department of Anthropology and Sociology)

We accept this thesis as conforming to the required standard

The University of British Columbia
September 1996
© Ulrich Rauch, 1996
In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of Anthropology + Sociology
The University of British Columbia
Vancouver, Canada

Date Sept 30 1996
ABSTRACT

An examination of the working knowledge of female garment workers provides the empirical context for the analysis of gendered and racialized notions of skill in a Vancouver garment factory. This thesis problematizes how the labour of garment workers is socially constructed as being of low-value and low-skill, both inside and outside the factory. The social construction of skill on the shopfloor is examined through ethnographic observation of garment construction on the shopfloor and semi-structured interviews with floor-workers, management and union leaders conducted over eight months serve to describe.

My findings indicate that in spite of managerial strategies that serve to create categories of unskilled work and workers alike, operators act knowledgably and competently on the job. But the social construction of skill, permeated with gendered, racialized and class-based attributions, tends to make invisible the working knowledge of operators. In a contradictory way, being considered skilled turns into a disadvantage for those workers who are expected to perform even more efficiently without increased financial reward. Thus being recognized as more skilled becomes problematic for garment workers. As this study shows skill is a contradictory social construct defined by ideological and political interests. Definitions of skill are as much a reflection of a contradictory labour process as an expression of differential power and privilege. The preservation of power and privilege is in fact the subtext for managerial definitions of skill that render female garment workers as unskilled. This finding points to the need for a critical reflection on the
utility of the concept of skill and questions whether skill is a viable concept for explaining and reflecting on the working knowledge of operators, and suggests that notions of tacit skill and working knowledge might be more fruitful.

Shortly after my fieldwork ended the plant observed in this study ceased production and moved its operations to a Free Trade Zone in Central America. The same social processes that allow the construction of garment workers as "unskilled" on the Vancouver shopfloor produce even cheaper "unskilled" labour globally.
TABLE OF CONTENTS

ABSTRACT .................................................. II

TABLE OF CONTENTS ........................................ IV

LIST OF TABLES ............................................ VI

LIST OF FIGURES ........................................... VII

ACKNOWLEDGEMENTS ....................................... VIII

PART ONE ..................................................... 1

CHAPTER I
Introduction .............................................. 1

CHAPTER II
Exploring the Debates: the Relationship Between
Industrial Restructuring, Constructions of Skill, and
Employment (In)equality .................................... 13
  2.1 An Outlook on Constructions of Skill and Working
      Knowledge .............................................. 13
  2.2 Flexible Specialisation: the End of Taylorism Or
      The Reinvention of Privilege? .................... 16
      2.2.1 The Concept of Skill in Theories of the
           Labour Market: A Critical Assessment .... 23
  2.3 Industrial Restructuring and the Flexible
      Workforce: How the Skill of Garment Workers and the
      Global Economy Are Related .................... 28
      2.3.1 Who Are the Flexible Workers? .......... 30

CHAPTER III
The Social Construction of Skill ........................ 35
  3.1 The Labour Process Debate on Skill ............... 35
  3.2 "Unskilled" Work in Context: the Feminization of
      "Unskilled" Work ..................................... 40
      3.2.1 Gender and "Race" As Determinants of
           Skill ............................................. 42
  3.3 The Unhappy Marriage Between Skill and its
      Measurement: Defining First What Can Be Measured
      Later? ............................................. 46

CHAPTER IV
Constructing Skill and Working Knowledge: the Tacit
Dimension .................................................. 54
  4.1 Tacit Skill and Tacit Knowledge: Some
      Conceptualizations .................................. 57

PART TWO .................................................... 73

CHAPTER V
Methodological Considerations and Methodical
Imperfections: Data Collection At Aquasuit ............ 73
  5.1 Some Methodological and Theoretical Considerations 73
5.2 The Technique of Data Processing .................. 76
5.3 A Feminist Critique on Methods .................... 83
5.4 The Researcher's Desire to Produce Adequate
Ethnography (and Melt Into the Background) ........ 87
5.5 The Method of Data Gathering ....................... 98

CHAPTER VI
The Organization of Work At Aquasuit ................. 102
6.1 Labour Relations At Aquasuit: What the Union Does 116

CHAPTER VII
Working for A Piece Rate: the Pay System As A Major
Determinant of Working Knowledge ...................... 127
7.1 Piece-rate System and Pay ........................... 129
7.2 Piece-rate System and Working Knowledge ........... 133

CHAPTER VIII
From the Production of Garment to the Production
Of Skill .................................................. 148
8.1 Working Knowledge on the Shopfloor: Now You See it
Now You Don't ........................................ 149
8.2 The "Innate" Skills of Operators ...................... 160
8.3 How A Restructuring of the Shopfloor Translates
Into the Restructuring of Skill and Working
Knowledge ............................................. 170
8.4 The Shopfloor As Living Room: Parental Authority
Meets Deviant Adolescence ............................. 176
8.5 Racism Uncovered: How Asians Changed the Shopfloor 185
8.6 Conclusion .......................................... 191

CHAPTER IX
Teamwork At Aquasuit .................................... 196
9.1 Team-work and its Effects: How Garment Workers
Defend Their Working Knowledge ...................... 201
9.1.1 Cooperation ...................................... 203
9.1.2 Resistance: Game Or Necessity? .................. 215

CHAPTER X
Concluding Thoughts ..................................... 221

BIBLIOGRAPHY .......................................... 231

PRIMARY SOURCES ..................................... 251

APPENDIX 1 Tentative Skill Category List .............. 252
APPENDIX 2 Team Sewing ................................ 257
APPENDIX 3 Ticket Holdback ............................ 261
APPENDIX 4 Newsletter ................................ 262
APPENDIX 5 Tools for Data Management and Analysis ... 263
LIST OF TABLES

TABLE 1: Distribution of Paid Workers by Industry, Sex and Racial Minority Status, 1989 ........................................ 32
TABLE 2: Women Union Members, 1962 to 1989 .................. 118
TABLE 3: Major Trends in the Labour Force Participation ...... 118
LIST OF FIGURES

FIGURE 1: The Apparel Commodity Chain ............... 110
FIGURE 2: Generating Codes .......................... 264
FIGURE 3: Analyzing Codes ............................ 265
FIGURE 4: Report on Codes ............................ 265
ACKNOWLEDGEMENTS

I dedicate this thesis to my wife and fellow scholar Amanda for her strong and loving emotional and intellectual support and also to our children Ya-Asantwa, Araba, Noah and Umojah. They were the ones to suffer from a preoccupied father during the writing of this project. The intellectual growth of my thesis was fostered initially by Professor Martin Meissner, and subsequently seen to completion by Professor Gillian Creese. Both were supervisors and friends whose advice, scholarly and otherwise, helped me to master the challenges of Graduate School. I am deeply thankful for the intellectual stimulation and guidance and the attention to rigorous scholarship they provided. I am also grateful to Professor Brian Elliott and Professor Jane Gaskell for their consistent encouragement to explore and recreate the conceptual boundaries of the research question. Their contribution made my thesis stronger.

The research could not have been conducted without the collaboration and support of Local 287 of the International Garment Workers Union, and in particular, the business agent and Assistant Director of the Local, Vas Gunaratna. My thanks go to him and to management and workers, employed at AquaSuit, Canada for permitting me to roam the shopfloor, observe the construction of garment work and ask questions.

Lastly I want to thank present and former colleagues, Sue Cox, Dr. Bruce Arai and Dr. Dawn Farough, for their encouragement and their effort to read and discuss my work in progress. I also would like to express my gratitude to the Department of Anthropology and Sociology, in particular the staff, who over the
years have been most helpful and supportive in facilitating my demand for resources. Thank you!
PART ONE

CHAPTER I  Introduction

The notion of skill is a highly contested one, both in practice and in academic discourse. The idea that conceptions of skill are constructed through gender, "race" and class relations has been discussed and documented in the literature on pay equity and women's employment (Acker 1989, 1992; Boyd, Mulvihill and Myles 1991; Beechey 1988; Phizacklea 1991; Wajcman 1991(b); Ng 1987; Armstrong & Armstrong 1990). In my thesis I will explore how contradictory notions of what constitutes skill circulate on the shopfloor and in the offices of a garment factory. My investigation critically examines the contention by managerial staff, that garment workers are "unskilled" and perform tasks that do not require great amounts of skill and working knowledge. I will argue that the "unskilled" work of garment workers relies upon and draws on a "tacit"\(^1\) working knowledge and furthermore, that it is the tacit character of this knowledge that serves management in the reproduction of the category of "unskilled" labour. At the same time garment workers take advantage of their "unrecognized" or merely implied and not rewarded working knowledge. They use it to protect themselves from further exploitation brought upon them by newly devised production strategies, such as team work initiatives, that as workers argue, are solely geared to harness their working knowledge more

\(^1\) According to Polanyi (1966) every human act of perception contains two kinds of awareness: the "focal" and the "subsidiary." In the act of perception we attend to the focal and rely on the subsidiary in order to attend to the former. The subsidiary remains implicit, but defines the context for the focal. The implicit consciousness surrounding the subsidiary Polanyi calls tacit knowledge. Tacit: silent, unrecognised, not explicit, implied.
The skill and the working knowledge of garment workers is demarcated in a contradictory process: management, while disputing its existence, wants to make full use this knowledge, while workers attempt to protect their knowledge from appropriation. Since the appreciation of skill and knowledge depends on the purposes and goals of those doing the noticing and evaluating, I hold skill to be a contradictory term, defined by the context and parameters of its discussion. My findings suggest that skill is a social construct, at once fluid and contradictory, rather than an objective measure of aptitude and task complexity.

I entertain a social constructivist view to understand the concept of skill, because this perspective allows consideration of the material and ideological determinants that shape a particular knowledge. In consequence, the research question is not directed to define the skill and working knowledge of operators, but it addresses the conditions and processes under which garment workers construct themselves and are constructed by others as skilled or unskilled labour. These constructions are also necessarily influenced by the local knowledge of those who define the situation.

In my thesis I will discuss how a separation of skill from working knowledge, as presented in much of the literature, facilitates the construction of the "unskilled" worker while at the same time implying a (tacit) working knowledge. One outcome of the reification of skill and the separation of skill from working knowledge is the association of skill with the processes thoroughly.
of recognition, and the association of working knowledge with a subconsciously exercised, tacit, competence. As definitions of explicit and recognized skill shift, depending on who does the recognizing, the associated non-explicit dimension of working knowledge shifts as well. The process of constructivism entails both explicit and implicit properties. It is the struggle for what is to be explicit and what needs to remain implicit that is played out on the platform of an already contradictory labour process.

At the core of my thesis rests the assumption that while some working knowledge is controlled by the individual garment worker and protected from detection and appropriation (for example an efficient use of machinery in piece-work), other aspects of working knowledge, like proficiency based on assumptions of gendered and racialized stereotypes (for instance: the nimble fingered seamstress or the docile "Asian" garment worker), are based on attributions made to the worker and therefore beyond the control of the worker. I suggest that the efficient operation of industrial production processes depends on the non-rewarded and non-explicit capacity of workers to draw on a working knowledge that finds no expression in official job descriptions, and remains, at times, hidden to workers.

Here I should introduce a caveat. In some of the literature, garment workers are held to be semi-skilled, because they need to operate a sewing machine. It is the technical aspect of operating a machine, that elevates workers to the status of semi-skilled, while no consideration is given to what workers actually need to do and know when they construct a garment. From here follows that I examine the processes that may contribute to the construction of skill and I imply, in my thesis title, that these processes are not of a technical nature but have a social character.
themselves\textsuperscript{3}. What I explore in my thesis are the subtle but also pervasive processes by which knowledgable garment work becomes labelled as unskilled work.

In my case-study on the skill and working knowledge of garment workers, the vast majority of whom are women of "colour\textsuperscript{4}, I investigate how the perception and remuneration of garment workers as unskilled workers may be linked with a construction of skill that is informed (I) by capitalism, for example the need for cheap labour, (ii) by technological\textsuperscript{5} and organizational change, and (iii) by a gendered and racialized bias underlying the recognition of skill. Important for my analysis is an exploration of the processes by which garment workers resist their further exploitation and protect their non-explicit working knowledge.

Although I do not set out to construct a sociological theory of racial, class and gender inequality in the workplace, my account of workplace interaction and conflict in a garment company is meant to contribute to a better understanding of the constraints and determinants under which female workers in the

\textsuperscript{3} My first exposure to the non-skills of "unskilled workers" came through the reading of Ken Kusterer's "Know-How on the Job: The Important Working Knowledge of "unskilled" Workers" (1978).

\textsuperscript{4} Among feminists in Canada the term women of "colour" is the preferred term, because it avoids the negative definition of "non-white."

\textsuperscript{5} Although technological innovation has a part in the restructuring of the garment industry, the application of new technology is primarily confined to pre- and post-production processes, and not to the construction of the garment itself. Garment construction still hinges on the competence and working knowledge of the sewing machine operators and cannot be performed satisfactorily by machines.
garment factory toil in jobs of low status and low pay. I suggest that a number of factors, such as industrial and economic policies that equate the demand for cheap labour with the availability and the supply of an "unskilled" work force, and a gendered job distribution and an attribution of skill based on racialized preconceptions, all combine to construct the "unskilled" garment workers.

In an attempt to frame how skill is constructed and understood by workers on the shopfloor and managers of the garment company, I examine the debate on deskilling, industrial restructuring and labour segmentation and the labour process. I connect the larger debate to my observations on the shopfloor of AquaSuit\(^6\), a Vancouver based clothing factory.

From my own observations I conclude that from the employers' side, the construction of unskilled work goes hand in hand with the construction of a "tacit", non-explicit, and unrewarded working knowledge. Managerial attempts to keep working knowledge tacit serve to reproduce categories such as "unskilled" labour. At the same time a construction of knowledge as "tacit" and its simultaneous harnessing serves to maintain and implement a more efficient production process, lends itself to the reproduction of exploited labour power and provides a cheap labour force. From the employees' side, working knowledge, recognised or not, serves to accomplish many tasks with the greatest efficiency. It allows workers to mediate between the scientific and rational guidelines on task-performance, the actual task at hand, and the

\[^6\] Throughout this thesis I refer to company and workers by using pseudonyms.
idiosyncrasies of a human body engaged in a mechanized and routinized production process. In consequence, managers and workers use their knowledge about the non-explicit aspects of working knowledge in their power struggle over performance and pay. I argue that attempts of management to appropriate and formalize that working knowledge which allows workers to control their work, go hand in hand with the attempts of garment workers to appear as "unskilled", that is, able to control their work environment without giving management much indication about how this is done. This strategy allows workers to perform knowledgably and efficiently under the guise of being unskilled, it allows retaining a job as an unskilled but flexible worker, and it allows the protection of earnings in the face of increasing demands made by company management.

The research for this study took place on the shopfloor and in the offices of a Vancouver garment company, AquaSuit, and was followed with critical interest by company management and the union that represents garment workers. For the duration of eight months I observed garment workers at their workplace, chatted with employees in their lunch breaks and questioned managers for their outlook on organizational change and the role of garment workers in the proposed team-work environment. In fact it was the controversy surrounding the introduction of team-work that created the opportunity to discuss conceptions of skill and working knowledge with managers and workers.

Because team-work necessitates the re-organizing of the production process, all aspects of garment production became explicit in discussions of the new distribution of tasks. The
restructuring process at AquaSuit, and with it the re-allocation and definition of tasks to sewing-machine operators, provided a window of opportunity to document the contradictory processes underlying the notion of what is termed "skilled" performance. Since discussions of tasks, between workers and managers, and among workers themselves, make task content and working knowledge explicit, workers became reluctant to share information, in particular because there was no clear sense on the part of workers that their sharing of information would benefit them in the long run. Because my field-work ended before team-work came on line, I cannot report on its immediate effects on workers. My conversations with workers make it quite clear what they anticipate, however.

Much of the information I collected during my research I gathered in unexpected ways: not through interviews with garment workers and managers, nor through observation of tasks alone, but being on the shopfloor. As I became part of a shopfloor-routine my insights into the work-routine of garment workers allowed me to explore how the determinants that render a garment worker as unskilled are embedded in the social structure, and have very little to do with the actual capability, expertise and working knowledge of the worker.

The most prominent empirical contribution of my study is the finding that garment workers are actively cooperating in the construction of their work as low-skilled. However, far from blaming the victims by attributing responsibility to workers for being channelled into what is considered by management to be unskilled, low-wage work, my findings suggest that garment
workers, in response to the lack of a career path open to them, have accommodated themselves to the work process in garment manufacturing. By applying their working knowledge to control the production process, for instance, through restricting output, they preserve a small degree of autonomy and control within the narrow margins of a piece-work pay-system.

Put in the context of the conceptual theme of this research, the social construction of skill is just that: an immaterial construct. Recognition of skill is part of a social process. By this token, what is recognized as skill by one party can overlay, obfuscate and render invisible aspects of a working knowledge necessary to perform a task. The concept of skill is more of an expression of preference by those who can set the parameters of what is recognized as skill than a useful analytical tool to capture an understanding of working knowledge.

In the first part of this thesis, Chapters One to Four, I draw on varying bodies of literatures to situate the social construction of skill in the context of economic strategies and also cultural and ideological practices. In Chapter Two I briefly introduce theories of flexible specialization, with a view to how the mobility of capital, and the capacity for technological and organizational innovation impacts on the labour process, and more specifically on an understanding of what comprises skilled work. I explore who the workers are that get employed in flexible manufacturing systems, and how constructions of skill and working knowledge are defined and mediated by (a) the demands of the market (e.g. the flexible worker), but also (b) by cultural constructions of difference that coin themselves in economical
and technical terms (e.g. the unskilled worker).

In Chapter Three I outline the debate on skill and give an overview of some of the most prominent contributions to the debate. I critically analyze a variety of approaches to define and measure skill and discuss how a measurement of skill presupposes an inherently biased system of skill-categorization. I argue that one of the omissions of the labour process debate is the lack of attention given to the non-explicit, but implied aspects of skill: working knowledge. Cognizant of the differential between workers’ alleged and their applicable working knowledge I introduce in Chapter Four the concept of a tacit working knowledge, as a resource drawn upon by workers to perform the often complex requirements of so-called "unskilled" work. To further conceptualize the tacit character of some working knowledge I draw on a phenomenological understanding of the "tacit", where the non-explicit frames and structures an understanding of what becomes explicit in a process of recognition. In this manner the processes of constructing skill can be understood as being partially informed by underlying, and invisible, implied or tacitly attributed notions of working knowledge.

The chapters of Part One map out inconsistencies in the literature on what comprises skill and working knowledge and identify processes that are involved in the social construction of skill. Phenomenology and Social Constructivism share a concern with the processual character of perception or the construction of reality, respectively. Common to both frameworks is an inquiry into understanding how actors come to define social situations
and act on the basis of these definitions. The contradictory processes in which a working knowledge is constructed as tacit prepares the scene for my case study. The intent of this first part of my thesis is to problematize the notion of the "unskilled worker", to problematize an essentialist understanding of what constitutes skill, and outline the intersection of constructions of skill and working knowledge with constructions of a workers' identity. To do so I continue to use the term skill, thereby involuntarily reifying it, in spite of the fact that my critique aims to "deconstruct" the concept of skill and even questions its utility to capture the physical and intellectual knowledge requirements arising from competent task performance.

The second part of the thesis, Chapters Five to Ten, contains my case study of garment workers at the AquaSuit garment company. My study chronicles the experience of a local workforce at the moment of a firm-internal restructuring which takes place in the context of a global restructuring in industrial manufacturing. In Chapter Five I introduce the method of data collection, ethnography, and the tools for a qualitative data analysis, and undertake some methodological reflections on the problem of doing ethnography. In accord with the social constructivist approach, I examine my own ethnographic study for its attempt to present the domain of inquiry as if it were undisturbed by the researcher. The purpose of this chapter is to explore how my observations and the information I was given by workers are themselves a construct, tailored to and through my lens.

In Chapter Six I describe the organization of work inside
the company and report on labour relations between union, employer and employees. I attempt to shed some light on the difficulties union and operators experience in communicating with each other over strategies to accommodate restructuring and explore the operators’ claim of complicity between employer and union.

Chapter Seven introduces the pay-system at AquaSuit. The focus of the chapter is on the means in which a differential competence of operators may be recognized through incentive pay. Particular attention is given to the gendering and racializing processes that allow the construction of pay-scales for men, while collapsing women’s work into a universal category. In Chapter Eight, the analysis of processes that may underlie the recognition of garment workers’ work, is expanded from looking at the pay system to an observation of what operators do when they assemble a garment. Descriptions of the production of a garment are accompanied by a reflection on the working knowledge it takes to perform these steps. The obvious competence of operators to get a job done is juxtaposed to claims of management that the technical and organizational aspects of garment construction first, and workers second, contribute to the successful production of garments. The notion of tacit, implicit, and hidden skills constructed through the preferential recognition of some properties and the disregard for others, is investigated for its potential to account for competency.

In the ninth chapter I discuss how the introduction of new production processes and the organization of work in sewing teams has been a catalyst to expose the contradictions in the labour
process that I observed on the shopfloor of AquaSuit. I explore the responses of operators to proposed change and attempt to understand those responses as mediated by the structural location and resources available to workers. I conclude with a reflection on the strategies of garment workers in opposing managerial attempts to restructure the work floor, and explore if workers’ resistance to changes on the shopfloor are an attempt to retain a small amount of control over the work process and hang on to essential, albeit low-waged, employment.

The discussion of a diverse body of literature in Part One is meant to provide a conceptual understanding of the social construction of skill. In Part Two this understanding is applied to discover the complexity underlying constructions of skill on the shopfloor of AquaSuit. In my thesis the social construction of skill is understood as subject to processes of recognition and non-recognition. Conflicting notions of skill reflect the contradictory nature of the labour process.
2.1 An Outlook on Constructions of Skill and Working Knowledge

The construction of skill manifests itself in a variety of ways. One discourse on skill is informed by a demand perspective: industrial economies need skilled workers for a responsive and high quality production of goods and services. If we look at the workers' skill from the point of view of either the employer or the manufacturer, the successful competition for shares of the market rests in great part in the utilization of available technology and the hiring of employees competent enough to do a job. Skill is the property of a job, and employers seek to fill the empty space with a worker whose qualifications match the task requirements of the job. By extrapolation, association with the job determines the level of skill attributed to the worker filling the slot. Association with a perceived low skilled job constructs a low skilled worker (Crompton & Jones 1984, Reskin 1988). However, there is an imbalance to consider.

If skill is an attribute of the task, how is it that certain tasks are only performed by certain groups? This question introduces a second way of viewing skill. Skill becomes the property of the worker who performs a task. It is a resource available to the worker. In this second scenario, skill is understood as located in individual qualifications, and based on the capacity to perform a given task.

From this point of view, workers employed in low-waged, low paid and low status jobs do not have command over sufficient
resources to perform in a well paid, high-skilled, job. Since men generally earn higher wages, their skills, associated with their jobs, become visible as a valued resource. Women, on the other hand, tend to be employed in low-wage jobs and are not perceived to control substantive amounts of skill. Their skills, "along with the symbolic and material values ascribed to them, come to be seen as gendered or "natural" (Sturdy et al. 1992:8). But even if skill is not seen as a fixed attribute of either a job or a worker, resting in part with the worker and in part with the task, as Cockburn (1985) suggests, it becomes quite clear that the definitions of skill are a political issue.

Some of the literature suggests that workers, particularly women, are channelled into unskilled jobs (Boyd et al 1991; Beechey 1988; Walby 1989). Other literature proposes that whatever work women do will be constructed as unskilled (Rosen 1994; Tomaskovic-Devey 1993; Smith 1994(b)). Both these assumptions explain an aspect of the nexus between the labour market, women's employment, and constructions of skill. However they reproduce the dichotomy of skill located in a task versus located in a person and assume that skill is tangible.

My treatment of skill in the following chapter suggests that the deconstruction of skill does not lead to concrete body of knowledge or activity. Rather, I understand skill as becoming manifest and being dependent on processes of recognition. Consequently, I have no means to concretize skill other than to understand the processes by which it is created and contested.

The debate on skill and its social construction is embedded and shaped in at least three overlapping contexts. One context is
provided by the literature that discusses the mobility of capital, flexible specialization of industries, and the explanatory power of post-industrial versus post Fordist economic theory. In this body of literature the assumption is that workers filling positions have the skills necessary to perform the associated tasks. Skill, and working knowledge per se, are never discussed in detail.

The second context is provided by a literature that focuses on the skill and knowledge of the workforce, and the conditions and constraints under which the individual workers perform. The labour process forms the basis of an analysis of skill for contributors in this debate.

A third context is provided by the literature on pay equity and comparable worth. This debate is fuelled by the quest of workers to receive equal pay for work of comparable worth and has initiated a renewed interest in the processes that contribute to the evaluation, measurement and classification of work as skilled or unskilled.

In this and the following chapter I will outline and critique deficiencies of those models of labour segmentation that concern themselves with an analysis of macro-economic structures. These models assume an understanding of skill without giving attention to how changes in the organization of work dictate changes in what workers do, how what workers do may be considered as skilled or unskilled work and who these workers are that perform skilled or unskilled work.
2.2 Flexible Specialisation\(^7\): the End of Taylorism or the Reinvention of Privilege?

Paid work in the capitalist context is characterised by workers selling their labour power to an employer in order to make a living. The employer sells the product of the workers' labour with the intention of making a profit which in turn provides the economic base to support the employer. One capitalist strategy to increase profit (in a fleeting moment of competitive advantage) is to improve the efficiency of the production process, an enhancement more often than not based on the intensification of workers' labour power.

Economists like Adam Smith (1937), Charles Babbage\(^8\) (1832/1963) and Karl Marx (1975) recognised that one method to maintain or increase profit rests in the division of a production process into singular tasks and operations. This division of labour, put in place in order to maximize the utility of an

\(^7\) According to Piore and Sabel (1984:5) an "industrial divide" is understood as a moment in industrialisation, where the employment of new technology creates a new technological paradigm, which then becomes the dominant form of production. They state that the first industrial divide came in the 19th century with "machinofacture" taking over from craft forms, the emergence of mass production technologies, and the decline in skilled crafts work in, first Great Britain and the United States. The second industrial divide constitutes a turning away from an economics of scale production that has prevailed from the early 20th century to the 60s, to a craftbased, and more specialized production technology in the last quarter of the twentieth century. The re-design of the organizational/manufacturing base of a capitalist economy is facilitated by new channels of communication, transport technologies, information exchange, opening all but the most remote places for the conduct of capitalist production.

\(^8\) Babbage translated Adam Smith's principles into practical cost cutting advice for entrepreneurs. By subdividing tasks, he argued, less skill was required of any individual worker than had previously been the case. Consequently one could also get away with paying less for the labour involved.
individual worker, is based on the separation of conceptualization and execution in the production process, i.e. on a breakdown of complex assignments into simple and routinized tasks. In the early 1900's Frederick W. Taylor, an American engineer, sought to implement the principles of scientific management (with mixed success) into industrial and clerical work processes. New technology facilitated the automation of the industrial production process. This was the beginning of the era of industrial mass production symbolized by Ford's conveyor-belt assembly of the Model T in 1913. The new element in this "Fordist" assembly line was the speed of task completion that could be controlled by management through the technology of production itself. That is, the division of labour and organizational changes worked hand in hand to turn out identical mass-products. The division of labour, so far defined in terms of exploitation and maximisation of utility, became an active element in the control of workers.

The limits of Taylorism and Fordist production processes became most pronounced where alienated workers failed to realize themselves in the fragmented and highly repetitive tasks they performed. The experience of alienation translated into unhappy employees and manifested itself in absenteeism and high labour

---

9 These principles are: (1) Appropriation of the working knowledge of workers in order to plan and streamline the production process. (2) Hiring of workers based on workers' commitment to cooperate with management. (3) Workers and management alike need to be convinced that they need to cooperate in order to mutually maximize their gains. (4) The labour process needs to be redesigned so that execution and conception are not in the same hands (i.e., the hands of workers) (Taylor 1943/1967).
turnover. For management the utility of a "scientifically" assessed and mapped working process became questionable because markets became populated by affluent buyers less willing to purchase mass-produced goods. This new consumer behaviour posed a challenge to Fordist production. In the post-WW II years and, in particular from the 1960s onward, an industrial production process providing for a diversified mass consumption superseded economics of scale production.

The need for restructuring the industrial production process was prompted by the fierce competition industrialized countries experienced. Competition came from newly industrializing low-wage economies and some of the industrialized countries that had managed to translate technological innovation more effectively into profitable production methods. Changes in the technological content of work came to be heralded as a revival of the skilled work of the individual.

One model to explain the obsolescence of Fordist production methods is developed by Piore and Sabel in "The Second Industrial Divide" (1984). They argue that the response to the decline of markets for mass-production in the 1970's was the increased use of flexible production strategies, using organizational and technological innovations to expand the range of products. Flexible specialisation, which enables producers to respond quickly to changing consumer demand, seemed an alternative to the rigidities of Fordist production practises and the increasing fragmentation of markets. For Piore and Sabel a significant consequence of flexible specialisation is the revival of craft production followed by a localised restructuring of industrial
conglomerates. They assert that flexible specialisation is an efficient and viable strategy of production that provides for a more decentralized and, hence, democratic solution to the enduring economic crisis (Piore and Sabel 1984:303).

Piore and Sabel also focus on the organizational strategies of firms in the external market. For them, flexible specialisation allows a move away from mass production to a production of "customized commodities" in a community setting. They argue that flexible specialization has become necessary because the market for mass produced goods has been saturated. Adaptability to niche production, innovation and the reliance on workers with general skills are the key features that characterize a mode of flexible specialization. The control over the labour process shifts from management to the flexible, multi-skilled worker who, in a reversal of the detailed division of labour, works in a more holistic, satisfying job.

According to Piore and Sabel the Taylorist separation of conception and execution of work becomes obsolete in the context of a restructured workplace. Multi-skilled, flexible workers collaborate in semi-autonomous workgroups employing flexible (computer assisted) production methods geared towards the demands of a modern consumer located in specialised and localized

---

10 According to this model, workers' interest in performing skilled, challenging and complex tasks, coincides with management strategies to restructure the production process for economic reasons. Flexible specialisation also depends upon the collaboration of workers and management. In Piore and Sabel's analysis, technology and workers' disposition are the two factors that most significantly contribute to a successful transformation of work, suggesting that the zero-sum approach of labour process theory (some employees loose autonomy and control over their jobs while others gain more) demands revision.
markets. The division of labour is reduced and the hierarchical structure of authority is flattened. The interdependence of local producers with each other is complemented by the interdependence of workers in semi-autonomous workgroups. Piore and Sabel (1984) refer to flexible specialisation as a strategy of permanent innovation: "accommodation to ceaseless change rather than an effort to control it."\footnote{Sociologically relevant is their technologically determinist thesis that an industrial divide is said to take place on a technological level, and subsequently influences the labour process as well as social relations within an industrial society.}

Piore and Sabel predict a change in the nature of work in the interplay of craft-based work and flexible technology. They examine the external labour market in a specific political-industrial context and view workers employed in either core or periphery of the central organization as modern artisans. Where Piore and Sabel detect a flattening of hierarchical organizational structures, Atkinson and Gregory (1986) conceptualize a model of vertical integration of the workforce. Their model of core and periphery workers focuses on strategies deployed within a firm and treats an analysis of an external labour market as secondary.

According to Atkinson and Gregory, managerial strategies that respond to more diversified external markets have led to the development of an internal labour market that is divided into core and periphery. In contrast to Piore and Sabel who do not seem to be concerned with the segmentation of the workforce into "skilled" and "unskilled" workers but foresee a general
enskilling of workers, Atkinson and Gregory differentiate between numerical and functional flexibility. Numerical flexibility refers to a company's ability to adjust labour supply to product demand. Numerical flexibility uses a number of core workers who are skilled and polyvalent. Functional flexibility encompasses a core of possibly multi-skilled core workers and a periphery of low-skilled but highly adaptable (part-time) workers. Here both groups jointly perform all necessary tasks (functional flexibility) to keep the production process going. Peripheral workers, as individual contributors, are non-essential for the production process. They are low skilled and hired to perform non-complex tasks if increased demand necessitates a boost in production.

The "nature of work" in the flexible firm is determined by the location of the firm in a particular sector. While a core of polyvalent, skilled workers can expect job-security and high remuneration, workers in the peripheral segment will have to compete for these benefits. Temporary employment, part-time work and short-time contracts form part of managerial strategies that segment the work-force into skilled and unskilled workers. Atkinson and Gregory argue that increased numerical flexibility

12 In their article, Atkinson and Gregory (1986) criticize unions for simply relying on legislative intervention, brought in by a prospective future labour government, in order to extend employment security from core to peripheral workers. They contend that unions have failed to organize labour and respond to corporate policies such as, for example, moving production into rural communities where labour has no traditional footholds, or utilizing part-time labour to displace full-time employees. Their article, published in the journal "Marxism Today" caused an unequivocal cry of protest from British labour organizations.
is at a premium in the service sector, while increased functional flexibility of workers is required in manufacturing. They concede that the core-periphery model is an "ideal-type" which may be approximated with differential success by work organisations in the different sectors of the economy.¹³

The question then arises: does an industrial restructuring process that has brought about change in the organization of paid work, effect or initiate change in the work experience of employees? Is the projected improvement of working conditions in systems of flexible specialisation (as roughly defined and outlined above) fact or fiction?¹⁴ Is the bifurcation of the labour market into skilled and unskilled occupational categories part of an economic and organizational strategy reflecting the requirements of competitive capitalism or is this bifurcation based on something other than an economic rationale?

¹³ The dominant theoretical models that seek to explain or forecast the relationship between organizational restructuring, technological innovation and the labour process are distinguishable by the models of production associated with each one. Where Fordist production is based on an economy of scale, assembly-line work and a rigid division of labour Neo-Fordist production, although still geared towards mass markets, employs workers who have to become flexible through the use of multiple skills and tasks (Atkinson 1985; French Regulationists: e.g. Leborgne & Lipietz 1988). Under conditions of post-Fordist production the notion of flexibility on the part of the worker is extended onto specialised markets and individualist consumers (Piore and Sabel 1984).

¹⁴ In the context of Northern Italian textile production (e.g., Benetton) flexible and "non-standard" work has led to a highly standardized production of clothing in the peripheral firms supplying producers like Benetton with textiles. Here the supposedly artisan stage of the production process has become more standardized than the "industrial" process by which "flexible" core workers prepare a variety of products from this standardized item (Belussi 1992).
2.2.1 The Concept of Skill in Theories of the Labour Market: A Critical Assessment

The theories of the labour market addressed so far differentiate between skilled and lesser skilled workers and explain the segmentation of the labour market functionally. Berger and Piore (1980) go so far as to claim that what distinguishes secondary (service) jobs from primary (goods producing) jobs is not that the former require significantly less skill, but that "they cannot be learned at all" (Lever Tracy 1984:71). This would imply that some jobs are so low-skilled, and these low skills embedded in human disposition, that anybody could perform them without training at all.

For Berger and Piore, adaptability, innovation and the reliance on workers with general skills are some of the features that characterize a mode of flexible specialization. The control over the labour process shifts from management to the flexible, multi-skilled worker who, in a reversal of the detailed division of labour works in more holistic, satisfying job. The separation of conception and execution becomes obsolete.

Piore and Sabel advocate "accommodation to a ceaseless change" of information and production technology (1984:17). However they are not concerned with the outcome of these changes, i.e. the work conditions of an "post-industrial artisan worker", but with the postulation of a model that explains why capitalist production techniques need to change in order to survive. They are not concerned with how the changing organization of production affects the composition of the labour force and the relations of workers at the point of production. They focus
solely on the flexibility of capital and derive the flexibility of the worker from it. They do not consider that flexibility for the worker may encompass part-time work, low pay, job insecurity, and temporary unemployment. Moreover, their model of flexible specialisation is gender and colour blind. It does not address how flexibility historically has had the character of invisible exploitation, much of it endured by women as workers in the formal and informal economy.15

Atkinson’s model also fails to account for the peripheralization of particular workers, caused in part by organisations like unions which historically favoured representing male, "skilled", core workers. Atkinson overemphasises the impact of managerial strategies on employment patterns by underestimating the active role unionised labour has played in facilitating a peripheral workforce through exclusionary policies. For Atkinson, the gender composition of the (peripheral) workforce is not a concern. Functional flexibility, recognised and remunerated, becomes a positive aspect of male work. Numerical flexibility becomes the characteristic of dispensable women’s work, a flexible feminization.

As mentioned earlier, many of these demand-side perspectives miss a careful analysis of structural inequalities based on

15. Aglietta does not pay much attention to the gender segmentation of the labour force. He considers women as almost irrelevant to the production process seeing their primary role as providing reproductive work at home while positing a reserve army of labour and performing reproductive as well as "productive" work in a functional complement to capital.
gender and "race"\textsuperscript{16} that find expression within and outside the labour process. Although there is some recognition that labour markets are organized according to patriarchal terms of male advantage, and that face-to-face discrimination exists, the locus of struggle for economic advantage in the competition for power and resources takes place between organizations not individual workers. The ability of capital to move around, create and recreate employment opportunities and switch back and forth between investment in cheap labour or in more capital intensive technology or, on both depending on the most profitable projection, is but one condition that permits the playing out of gendered, class based or racialized privilege. The role that sex and "race" play in the gendered and racialized organization of work itself, and the pervasive nature of sexual and racial segregation and inequalities expressed in the racial and gendered composition of jobs is hidden behind an economic rationale.

Yet it is important to recognize that strategies of competitive and efficient production for a capitalist enterprise comprise patriarchal (Cockburn 1985; Smith 1993; Acker 1992) and racialized practices as part of its organizational structure (Amott & Matthaei 1991, Lamphere 1992; Phizacklea & Wolkowitz 1995; Tomaskovic-Devey 1993)\textsuperscript{17}. The exclusion of some members of

\textsuperscript{16} Because the differentiation between a number of human "races" is a socially constructed distinction that bears no biological relevance, I am hesitant to propagate the use of this misnomer without constricting its use by quotation marks (Das Gupta 1996:9; Hall 1996:226)

\textsuperscript{17} According to reports published by the Equal Opportunities Commission in Britain (1994) the degree of racialized segregation that continues to exist in British labour markets indicates that (continued...)

25
the workforce from certain positions, based either on attributions made to "race" and gender roles, and invoking the image of the "unskilled" worker, or by channelling of these workers into particular, "unskilled" jobs exposes a vicious cycle. Workers with ascribed attributes are associated with certain jobs and, in turn, those jobs become determined by exactly the attributions made to these workers.

On the other hand, human capital explanations and similar interpretations that seek to match job requirements with the qualifications of applicants tend to overlook that supply-side approaches are not sensitive to how jobs themselves do not possess gender-neutral or "race" neutral status (Tomaskovic-Devey 1993:5). Rather, the segmentation of the labour market in skilled and unskilled jobs and the corresponding segregation into male and female jobs (Armstrong and Armstrong 1984) requires an explanatory framework that is more inclusive of factors outside human capital explanations.  

Definitions of the segmentation

"even when black and ethnic minority women are skilled and experienced they are twice as likely to be unemployed and work longer hours in poorer conditions for lower pay than white women" (Phizacklea 1995:60).

The basic tenet of human capital theory is that individuals invest time and money in education, training and other assets that in turn increase their worth for prospective employers. Inequalities in the market place are explained with respect to the differential human capital of individuals, with an underlying assumption that employers act rationally when they pay only what the productivity of each individual employee justifies. Becker (1964; Mincer 1966; Polachek 1981) define the segmentation of the labour market, based on ascriptive criteria, into types of employment by segregating horizontally as well as vertically, in skilled, unskilled, male and female, and "colour"-coded jobs. Time and time again, human capital explanations have been shown to explain only some aspect of the wage differential between men (continued...)
and/or segregation of the labour market that focus on the organizational aspects of work tend to emphasize the different cultural values responsible for channelling men and women into different work trajectories (Matthaei 1982), the differential resources available, and the constraints (organizational and geographical) under which workers move about in the labour market (Atkinson & Gregory 1986; Piore & Sabel 1984). But these attempts to explain a segmentation of the labour market in primary and secondary occupations cannot account for the ethnic segregation or the clustering of specific groups of workers in low-paid, low-valued jobs. Workers' often considerable investment in "human capital" is suspended by governmental policies that allow these groups particular employment only, or pushes individuals into seeking employment within narrow niches occupied by individuals of similar "immigrant" status (Ng 1988).

A supply-based explanation focuses on the role of personal qualifications in sorting people into jobs of different skill and pay. A demand-based explanation, although recognizing structural

---

18 (...continued)

19 As is the case for Filipinas, who receive the right to enter Canada based on a work-permit that allows their employment as nannies only.

20 Hiebert (1995) describes in a comparison of Vancouver, Montreal and Toronto labour markets how complex networks based on ethnic bonds have sprung up to provide employment within the confined and often discriminatory parameters of jobs accessible to men and women who do not constitute membership in a "charter" group. Ocran (1996:230) finds in interviews with immigrant societies "a widespread concern about inadequate settlement and training programmes even for recently arrived immigrants."
inequalities, holds that the characteristic of a job is itself not so much a function of class-based, gendered and racialized privilege, but a result of market organization and job stratification. The construct of a self-reflective multi-skilled garment worker, ready to accommodate market driven technological and organizational strategies, captures the essence of the call for a functionally and numerically flexible workforce. However, it obliterates the cost this worker shoulders in exercising flexibility in and outside the workplace. The particular situation garment workers find themselves in, as a necessary but at the same time highly disposable workforce, highlights the tension between the demand for skilled work and the redefinition of this work as unskilled in the context of socially constructed categories of human capital. Before engaging in an analysis of garment workers' particular position in the labour market it is imperative to explore how technological and organizational change has impacted on the occupational profile of workers.

2.3 Industrial Restructuring and the Flexible Workforce: How the Skill of Garment Workers and the Global Economy Are Related

Much of the literature on economic restructuring and flexible specialisation does not discuss skill and working knowledge. Instead, it accepts skill as unproblematic and

21 Economic/labour market theories emphasize a particular perspective: they either assume a demand driven economy, where the demand for production shapes and governs production strategies including the most efficient application of labour (Aglietta 1979; Atkinson 1986) or alternately they focus on the supply of labour or resources in general, and illustrate how the market is shaped through the resources brought to it (e.g. Becker 1964; Mincer 1966; Polachek 1981).
uncontested. Taking skill at "face value" poses a major weakness in this literature. When workers' skill performance is addressed within the labour process debate, the definition of what can be considered "skilled" work is often limited by a lack of reflection on the non-technical aspects of "skilled" work. For example, Braverman's treatment of deskillling (1974) does not fully grasp the degree to which implicit and unrecognized skill and working knowledge is part of the contemporary labour process. While he recognizes the relativistic character of classifications built on contemporary notions of skill, he continues to focus on skill differentials between craftsman and operator, with a bias towards seeing machine operators as low-skilled and performing low-skilled work.22

As a response to this omission and the fact that skill is a contested term, that employers and unions perpetuate concepts of skill that are based on gender and/or racial and class prejudice, the literature on pay equity and women's employment began to discuss and document the differential evaluation of skill (Acker 1989; Boyd, Mulvihill and Myles 1991; Beechey 1988; Cockburn 1985; Gaskell 1983,1991; Phizacklea 1991; Steinberg 1990; Wajcman 1991(a); Sturdy et al 1992). The assumption of, for instance, women's innate flexibility to cope with demands arising out of gainful employment, reproductive work and domination by men, takes advantage of and concomitantly constructs this flexibility

22 "But for the category of operatives, training requirements, and the demand of the job upon the abilities of the worker are now so low that one can hardly imagine jobs that lie significantly below them on any scale of skill" (Braverman 1974:430).
as "naturally" given and not a skill at all (Jenson 1989; Walby 1989). Most striking is the fact that the attribution of "unskilled work", is most often made in association with work performed by women and, in particular, women of "colour" (Ng 1987; Rosen 1994; Tomaskovic-Devey 1993,). This attribution would indicate that there exists a stratification mechanism that (i) associates persons or a group of people with particular skills, and (ii) streamlines women into what is defined as "unskilled" jobs.

A social constructivist perspective on skill construction explores the many aspects and processes in which what is understood as skill are formed. To explain how a channelling or streaming of women into low-paid jobs (such as garment work) is associated with the construction of these women as unskilled workers, is the intent of this thesis.

2.3.1 Who Are the Flexible Workers?

It is a shortcoming of economic theories that accept the market as regulatory intervention to accept change in the organization of work and the concomitant segmentation of the labour market without considering the workers who are destined to fill the jobs.\(^\text{23}\) According to the Labour Force characteristics

\(^{23}\) Contrasting labour-process theory with the theory of flexible specialisation Wood (1989(a):7) finds both deficient in accounting for what actually happens on the shopfloor and in the offices. He argues that it is necessary to discriminate between technological change and organizational change, and holds that organizational change may have more influence on the division of labour and skill levels than technological change. Taylorism, Fordism, flexible specialisations are first organizational theories and then find application in technological innovation. (continued...)
published by Statistics Canada (1995:64-66)) women's participation has increased considerably over the past 20 years. In 1995 women constituted 45% of all workers (1976: 37%). When this aggregate number is broken down into occupational distributions, 86% of all women are employed in the service sector, 14% work in the goods producing sector, and 26% of all women in the labour force work part-time.24 There is a small and shrinking number of full-time, permanently employed, "privileged" male workers as compared to a large and increasing number of mostly female, temporary, part-time and home-workers.

Women have generally lower incomes than men (58%), and make up more than half of the total population with low incomes (56% of all persons living in low income situations were female representing 20% of the female population). But although female labour force participants currently experience lower levels of unemployment than their male counterparts (9.9% ♀ versus 10.8% ♂), immigrant and visible minority women experience higher levels of unemployment (14%) than does the female population as a

23(...continued) His hesitation in identifying technological change with a possible deskilling of some parts of the work force indicates little sensitivity however, to the gendered and racialized division of labour reproduced in the restructuring of the workplace.

24 "The service industries include: trade; finance, insurance, and real estate; business, educational, and health and social services; accommodation, and food and beverage services; public administration, transportation; and communications. The goods-producing industries include agriculture, resource-based industries such as mining, forestry and fishing, manufacturing; construction; and utilities" (Statistics Canada 1995:70).
whole.\textsuperscript{25} Table 1 shows the distribution of paid workers in the various segments of the labour market. And although women of "colour" tend to be better educated than their "white" counterparts, about 15\% of all women of "colour" are employed in low-wage manufacturing jobs, outnumbering "white" women by 45\% (15.7\% versus 10.8\%).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Administration</td>
<td>5.3</td>
<td>7.2</td>
<td>4.2</td>
<td>8.5</td>
</tr>
<tr>
<td>Education Health/Welfare Services</td>
<td>20.3</td>
<td>26.7</td>
<td>8.5</td>
<td>8.7</td>
</tr>
<tr>
<td>Transportation Communication/Utilities</td>
<td>5.9</td>
<td>4.5</td>
<td>7.0</td>
<td>10.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>15.7</td>
<td>10.8</td>
<td>27.3</td>
<td>24.2</td>
</tr>
<tr>
<td>Trade</td>
<td>18.5</td>
<td>18.2</td>
<td>14.4</td>
<td>17.0</td>
</tr>
<tr>
<td>Finance</td>
<td>9.7</td>
<td>7.5</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Personal/Business Services</td>
<td>23.3</td>
<td>21.3</td>
<td>27.7</td>
<td>11.9</td>
</tr>
<tr>
<td>*Agriculture and Non-Agriculture Primary</td>
<td>1.3</td>
<td>1.9</td>
<td>2.5</td>
<td>5.7</td>
</tr>
<tr>
<td>Construction</td>
<td>-</td>
<td>1.7</td>
<td>4.1</td>
<td>10.1</td>
</tr>
<tr>
<td>All Industries</td>
<td>100.0</td>
<td>99.9</td>
<td>100.0</td>
<td>99.9</td>
</tr>
</tbody>
</table>

* Combined due to size of sample

As the composition of the work force changes with more women entering the workforce, the question arises of what mechanisms operate to construct workers as unskilled in order to be channelled into particular jobs? (Beechey 1988; Duffy and Pupo

\textsuperscript{25} Unless indicated otherwise, these figures are taken from "Women in Canada, A Statistical Report"; Statistics Canada 1995.
Duffy and Pupo (1992:93) answer this question by pointing out how theories of marginalisation cannot account for the fact of the continuing gendered segregation of women at the periphery and men at the core. They argue that many groups are marginalized and face restrictions in their access to the labour market. Therefore, it is not the disparity of female workers (from the "white" male standard), and the difference between themselves, but the policies of the workplace, work organization and state that intensify the segmentation of women into a secondary economic status.

In this chapter, I have outlined how a macro-economic theory operationalized as an industrial strategy of production, is insensitive to its impact on the composition and task-content of work. The demands made on workers in flexible production systems as multi-skilled workers and the strategy of a capitalist production system to employ the cheapest labour available, constitute a somewhat contradictory relationship. Out of this tension, a category of workers is constructed that "embody" this contradictory relationship: the "unskilled" but competent, docile but responsible worker. In the process of the creation of the new worker, the notion of skilled labour is re-invented, alternately

---

Walby (1989:127) argues that flexibility is a preferred form of capitalist organization and must be understood independent of the construction of women as flexible workers. She points out that the reserve army of labour thesis is not evidenced by the continued and increased use of women's marginalized low-paid labour in sectoral developments. No significant closure in wage gaps has occurred and the occupational segregation continues unabated even in new areas of job creation. Women's continued employment during recession runs against the prediction of the "reserve army" thesis.
attached to the task and the person performing the task. I have cited some instances where feminist research criticises the theory and practice of flexible production for its cursory treatment of skill as a technical property. Although this critique tends to focus on the mechanisms of stratification that create the flexible skilled or unskilled worker, it does not problematize the essentialist character underlying a common sense understanding of skill. I turn to this issue in the following chapter.
CHAPTER III  The Social Construction of Skill

In this chapter I will discuss the construction of skill and analyze where the discourse on skill falls short of fully recognizing the realm of "unskilled work". To begin with I revisit the deskilling debate and synthesize its most compelling arguments. From there, I explore the understanding of what constitutes unskilled work and point to some of the determinants: gender, "race" and class. I introduce, in contradistinction to explicit notions of skill, the concept of a (tacit) working knowledge and discuss its properties in the context of paid employment.

3.1 The Labour Process Debate on Skill

What can be considered skill and how skill can be measured has been the subject of heated sociological discussion incited by Braverman's (1974) pessimistic prognosis for an increasingly deskilled and alienated working class, and Bell's (1973) prediction of workers' enskilling in a high-tech, post-industrial workplace. Where technological change is associated with deskilling, predictions are that the workforce will continue to polarize into skilled and unskilled workers. The deskilling thesis holds that under the conditions of mass production, industrial processes of increasing automation subordinate the worker to technological devices which in turn are governed by employees in managerial jobs. Braverman (1974; also Gorz 1982) argues that technological change necessarily alienates workers
from their workplace and the product of their labour.\textsuperscript{27}

Instigated by Braverman's prediction of a general deskilling, not only for blue collar workers but also middle management, the debate has produced a multitude of responses depending on the different theoretical insights and assumptions of its participants.

Marxist and neo-Marxist thinkers came to the defense of Braverman, but not without voicing their reservations about his sweeping predictions on deskilling (Armstrong 1988; Marglin 1982). Non-Marxists, on the other hand (Attewell 1987; Form 1980; Form and McMillen 1983; Spenner 1983) are critical of Braverman's argument and conclude that there is no broad evidence to support a "deskilling" hypothesis.\textsuperscript{28} Wood (1987(a):29) suggests that the discussion in the post-Braverman era need not concentrate on Taylorism but should focus on the economic context in which scientific management operates, on the constraints management experiences in regard to the implementation of new production techniques and, most importantly, on the role of the worker. In the process of restructuring the workplace Kelly (1985:30) argues, workers may have gained more individual control over their pace of work and over their time, but simultaneously become more visible to management and thus more susceptible to managerial complaints of individual low performance and output.

Where technological change is associated with skilling, a

\textsuperscript{27} For an overview of post-industrial versus post-Fordist theories on work and employment, see Arai (1995).

\textsuperscript{28} For a more detailed overview of the ideological issues underlying the deskilling debate, see Form (1980, 1987) and Hunter (1988).
skilling theory argues that, as new technology mediates and replaces some of the immediate working knowledge of workers, the newly created work positions demand a different and more complex working knowledge (Zuboff 1988). Discussions of skill in an upgrading paradigm are based on a technologically determinist view, wherein the development of production technology and techniques are seen as the major influence in shaping the task design of a job (Adler 1986; Blauner 1964; Bell 1973; Zuboff 1988). As new technologies reduce job complexity and discretion for some workers, they also create new, more skilled opportunities and paths of mobility for others.

Associated with a skilling or deskilling argument in this debate is the understanding of skill as a component of the work structure and the work organization. Skill is embedded in the complexity of the tasks and the authority a worker has to exercise control over the performance of these tasks. Skills are seen as the property of a given job rather than being the property of the worker (Wood 1987(b); Bell 1973; Spenner 1983).

However it appears as though this debate tends to overlook the cost incurred by those who are forced to perform in a "functionally and numerically flexible" way, because they wish to retain employment. In order to fulfil the demands of a new position or function, workers have to draw on their organizational, intellectual and material resources without getting either recognition or better pay for their efforts.

29 For reasons of brevity I will only outline the two contradicting stances taken by e.g. Braverman and Bell and subsume all the contributors to the debate, where applicable, into either of the two camps.
(Berggren 1993; Wokutch 1992; Endo 1991). In the end, the debate over the labour process, whether dichotomized in both Marxist deskilling or neo-liberal enskilling projections, overlooks the agency of workers and their resistance to a change in work practises. This debate also fails to consider how this agency may alter the outcome of a restructuring process.

In the early 1980's a broader conceptualization and projection of influences on the labour process became the focus of research. The impact of managerial control other than through Taylorist organizational principles became a significant issue. The recognition of workers' agency and capacity in altering the labour process and their participation in their own exploitation was addressed prominently by Burawoy (1978, 1979). The lack of explanatory power provided by either de-skilling or enskilling arguments for a contradictory yet non-militant behaviour of workers\textsuperscript{30} led to the realization that systems other than direct managerial control might co-govern the labour process.

Technical control asserted by the division of labour and bureaucratic control accomplished through the centralizing of decision making, were two aspects of a multiplicity of control strategies that moved towards specifying work tasks, monitoring work activities and evaluating workers (Smith 1994(b):414;

---

\textsuperscript{30} Braverman (1974) focuses solely on workers' loss of control over their work and what seems management's obsession with the control of workers, that is, controlling their skills and their knowledge. The debate on the labour process only recently began to include an aspect of skill, non-explicit working knowledge, which was not captured by the on-going deskilling controversy.
Burawoy 1979; Edwards 1979; Hochschild 1983, Thompson 1990). The existence of control systems other than those monitoring the material production process widened the focus of the labour process debate but also suggested that there was no clear indication of an universal de- or enskilling. Rather, trends to de-skilling and enskilling were found to differ when compared in different industrial, organizational and occupational sectors (e.g. Penn et al. 1992). Littler (1982:9-10) reflected early on the non-material nature of the monitoring system which constructed some workers as low skilled and bare of resources:

... most jobs have significant skill but this is recognized and rewarded as "skilled" only to the extent of the capacity of workers to define it as skill - a capacity which is derived from their "strategic position in the production process" and collective organization.

The implication is that skill, far from being an objective fact, is contested by capital, labour, men and women. On the one hand, skill is discursive, only "there," if made explicit: on the other hand, skill has objective properties, and becomes visible for those who want to see it. From here it follows that skill understood as a social construct is an expression of the dominant social forces and values that underlie a particular cultural context. Skill is subject to a process of recognition.

However, beyond the definitional controversy of what constitutes skill, there are the objective requirements of a task and the subjective knowledge brought by a worker to solve a task.

31 Hochschild shows in her study "The Managed Heart" (1983) how managers attempt to manipulate workers' personalities, minds and very sense of self. Recent developments towards team production understood as serving and servicing a customer, co-worker, base themselves precisely in engaging workers in emotional labour without remunerating this effort.

39
How can the objective and subjective conditions that constitute task and task performance become non-explicit and remain hidden at some times and become valued and acknowledged at other times?

3.2 "Unskilled" Work In Context: The Feminization of "Unskilled" Work

Skill can be an attribute that transcends the economic power of the individual within society. Crompton and Jones (1984) support this interpretation when they state that:

gender itself contributes to the social definition of skill. ... jobs, it would seem, are defined as being on the lowest ... grade, not because of the technical content of the work itself, but because the job is usually carried out by a woman (1984:4).

Some researchers have been sensitive to the fact that workers control a whole range of skills that are either invisible or social, and not part of the technical and observable expertise commonly associated with skill and working knowledge (Wood 1989(a); Kusterer 1978; Manwaring and Wood 1984). Moreover, some authors (Crompton and Jones 1984; Gaskell 1983,1992; Smith 1994(b); Acker 1989) suggest that gender roles have influenced skill classifications. Others advance the idea that racial and gender discrimination operate together to legitimate the recruitment of workers into some jobs while excluding them from others (Bruegel 1989; Gannage 1986; Henry and Ginzberg 1985; Phizacklea 1991; Tomaskovic-Devey 1993). The argument brought forward is that notions of skill are imbued with gender and ethnocentric biases, and ideological and political concepts.

Thus, an important aspect of the construction of difference between male and female workers is that perceptions of work and
skill are not neutral but gendered (Jenson 1991; Rubery 1978). In light of the increasing feminization of the labour force, accounts which try to explain women's position in the workplace by focusing on structural-determinants such as the capitalist mode of production and a patriarchal society (e.g. Cockburn 1985) do not give sufficient attention to how the reproduction of these determinants takes place in everyday activities: in the family, in the workplace, in private and public life. In order to comprehend how gender and racial discrimination are embedded in the segmentation of the workforce, a discussion of the gendered and racialized discourse employed in the categorization of work and skill is indispensable.

The division of labour along gender lines is reflected in the different opportunities for employment for men and women. In a more insidious manner, the division of labour along gender lines implies a link between the "gender of jobs" and the perceived skills necessary to perform a particular job. Accordingly, what is considered skilled work for men may not be considered skilled work for women, but attributed to some innate competence (Cockburn 1985; Gaskell 1983). Boyd et al. (1991) and Horrell et al. (1990) show that women's work is associated with low-pay and low-status. But it is not just the type of work that women do that is responsible for their lower status and lower incomes. The status of male workers is generally higher than the status of their female counterparts doing a similar or the same job.

Since women are found in those segments of the labour market that are considered to require low-skilled input, low-skill
becomes a personal attribute.

When women's work involves skills associated with men's work, the job rewards for these skills are lower than for men's work. When their jobs require skills differentially found in women's work, such as human relations and caretaking skills under trying circumstances, women have often received no compensation for these job attributes or have been negatively compensated for these features (Steinberg 1990:475).

The selective recognition of women's skill goes hand in hand with the systematic oversight of working knowledge exercised by women and calls for an analysis of the characteristics of this undefined and implied dimension of skill.

3.2.1 Gender and "Race" as Determinants of Skill

The observation that skilled jobs have a task component which requires skilled performance, and that social and ideological attributions are attached to the recognition of this task (Vallas 1990:391) does not satisfactorily capture the fact that tasks themselves are subject to gendered and racialized construction. Embedded in tasks rests the social construction of what these tasks encompass and an ascription of the attributes of the worker performing these tasks. Here the notion of a tacit knowledge, understood as an unrecognized working knowledge, and feminist research on the social construction of skill touch a common ground.32

Skilled labour becomes what society chooses to recognize as such: work done by men, jobs that require certifications

---

32 For example: in a common sense understanding, the mediation of a multiplicity of qualitative different demands stemming from reproductive work, waged work, and inter-personal conflicts, is not a skill but an attribute of the female "nature."
available only to men, with the male workforce itself stratified along racial constructions of identity. To perform "unskilled" labour becomes an experience of many women. Even their competence in performing a job efficiently in spite of ever changing demands in an environment contaminated by discriminatory practises (on and off the job) remains unrecognised. Women remain perceived as unskilled and naturally "gifted" with dexterity, patience, and deference as biologically determined traits.

But the division of labour and attribution of skill is also demarcated along lines of ethnicity. Ethnicity and immigrant experience become salient features in the allocation of skill. Although, technically speaking, an immigrant status ceases to exist with the acquisition of citizenship, the notion of "race" attributed and attached to specific groups sharing an ethnic and cultural background, constructs these groups as "non-assimilable foreigners" (Creese 1991:118). Their educational attainment and work experience becomes devalued and this impedes the securing of well paying jobs (Li 1992). But the actual or attributed status as immigrant is of little consequence for those groups who, according to a racialized ideology, come from a Western European cultural context and are "white."

Once non-visible immigrants have established themselves, once they have paid their dues, they're no longer new immigrants. People of "colour" however, some in Canada for four or five generations, still get asked where they're from ... If you are a person of colour you're from somewhere, you couldn't possibly come from here (Leah 1993:164).

Creese points to the racial subtext underlying constructions of the non-assimilable foreigner: whereas in the early 20th century European immigration to British Columbia was seen as a problem of quantity, unwanted immigration from Asia and Latin America was seen as a problem of quality.
The label of "immigrant" is utilised to classify all these women as secondary, unqualified (if not semi-legal), and "unskilled" workers (Creese 1986, 1991; Ocran 1996; Steinberg 1990, 1991; Giles and Arat-Koç 1994).

Within the debate on working knowledge and skill, the preoccupation with "white" and male centred evaluations of skill obfuscates and ignores the colour of labour, and the colour of skill. From this recognition arises the wish to examine the working knowledge held by those who work outside the "skilled" and often male tracks of employment. Their work is considered unskilled and those regarded as the most dispensable within a marginalised and unskilled workforce are women in "unskilled" jobs.

Steinberg (1991) suggests to trace this infusion of bias by examining the gender and racial bias in the operation and implementation of job evaluation schemes. The focus of an analysis should not only be the design of the evaluation scheme, i.e. whether the importance of certain skills traditionally attributed to female workers are recognized, but the context in which job evaluations and the evaluations of skill take place.

Critics of job evaluations, like Steinberg, have pointed out how "social convention and ideologies routinely enter into job evaluations and classification, to the clear detriment of women workers" (England & Dunn, 1988). "Since job evaluation involves hundreds of detailed decisions, each of which has implications for the final estimates of wage discrimination, those who control
job evaluation, control the outcome" (Steinberg 1991:195).  

Quaid (1993) expands on the importance of the social context for the development of job evaluation schemes by arguing that "the rational properties of job evaluation have been oversold. Job evaluation does not evaluate. Rather job evaluation must be seen as a device that disguises cultural values and political action within the context of rational technique. Despite its objectivist and rational appearance, the relative worth determined by job evaluation is nothing more than the expression of culturally sanctioned pay claims" (1993:77).

Underlying Quaid's assertion of the social construction of job evaluation schemes is a concern with accepting means of measuring skills and job evaluations as objective and supported by a scientific and rational undercarriage. Rather than expansion and introduction of new measures of skill, what has to be researched are the political and cultural influences that affect compensation systems, classification systems, constructions of skill and the channelling of workers into particular trajectories. An understanding of how women's work can be defined as low-skilled requires an inspection of the assumptions that inform the notion that skill is measurable in the first place.

34 The literature and research analyzing job evaluation schemes is considerable... [T]he point of reference is no longer a male standard of job classification, but an analysis of the ideology and evaluation practices that keep women from gaining positions of control and power in the workplace (Acker 1989; Steinberg 1990; Boyd et al 1991).

35 Quaid argues, (feminist) writers concerned with eliminating gender-bias from job evaluation plans have failed to grasp the true essence of the technique and bought into rationally improving a scheme that in itself is irrational. She warns that preoccupation with purging an evaluation system of male bias does not address the cultural construct of devaluated women's work. Her suggestion is that a change of cultural and political order is needed prior to the articulation of gender neutral job assessments (1993:76).
At this juncture, I want to entertain the notion, for analytical purposes, that skill can be measured if the right means are devised. With this strategic reification of skills I intend to demonstrate the incompatibility of notions of measurement, regardless of their sophistication, with the convoluted reality of attributions and social constructions accompanying an understanding of what skill and working knowledge are.

3.3 The Unhappy Marriage Between Skill and its Measurement: Defining First What Can Be Measured Later?

Since the conception and measurement of skill is subject to conceptual and ideological preference, gender and class\textsuperscript{36} biases being the ones best researched, (Phillips and Taylor 1979; Gaskell 1983; Acker 1989; Hamilton 1990) we can envision that similar skills being explicit and recognised if performed by men, remain tacit and unrecognised when accomplished by women.\textsuperscript{37} This implies that in the assessments of jobs, some attributes or skills are not included in measurement criteria, or they are

\textsuperscript{36} My treatment of the intersection of "class" and skill is secondary to the attention I give gendering and racializing processes. This is not a personal preference or a prioritizing of one over the other, but a recognition that in the context of my research, class membership of garment workers as a means of stratification was overlaid by gender and racial stratification. Educational attainment and parental class membership (in the country of origin), standard measures to predict class membership, were not good indicators for garment workers.

\textsuperscript{37} An example taken from this research shows how men and women work together to heave large rolls of fabric onto a spreader. In the collective agreement it is made explicit that male cutters should perform this job on account of women being too weak. This serves as one of the justifications to pay male cutters higher salaries than female cutters. Not only are female cutters robbed financially, they also receive no recognition for one of the activities they perform.
measured but recognised as existing only for certain groups. The measure of skill hinges on political concepts. Further, the political aspect of skill measurement is embedded in the interests of a male monopoly on holding high-skilled, high-wage jobs. Political aspects of skill measurement also exclude women from acquiring the status of skilled workers in traditionally "female" occupations.\textsuperscript{38}

However, in the debate on skill in the labour process not enough consideration has been given to the validity of the measures that are supposed to corroborate either de- or enskilling. In consequence, a non-defined grey zone emerged in which was sorted what could not be accounted for: a tacit dimension of skill and knowledge. This "grey zone", as a residual category, threatened to spill over into the neatly defined forum for debates on skilling and deskilling.

Meissner (1986:64) gives an example of the properties of the non-defined aspects of skill and its appropriation. He describes the existence of this zone as an ideological construct of male dominated organizational practices:

Organisations depend internally on women for essential services, especially those involving material and symbolic maintenance and support for men in positions of authority. This dependence is one side of an organization. The other side is the practices which silence women and make them invisible, and, to the extent that it is not possible, diminish them. The dependence of organisations on women and the muting of women contradict each other, and that

\textsuperscript{38} Hartmann (1982; also Cockburn 1983) analyses how organised labour, understood in its broadest sense as originating in medieval guilds and extending into the unions of the nineteenth and twentieth centuries, has been successful in excluding women from jobs, even if these jobs were at one point associated with women's work.
contradiction identifies organizational communication practices as ideological.

The existence of this undefined zone of working knowledge is based on the contradiction between a recognition of some aspects of a task as merely (women's) skills and an obliteration of women's input. It indicates that the measurement of skill not only contributes to stratification of the labour market into high and low-skilled jobs, but also encourages practices that further disadvantage those who already hold jobs perceived as low-skilled.39 Women's assumed capacity to defer to male authority is one example of the silencing of women. While, in a professional setting men who manage to harness their egos and defer to other men are hailed for being team-players (an asset) women's skill in deferring to the authority of men is not only not recognized as a skill, it is even constructed as "natural."

Since it appears problematic to arrive at an agreement of what constitutes a proper measurement of skills, free of ideology, how then are skills to be measured? A look at existing models of skill measurement may yield some insights into where

39 For example, Steinberg (1990:462) reports for clerical typists that they "regularly dealt with confidential information and records, were responsible for finding a replacement for a sick teacher or co-worker, and were responsible for scheduling or coordinating meetings and for maintaining personnel, budget or other records. Yet, the job specification for clerk-typist reads "that work involves responsibility for performing clerical and typing or word processing duties of limited duty and responsibility." Organizational competence, highly valued and remunerated in male employment, is not even part of the job description of these clerical workers' jobs, and becomes, because implicitly assumed, invisible. Simultaneously, having the competence and working knowledge, but being prevented from articulating and applying it except in the single permissible channel of supporting a supervisor, renders these workers mute.
the construction and operationalization of measures fails, and how, if at all, the measurement of skill can be pursued without an accompanying change of the social relations and economic conditions that define our society.

There are three broad ways to address the measurement of skill. One method simply asserts or assumes skill without empirically testing for its presence. This measurement approach, termed the non-measurement of skills (Boyd 1990:288), is often employed because of the conceptual problems researchers encounter if they try to operationalize skill. Reliability and validity problems associated with the non-measurement of skills, and its allocation of occupational groups with implicit skill levels (Spenner 1983:828), makes these measures susceptible to bias and measurement error. Moreover, a strategy problematizing skill as a property that cannot be captured by empirical measures, is vulnerable to the critique of positivist social science that demands that empirical operations to measure skill must be replicable.\footnote{Until as recently as "twenty years ago, the dominant methodological approach to the measurement of job skill was non-measurement, or an uni-dimensional concept- we assumed that we knew what it was- or indirect measurement, usually with education or wages" (Spenner 1990:417).}

The second method is one of indirect measurement where educational levels combined with length of experience or membership in an occupational group are taken as an indication of overall skill levels. As with the practice of non-measured skill levels, the dependence of skill measurement on the assumptions established by the choice of particular indirect indicators,
makes this strategy insensitive to its bias and, in effect, determines the medium it sets out to measure.\textsuperscript{41}

The third approach to the measurement of skill is by means of directly measuring a number of variables that themselves have been catalogued and tested in various applications. According to Spenner (1990:408) one such catalogue, the Dictionary of Occupational Titles (DOT; United States Labour Department 1965, 1977) contains 40 variables measuring 12,000 jobs, and is the most widely and frequently used reference as the basis for direct measures of skill. Self-report measures are based conceptually on the Dictionary of Occupational Titles (DOT) and embraced by Spenner as offering a fairly accurate assessment of skill. He contends that

\begin{quote}
there is no systematic evidence that people seriously distort reporting of their job characteristics; to the contrary, most evidence suggests that people by and large, are fairly accurate perceivers and reporters of their immediate job situation (1990:416).
\end{quote}

This assertion contradicts the findings of Horrell et al. (1990) in their research on self-reported differences of men and women of the types of skill required in their respective jobs. One of the conclusions of their study was that,

\begin{quote}
perceptions of skill and job content are very much influenced by the current status attached to the job ... perceptions of skill content [of jobs] are influenced not only by the status accorded to the job by the employer and by society but also possibly by the centrality of wage work to the individual concerned (Horrell et al 1990:214).
\end{quote}

Thus, none of the proposed means of measuring skills appear to

\textsuperscript{41} A most common use of, for example, combining education (or training) with seniority in order to predict skill and determine wage levels is made by unions in the collective bargaining effort.
receive unequivocal support from the research community.

By remaining descriptive, current definitions of skill (e.g. U.S. Labour Department 1977; Hunter 1988; Spenner 1983) extend into a system of job classifications that exclude the non-explicit dimension of working knowledge. Depending on either an emphasis on the "complexity of a job" or an emphasis on the "control over the work environment" as indicator for skill, job classifications come to support either a skilling or deskilling hypothesis, or arrive at a little-net-change hypothesis (Form 1987). However, any one of the above conclusions is plagued with deficiencies because they assume that skill has some cognitive dimension that cannot be made explicit, i.e., that cannot be addressed and is an innate quality.

It appears to me that the categories of "complexity of tasks" and "autonomy/control over tasks" are very broad classifications for the measurement and identification of the skills required in certain jobs. Jobs assessed for their skill content on the basis of these two categories reproduce the general assumption that jobs that score low on either measure are low-skilled. However, all these measures indicate is that they were developed on the basis of employment models that presuppose

---

42 This hypothesis has not been corroborated, and is, as Spenner (1983; also Form 1987) comments "more a characterization of empirical evidence than a well developed theory."

43 Women's double day as workers in gainful employment and at home points to another aspect of the construction of skill: men perceive women as non-skilled, peripheral workers, when women need to be knowledgable, skilled and resourceful in order to organize their work(day.) The competence and knowledge of women is not recognised and remains tacit: women's skills are innate and therefore no skill after all.
the dominance of explicit, and that means socially recognised skills, over those skills that remain unrecognised and tacit.

The complexity of tasks performed by, for instance, women who work a double day, cannot be measured by focusing on the structural and technical aspects of paid work alone. What we see when we look at the workplace are job descriptions that portray work performed under supervision within clearly defined parameters. What these descriptions omit are the gendered, racialized, and hierarchical dimensions that work described as supplementary may entail for women. The complexity of their tasks may remain unaccounted for partially because the skills necessary to perform these tasks are assumed to be a natural given. Gaskell (1983:22) argues, for example, that clerical skills become part of every woman's skill, along with the ability to manage her personal appearance, support the men around her and handle interpersonal relations. The training does not appear scarce, long and arduous but easy, taken for granted (as long as you are female) and thus no skill at all.

The measurement of skill in terms of autonomy and control over tasks, also fails to grasp the employment reality of women. Women's control/autonomy over the tasks they perform is inhibited by a "ceiling" on the control and autonomy they are permitted to exercise in their climbing of the career ladder (Boyd et al 1991:424). In a somewhat circular fashion, measuring skill within a paradigm that does not account for women as subordinate in the workplace, as Boyd (1991) argues, leads to the (pre-determined) conclusion that many of women's skills originate outside of paid labour experience, in home and house.

Third, a measurement of skill, centring on occupation, does
not guarantee the inclusion of all skill requirements associated with a given task. This becomes clear when we look at the organization of, for example, sewing on the shopfloor. The non-technical aspects of work, the mediation of demands from co-workers, direct supervisors and management, or the support given to a colleague who got caught up in a problem with her work, are not considered. By perceiving skills as mediated through the requirements of the official job description, the problem of what is recognized as a task requirement is not solved. Finally, with the recognition that none of the measures succeed in capturing other than technical skills, leaving the multidimensional nature of skill as unmeasurable, the question arises again of whether the conceptualization of skill, represented in a two-dimensional matrix of categorizations, contributes more than an affirmation of the bias represented in these categories. The process in which categories of skill and knowledge are constructed is the subject of the following chapter.
In the labour process debate neither Marxist nor neopositivist writers appreciate fully the relevance of tacit knowledge and skills for the working process. Rather, explicit and recognised skills are seen as a means of controlling the production process. In consequence both management and workers wrestle over the control of this resource. Only recently have social scientists recognised the existence and value of skills that are not part of an official job description, and maybe not even part of the conscious knowledge of those who utilize them.

One emerging debate situates the importance of the tacit dimension of skilled activity in processes of complex work organization labelling it alternately "tacit skills", "working knowledge", "implicit knowledge", "tricks of the trade" and "discovery learning" (Davids and Myers 1991:274).

In a most general manner one could understand tacit aspects of a working knowledge as present in (i) the process of acquiring experience and training, (ii) the varying degrees of awareness required to perform an activity, (iii) the collective character of cooperation (Manwaring & Wood 1985:171). Included in a notion of tacit working knowledge is a technical and an attitudinal element as well as an element of resistance. Marchington (1992:155) observes that

the practical skills employees acquire through experience which enables them to undertake jobs in an efficient manner, and the ability to "correct" errors in managements instructions and to guarantee continuity of production. Additionally, these skills may be employed in a manner which is supportive of management, either consciously or subconsciously, or one which is aimed at thwarting the achievement of managerial goals.
The significance of an implicit level of knowledge was first addressed, within a phenomenological framework by Michael Polanyi (1966, 1973). Polanyi's analysis of personal and subjective knowledge is an attempt to conceptualize an ontology that includes the recognition of the tacit dimension as a dimension of shared meaning. Polanyi recognizes the importance of first hand experience, where some expertise is acquired in inarticulable ways, and related only on the base of shared experience or observational learning (for example via an apprenticeship). Polanyi's fundamental thesis is that every act of knowing contains an unspecifiable component. Knowing is never exhausted by its verbal expression: "We can know more than we can tell" (1966:4). This is the case because knowing possesses a from-to structure: it is directed to a whole through reliance on its parts, or a goal in terms of the means by which the goal is sought or attained.

... to the extent to which our intelligence falls short of the ideal of precise formulation, we act and see by the light of unspecifiable knowledge (Polanyi 1973:53).

According to Polanyi every act contains two kinds of awareness: "focal" and "subsidiary." He points out that when we know a thing, what we know always contains both components we are attending to (focal), and others which we rely on in order to attend to the former and which remain implicit (subsidiary). Applied to the performance of skilled work, the means by which outcomes are achieved are gradually relegated to the subsidiary or unconscious levels of awareness and require decreasing amounts of attention. With accumulated expertise the reliance on "intuition" to guide performance increases. However, performance
based on intuition or personal knowledge, also becomes more difficult to verbalize.

Polanyi conceptualises four aspects of tacit knowledge: the functional, the phenomenal, the semantic and the ontological. The functional element guides from proximal, interiorized particulars to the integration of a coherent, distal whole. A "Gestalt" forms. The phenomenal aspect is the bearing these particulars have on the development of a pattern. Particulars create but also bear on what they mean. For example, the act of reading bears on tacit knowing in its reliance on the knowledge of letters ordered in a sequence and identified as words. The semantic aspect is based on a transposition of meaningless feelings into meaningful ones, i.e. the tool in our hands first clumsy and alien becomes an extension of our body and therefore the meaning comes to be located in the interaction of tool and what the tool is applied to (is attending to). The ontological aspect is a comprehension of a reality which has the same structure as our knowing of it. For instance, human development is transposed into history. People's systematic thinking is part of their historical situation. Exploring the tacit dimension means exploring beyond what is obvious and explicit at the moment.45

44 The development of a "Gestalt" pertains to the appreciation that human perception amounts to more than the sum of objects perceived.

45 Tacit knowledge, knowing what we cannot say, has by omission, been an issue for logical positivism, and was introduced into the social sciences by Wittgenstein in 1922. Wittgenstein argues that all which could not be expressed in words had to remain tacit. The medium of language does not carry (continued...)
Subsidiary awareness becomes the guiding beam that according to Polanyi expresses itself in the exercise of skill ...[where] the art of knowing is seen to involve an intentional change of being: the pouring of ourselves into the subsidiary awareness of particulars, which in the performance of skills are instrumental to a skilful achievement ... (1973:64)\textsuperscript{46}

The implication of a subsidiary awareness for the performance of tasks is that not only the explicit component becomes part of the task performance, but also the intellectual aspects are related to performing an explicit task.

4.1 Tacit Skill and Tacit Knowledge: Some Conceptualizations

A variety of attempts to capture the character of tacit skills have been made from within the Social Sciences. First, attempts within the sociology of work to conceptualize non-measured skills were undertaken by Kusterer (1978) who looked at the "non-skills" of "unskilled workers" in two U.S. work organisations. He investigated the working knowledge that underlies two jobs widely regarded as "unskilled", such as

\textsuperscript{45}(...continued)
a meaning but merely mirrors objective facts. Language is a vehicle. Only by overcoming the use of potentially misinterpreted language does one understand the objective world. Language compromises reality, but the structure of reality, objectivity, is projected in the logical content of sentences. We cannot talk about the particular relation between words and language, because talking is already based on that relationship, therefore we have to remain silent. (Tractatus 6.5.4 : Meine Saetze erlauetern dadurch, daß sie der welcher mich versteht, am Ende als unsinnig erkennt, wenn er durch sie - auf ihnen- ueber sie hinaustiegen ist. Er muß diese Saetze ueberwinden, dann sieht er die Welt richtig (Wittgenstein 1987)).

\textsuperscript{46} Koestler (1976:205) commented on the importance of understanding consciousness not as an all or nothing affair but a matter of degrees.
machine operator (in a container producing organization) and
bank-teller (in a small branch of a commercial, regional bank).

Kusterer was incensed by Blauner's argument that according
to his empirical findings "the aspirations" of unskilled workers
"were so low, they did not know enough to be alienated"
(1964:80). He decided to undertake an investigation into what
"unskilled" white or blue collar workers really had to do and
know in order to get their jobs done: the local working knowledge
acquired on the job. Kusterer proposes the existence of an
unrecognised supplementary working knowledge, a working knowledge
that is recognised by workers but ignored by management
(1978:178). He sees this supplementary working knowledge
embedded in:

1. the performance of routine procedures;
2. a supplementary knowledge about materials and documents;
3. knowledge about machinery;
4. awareness about customer/client behaviour; and
5. knowledge of the expected behaviour of co-workers.

Kusterer emphasized how a personal working knowledge and the
control over the labour process that it advances has not been
recognised in Marxist theorising. He criticised Marxist theorists
for ignoring workers' experience, in spite of claims to represent
them. By advocating the agency of the worker and the real
employment of working knowledge, Kusterer made an important step
towards embracing a position previously considered heretical

47 He does not distinguish between managerial intention to not
recognize the necessary skills to do a job (and therefore get
away with paying less) or its inability to identify the implicit
skills of its employees as providing the glue that holds the
work-organization together.
among Marxist theorists.\footnote{48}

In juxtaposition to Kusterer, who investigated the communal and networking aspects of working knowledge and skills, Harper (1987) describes, in his book on working knowledge, how a mechanic develops knowledge about the materials he works with.\footnote{49} Harper analyzes the process of skill acquisition and demonstrates how competence is located in the routine activities the mechanic performs. He concludes that skill in everyday practice is the result of thousands of particular work processes each having its own logic and purpose.

Underlying these routine activities he detects a kinaesthetic knowledge. The mechanic's tacit skills manifest themselves in the way he applies himself to the successful completion of a wide variety of tasks. Harper assumes that the natural and social environments interact with the actor, who in turn forms ideas about the environment. A dialectical relationship exists between material context and ideas. But the relationship is a complex one and only in part accessible to conscious reflection.

An understanding of working knowledge along the lines

\footnote{48} Overall Kusterer criticises from within a Marxist perspective the schism between most Marxist theorists' lived experience and the reality of the workers whom they assess. Although Kusterer draws a comprehensive image of the skills and knowledge of the workers he observed, including their social relations and their knowledge of materials and the production process, he does not reflect on the process in which a supplementary knowledge is established.

\footnote{49} Gradually, inductively, in informal steps, through experience of a lifelong engagement in fixing things, and in accordance with his social relations, Willie, a tinkerer acquired a large but not explicit working knowledge.
conceptualised by Harper illustrates how knowledge/skill change with context over time. It also illustrates how knowledge is accumulative, integrative and implicit. This fact may point towards a more illuminating examination of the "tacit", unaccountable and unaccounted for social and political construction of skill.

Wood's (1987(b),1989(b),1990) attempt to chart tacit skill focuses on the explicit and recognised skills of factory workers and considers the contradictions within Taylorist management strategies by presenting alternatives to Taylorism and its definition of skill.50 At the same time that Wood refutes a theory of deskilling attributed by Marxists to the emergence and implementation of new technologies in the workplace, he discusses the change in the role of skills due to new technologies and, in particular, emphasises the role workers' knowledge and their use of tacit skills play in technological and organizational change. He advises abandoning the centrality assigned to the one-dimensional concept of control which in effect amounts to a criticism of the rigid outlook of "scientific management" and "deskilling" theories alike. Consequently, Wood urges a broader conceptualisation of skill and cautions us to include the social construction of skill, as well as the sexual division of labour and the cultural context within which technological change is implemented. Wood cites his own research in Japanese car factories to demonstrate how notions of tacit skill differ depending on the managerial strategies employed.

50 Wood bases his definition of the properties of tacit skills on his work with Manwaring (Manwaring and Wood 1985).
The Japanese system of Labour management attempts to create conditions under which workers will be encouraged to cooperate and develop their awareness of diagnostic skills, and to create a climate in which workers will not withhold information because they see knowledge as power (Wood 1989(b):452).

This strategy involves the "interiorization of Taylorism" by workers and is in sharp contrast to a notion of autonomous or semi-autonomous work groups as they have developed in Scandinavian or German industrial organisations. Wood describes the Japanese strategy as a harnessing of workers' tacit skill. Workers' are encouraged to think like engineers.

Wood's concept of tacit knowledge and tacit skill is different from Harper's and Kusterer's concept. He understands tacit skills as being able to do a job right, as "learning how to avoid making mistakes and how to overcome imperfections in the production system" (1989(b):455). Wood clearly refers to tacit skills as a property of routine work even if he concedes that there are instances in which other aspects of tacit knowing come into effect. For example, such instances occur with "heightened awareness" in cases of a complicated sequence of events (tricks of the trade) and workers' awareness of their own work in relation to the production process around them.

Wood questions the assumption of a supremacy of Taylorism and its all pervasive character and looks at the constraints and contradictions scientific management experiences. His focus shifts from understanding how tacit skills influence work to how the work process demands and forms different tacit skills. Wood relates another element that influences a particular constitution of tacit skill and knowledge: the cultural context. Substrata
such as religious beliefs, in the case of Japanese Confucianism, and cultural concepts of identity (collectivism versus radical individualism) determine which knowledge has to remain tacit and which becomes explicit.

Zuboff (1988) investigates the effect the implementation of a computer-assisted production process has on the working knowledge of employees in a pulp mill. She collects the reactions of management and workers through observation and interviews and reports that for workers the loss of action-centred skills instills an experience of "blindness" and the loss of control over the production process and one's own work. As the workplace gets physically relocated from the shop-floor to the control-room, work experience gets mediated through a text (a computer screen) instead of being experienced immediately and physically.\(^{51}\)

Zuboff argues that the skills that make a pulp-cooker "good", are skills that have been acquired through years of experience on the shop floor. These skills are being replaced by skills of a different nature: "intellective" [sic] skills. She acknowledges that "action-centred skills" are only partially useful in operating a computer assisted production process, but maintains that the newly acquired and necessary intellective skills which are needed to translate text, i.e. screen output

\[^{51}\] To illustrate her example she points at the different analytical effort necessary to diagnose a problem in the production process based on, let's say, a stuck valve or a leaking pipe-fitting reported by the computer, or the supervisor's direct and physical experience of steam or pulp boiling out of a pipe. Zuboff argues that the transition from immediate to intermediate knowledge is a matter of style and not a reflection on the quality of knowledge.
into a three dimensional frame of reference, remain a valuable resource to worker and management alike. She reports that management itself has difficulties recognizing the operation of the new skills in action when workers sit in the control room and supervise production with the help of the various visual displays.

Zuboff cites instances where managers are concerned about the risk of workers' dependence on the computer system and reduced commitment to work. From this vantage point, Zuboff inquires into the nature of working knowledge. She hypothesizes that the knowledge associated with action-centred skills could remain largely tacit throughout the course of learning and execution, but the knowledge relevant to intellective skill development must be made explicit in the learning process and can only become tacit when an individual has attained a high level of expertise (1988:190).

Even then, it is likely that this form of knowledge can become only partially tacit and readily accessible to explication. With this hypothesis Zuboff touches on two related issues. One is management's aspiration to control the production process via controlling workers. A working knowledge must be made explicit for it to be manipulated and managed by the company. The other aspect Zuboff addresses is that knowledge eventually becomes tacit, i.e. management looses the control to manipulate its application. This situation poses a dilemma for management and for workers. Local management wants to control "down" and remain impermeable to control from above, i.e. management favours control (and that means explicit knowledge) for workers but likes to operate on a knowledge that remains obscure and "tacit" to
Within the framework of organizational theory Argyris (1990) examines, from a managerial point of view, the tacit dimension of skills that workers utilize to do their job. He argues that the skills workers need in order to accomplish their jobs need to be rigorously generalized and stored, so that tasks can be performed without thinking, and errors can be avoided. He suggests that by making skilled routines tacit, workers make them rigid and not easily transformable. This poses some advantages but also disadvantages from the point of view of management.

Management relies on tacit knowledge of workers in a production process that is known and managed by the worker. Argyris argues that it is a characteristic of organisations to base their capability to operate on the tacit skill of employees on all levels. He perceives tacit skills as building a basis for work. He argues that the very structure of organisations prohibits, even punishes, the making explicit of the tacit dimension underlying its operation. For example, if corrections in the production process need to be made workers are not likely to be able to correct their actions even once they recognize them as inefficient. What they know must not become explicit because any attempt on the part of the worker to improve work conditions or production will be observed with suspicion by co-workers and management. From a worker’s point of view, if knowledge remains personal and tacit, management’s claims on one’s actions can be fended off.

Meissner (1991) has researched the relationship of office technology and women’s working knowledge. His ethnographic
studies centre on clerical workers in an office environment. Observed individuals were asked what knowledge they have and need in order to accomplish their jobs. Respondents, in most cases, were aware of the tasks that they were expected to accomplish regardless of whether these tasks were part of an explicit agenda, job description or just tacitly assumed. But respondents were often not really aware of how their knowledge of the organization, of clients, of organising their work themselves found entrance into their work routines. They did not realize how much their competence in terms of non-explicit skills influenced their performance.

Meissner's contribution is important because it highlights tacit knowledge in a twofold manner. First, it addresses the tacit nature of working knowledge within the framework of the deskilling debate, that is within the relation of skilled and deskilled labour. Second, it then goes further in overcoming the focus set by the deskilling debate and addresses that realm of skill excluded from the debate: the tacit knowledge held by all those who work outside the mainstream and outside the recognised, mostly male, tracks of employment and whose work is considered unskilled; the tacit skills of those amongst the marginalised and "unskilled" who are considered the least, women in unskilled jobs. Focusing on this particular group Meissner expands the studies of Zuboff (1988) and Wood (1987(b), 1989(b)) by suggesting an interconnection of the various dimensions in which tacit skill has been recognised.

Leplat (1990) differentiates between tacit skills that are part of an inarticulable skilled activity and tacit skills that
are procedurally informal. Unarticulated knowledge and skill tends to be based on experience of a work process where individuals achieve an increase in output (piece-rate work being one indicator) but show no increased ability to verbalize how the increase in output was achieved. The lag between producing more output and the inability to articulate how that improvement was achieved points toward mechanisms of learning that either allow or disallow a conscious reproduction of the learning process. Informal skill procedures are a result of daily experience of a task and lead to the development of a "know how". This "know how" denotes the difference between the skills recognized by management and job evaluation schemes and the actual level of expertise exercised by the worker. Kusterer (1978:50-51) points to this fact when he states that

... the real sine qua non of machine operation requires the operators to learn the idiosyncrasies of their individual machines.

Wood confirms this finding:

The question of increasingly automated systems is often portrayed as being fraught with problems, and it is thought that workers' experience and tacit knowledge maybe a better resource for overcoming these than any textbook formula or engineer's conception (1990: 170).

His observation makes clear that the application of a tacit working knowledge is recognized and valued by managers. The eliciting of task performance based on the tacit knowledge of workers is part of a strategy on the part of management to cope with the introduction of new production technology and organization. The recognition by management that workers control an implicit working knowledge has strategic importance for management. This knowledge needs to be tapped, to increase
productivity without it appearing to be taken away from workers.

For workers, however, a tacit working knowledge has a strategic importance as well. It allows them to control certain aspects of the production process where the mechanisms of control may not be clearly visible or manipulated by management. Tacit working knowledge, independent of what it is constructed to "imply," serves these workers in resisting and compensating for the alienation they experience from their work(lives). I will return to this theme later in my case study.

In this chapter I have explored a variety of approaches to conceptualize and explain what a tacit working knowledge is and how it is operationalized in the labour process. From the literature reviewed, I identify a number of characteristics associated with a tacit working knowledge:

• the reliance on "intuition" to guide performance; tacit knowledge as informal know-how; non-verbalized personal knowledge
• the agency of workers in contributing to and controlling the production process beyond prescribed activities
• the process of skill acquisition as located in routine activities.
• the change of tacit knowledge/skill with change of context
• the "heightened awareness" of complicated sequence of work processes (tricks of the trade); workers' awareness of their own work in relation to the production process.
• the experience of "blindness, a loss of control when skills are to be made explicit"
• the rigidity of routines associated with performance based on tacit skills
• a tacit knowledge of workers whose work is considered unskilled
• tacit knowledge as a strategic means of resistance

An understanding of constructions of tacit knowledge and skills is essential for a comprehension of the social subtext in which false dichotomies such as physical skill versus intellectual knowledge, and high versus low skilled work, are produced. Based
on these dichotomies humans have been constructed as robot-like performers or monolithic, self-reliant geniuses.

More useful is a balanced assessment of the implications that workers' (tacit) knowledge has for the structure and organization of the workplace. It is precisely the tacit element that provides the basis for the successful functioning of an organization not only in respect of the maintenance of social relationships and communication based on a shared understanding of reality, but also with respect to the non-explicitness of assumptions underlying skills at work. All of this helps to form a network of social and working-relations. But there is another side to this. Because skill is subject to a social construction, that is, its recognition is context dependent, its implied properties are context dependent as well. For that reason, a tacit working knowledge is a resource, for managers and workers alike, but at the same time it is contested and contradictory. It may serve management for its purposes as much as it may serve workers. But manager's and employees' purposes need not to be congruent. Workers' competence to accomplish the smooth functioning of the production process encompasses also the ability to resist, as I will examine in a later chapter.

In summary, a non-explicit knowledge is found in physical action, intellectual activity, and is based in the material and non-material knowledge of our social world. If we accept this proposition, it follows that an understanding of skill in male, and "white" terms is the expression of a prevailing ideological bias. In withholding recognition for women's contributions to the economy of the household and the market, our society perceives
women as non-skilled, even those women who act knowledgably and competently. In a most contradictory manner, womanhood or "race" become associated with some "innate" property, extending to nothing but the gendered competence of reproductive work or racialized dexterity. Characteristic of the feminization and racialization of skills is the process in which competence is made invisible and becomes separated from a knowledge component. How the process of feminization and racialization of skills, and the separation of skills from knowledge, operate on the shopfloor of the garment factory is the subject of the case study in the second part of this dissertation.
Conclusion to Part 1

In the first four chapters of this thesis I have examined understandings of skill and working knowledge within the framework of the deskilling debate, flexible specialization frameworks and labour market segmentation theory. With the recognition of the social, non-technical processes that play a role in controlling the labour process the explanatory power of rather "positivist" models of conceptualizing skill, regardless of their tendency to support de- or enskilling, are severely limited. Shifting the focus away from the intentions of scientific management and the loss of control that the singular worker experiences by becoming part of a new production process helped focus attention on a neglected aspect of the control versus deskilling debate: the tacit skills exercised by people even in those jobs which are labelled unskilled and/or are ostensibly routine in nature. This in turn allowed the proposition that much of the understanding of what constitutes skill is ideological; an approach not helped by the oversight of much of the literature to address the social processes underlying a classification of jobs as skilled or unskilled.

I have sketched a variety of issues associated with a concept of tacit skill. First of all, I examined the relationship of skilled work, tacit skill and knowledge within the deskilling debate. I also discussed the different ways in which research into tacit skill and working knowledge has mapped out the term in

52 Braverman states that he only addresses the objective dimension of deskilling, i.e. "the shape given to the working population by the capital accumulation process" and not the consciousness of those deskilled.
an attempt to operationalize an understanding of it. A social constructivist perspective, I argued, allows that working knowledge (like any knowledge) forms categories while in the process of its own development (Giddens 1984, calls this process structuration). In contrast, the essentialist usurpation of working knowledge in already existing categories, much like the forcing of human sensory experience in a priori categories of space and time, represented by the categories of quality, quantity, relation and modality (Kant 1982)\(^53\), disregards the fact that space and time might be experienced differently depending on the surrounding social and geographical context.\(^54\)

The data from my case study in the garment factory do not speak equally to all the characteristics that are listed as constituting and contributing to the formation of a tacit working knowledge. However, organizational-technological change, the social relationship between supervisor and peers, the context in which knowledge is shaped and reproduced, the cultural context as

\(^{53}\) I. Kant in his transcendental (transcendental: before all sensory experience) philosophy constructs all sensory experience as contained in categorial, i.e. uniform receptacles. In the "Transcendental Aesthetic", where he focuses on sensual perception, he postulates that space and time are non-existent without the condition of possibility of experience given. Space as the external mode of experience and time as the internal mode of experience intersect and determine the possibility of perception. Space and time are therefore transcendental idealities, i.e. they are not features of things themselves but the medium of realisations of experience and objects (Kant 1982:16-28). What Kant does not consider is that differential experience may structure the perception of time and space differently.

\(^{54}\) I want to draw attention to Piaget's studies (1974; also Dux 1982) in which concepts of time/space are shown to be dependent on the activity of daily life rather than on deduced and immovable transcendental (i.e. pre-sensory) reason.
an influence on the establishment of personal and tacit working knowledge, and the intersecting dimensions of gender roles, racialized and economic roles that distinguish if working knowledge is recognised and valuable or non-recognised and not existing, are underlying themes in the chapters to follow.
PART TWO

The problem and the excitement is that QDA [qualitative data analysis] is probably the most subtle and intuitive of human epistemological enterprises, and therefore likely to be the last to achieve satisfactory computerization. (Richards & Richards, 1994:461)

CHAPTER V Methodological Considerations and Methodical Imperfections: Data Collection At AquaSuit

In this chapter I compare the usefulness of a variety of methods ranging from an inductive, grounded approach to the deductive and "scientific" modelling of data analysis for collecting discursive information and developing conceptual categories from qualitative data. I introduce these approaches to "doing research" in order to illustrate how methodological reflections on the creation of knowledge are shaping the method and concept development in the ethnographic portion of my research. The research question cannot be construed as exploring the skill of operators in an attempt to more successfully operationalize the measure of skill. Instead, it addresses the conditions under which garment operators simultaneously construct themselves and are constructed by others as skilled and unskilled, women, of "colour", depending on the context in which these attributes are negotiated.

5.1 Some Methodological and Theoretical Considerations

I am dissatisfied with the limitations of a method allowing for the detection of generalizable patterns through inductive steps, as much as rejecting a purely deductive method of approximating reality to an ideal model and, in particular, with the inability of these methods to account for the contextual
quality of a socially constructed phenomenon (a shortcoming of their respective methodological assumptions). Therefore I adopt, as methodological superstructure, the "extended case method" first introduced by Burawoy (1991). The extended case method allows the connection of observation to theory in a manner that focuses on the analysis of the irregular. In my case study of garment workers, it allows a focus on the determinants of a working knowledge of sewing machine operators which, according to the prevailing discourse, is no working knowledge at all. The basis for my analysis is a reconstruction of the discourse that attributes low-skill to garment workers. I give special attention to the incongruity between the skill requirements of individual tasks and the skill attributed to those who perform these tasks. I contend that the experience of gender-bias, racialisation and class-embeddedness of garment workers in the larger context of Vancouver's and Canada's political economy can be reconstructed through the actions and comments of garment workers and managers on the shopfloor.

I discuss the strength and weakness of my ethnographic methods in light of the difficulties I encountered as a researcher who differs in class-experience (middle-class), ethnicity ("white", German born) and gender (male) from the

55 While grounded theory attempts to generalize from micro-data (single cases) across social situations, ignoring the specific determinants of each situation and emphasizing the common characteristics, ethnomethodology seeks to appraise the significance of micro-interaction as basis for the construction of macro phenomena and generalisations. Both these methods do not sufficiently account for the determinants outside the micro setting of observation or interaction, or as Burawoy coins it, the macro determination of the micro world (1991:275).
majority of the research participants. The very mechanisms of ascribed attributions that restrict garment workers from being considered as "skilled" also separates researcher and research participants. This separation defines the nature of information that is exchanged and the quality of separation can only be captured by a methodological framework that provides for an analysis of macrosociological constraints in their microsociological expression.

The methodology that underlies the research for my dissertation requires the development of a means to capture in the workplace what Collins (1990) calls a "matrix of domination". This matrix of domination constitutes itself along an axis of class-based, racial and gendered attributions (but also ethnicity, sexual orientation, nationality) and determines for employees in the garment factory their position as skilled or unskilled workers.

If I were to look for empirical evidence, I might not be able to observe (in one instance and at one location) all the elements that determine the social construction of skill. Rather, my observations would likely be shaped and reshaped according to the salience of one property in a particular setting. For

---

56 I visualize the two dimensional matrix of domination, constituted amongst others, by the three elements of "race", class and gender into a three dimensional model of a helix, where each of the properties ("race", class, gender etc.) sits on the outside strand of the helix, while the base, constituted by an unspecific working knowledge, becomes defined through the connections it makes with the elements populating the outer strand. The web of relations between base and elements on the strand, including the relations between elements themselves synthesize the social fabric that contains the social construction of skills.
example, while I may find gender to be the determinant that slots women into sewing operations on the shopfloor, it may not be as important in explaining the differential access to promotion since some women do get promoted from the shopfloor. Here, racialized notions of skill that are unaffected by the educational background of operators, seem to demarcate the paths for promotion.

For my interpretation of research data, I cannot discern the independent impact of any one of the variables of class, "race" or gender but attempt to explain in particular circumstances the emergence of one element as more determining than the others.\textsuperscript{57} It is the relational and interdependent character of "race", class and gender that requires a research methodology which analyzes the interaction among each of these elements in the workplace and then allows the researcher to identify historically specific causality.

5.2 The Technique of Data Processing

In this section I will illustrate how my claim for a dynamic conceptualization of gender, "race" and class in the context of skill and working knowledge calls for innovative research strategies. Information I collected such as interviews, observations, fieldnotes, archival materials and written and oral communications between employees and, where applicable, elements of life histories, were transcribed and coded. Out of these codes

\textsuperscript{57} This method is in line with the intent of the extended case method to recognize the macro-determinants at work in explaining differential job promotions.
I developed patterns of explanation, with pattern development supported by the software\textsuperscript{58} tool I employed. To give an example, passages in the data where workers resist teamwork or support the piecework system are summarized into a code for "maximization of utility"\textsuperscript{59}. Emerging codes are, then, a function of the particular experience of garment workers and of my own subjectivity as observer and coder. They point toward the development of an understanding of how definitions of skill and working knowledge may differ by employer and employees.

One part of the analysis is the constant comparison of content, an accumulative process, where in an ongoing reflection on the research, notions of skill are tested on collected data. The other part of the analysis is to devise a connection between a notion as it becomes more manifest and explicit, and the sociological theories that might provide an explanatory framework. Meanwhile the direction of research is not linear from the particular to the general but relational and bidirectional, identifying generalized notions in particular actions.

The integration of the ethnographic observational with a hypothesis testing paradigm has been labelled a funnel approach (Agar 1980). In my processing of data I tread somewhat on a middle ground between the type of data analysis Agar advocates and a grounded theory approach as developed by Glaser and Strauss (1967). The two approaches differ with Agar advocating the

\textsuperscript{58} Please refer to Appendix 5 (page 263) for an explanation of the software used.

\textsuperscript{59} The code "maximization of utility" is itself constituted by codes such as "assurance of control over task", "prioritizes high wage" and "protecting own working knowledge."
immersion into the field and the subject matter, followed by a stepwise formulation and categorization of patterns that eventually can be quantified, cross-referenced and universalized, focusing on the macro aspect of phenomenon, while Glaser and Strauss advise us to reference dissimilar findings systematically in a wider context to unveil a "pattern" of similarities that organizes events, and induces generalizations from comparisons.\textsuperscript{60}

Because the development of a theory is based on the experience of all participants (including the researcher) and is revised by the researcher upon uncovering new information, this method is referred to as "grounded theory" (Schatzmann and Strauss 1987). But grounded theory is limited to the processing of "facts" as they emerge in the research process and the scope of the theory remains restricted to the explanation of a substantive occurrence. When it moves from a substantive to a formal theory it loses its grounding in time and place and becomes, what Burawoy (1991:280) calls, a generic theory. Grounded theory as a substantive theory does not allow for a contextualizing of historical and social antecedents which inhibit or propel the development of a particular and observed fact. In this sense grounded theory proceeds somewhat uncritically and ahistorically and often fails adequately to account for the changing dynamic and interaction of social phenomenon.

In order to stress further the importance of the need to

\textsuperscript{60} Although it seems as if he is applying concepts that are better known for their utilisation within a quantitative analysis, Agar modifies them as to suit ethnographic research.
reflect upon methods of data generation, I will briefly outline how I locate my methodological approach between an inductive, grounded theory and a more deductively driven model of qualitative research. The methodology I apply in my research differs from grounded theory because it includes the analysis of information in a larger historical and social context as well as in its local environment. To explain the shifting configuration of class, "race" or gender inequalities in the formation of perceptions of skill within a grounded theory approach limits the analysis of findings to the specificity of a particular context. For example, I suspect that the mobility of capital, immigration policies, or patriarchal relations are structural components of our social web that determine how we perceive the skill and working knowledge of individuals. An analysis of skill within the parameters of grounded theory would eventually lead to the postulation of a generic, generalizable explanation, (for example, that "race", class and gender are constitutive in defining skill) but could not point towards the circumstances within which this constitution, in a historically specific context, has taken place.

I do not attempt to develop an understanding of garment workers' skill and working knowledge out of the research data alone, as if I were a clean slate upon which impressions of the research process leave traces that over time solidify in symbols and translate into categories. This would require my being a "tabula rasa" without previous concepts and consciousness of my own human properties and my knowledge and experience as a social scientist. Rather, my awareness of what garment workers do and
the development of a concept explaining the social construction of skill are based on my theoretical understanding, that is always subject to change, and my experience and interpretation of the research data. The challenge for this conceptualization of research on skill lies in fusing an analysis of the structural constraints experienced by garment workers (discrimination based on class, "race" and gender) and the social reproduction of these constraints in the definition of skill.

One of the reasons why I cannot follow a path of data analysis that leads from the informal analysis of events to a more formal analysis of data acquired in the field, is due to my own experience as a researcher in a garment company. Being assessed on grounds that are external to my being an observing medium (that is, being a social scientist, male, "white"), I felt compelled to consider and relate the strength and persuasion of "macro" or structural determinants as they encroach on the micro-world of the shopfloor. In consequence, I turned to a methodological framework that could capture the macrosociological determinants defining the social relations between people and relate them, without claiming to reduce them, to the microsociological relations on the shopfloor.

The extended case method "takes the social situation as a point of empirical examination and works with given general concepts and laws about states, economies, legal orders, and the like to understand how these micro situations are shaped by wider structures" (Burawoy 1991:282). To capture the determinants of a social phenomenon in their theoretical and empirical context, that is, to make tangible the link between the empirical reality
and the immaterial superstructure is the goal of sound sociological research.

Operationalizing the link between structural determinants and their immediate empirical effects has been the focus of much debate on the ability of scientific, and deductive frameworks to provide sociological explanations (Blalock 1968; Popper 1979; Feyerabend 1975; Cicourel 1964). The attempt to attenuate the distance between a conceptual model, (for my research: the effects of gender and "race" and class on the social construction of skills), and its empirical manifestation, (for my research: gender and "race" of workers mediated and resisted alike through the exercise of working knowledge, and unobservable "non-skills"), has been addressed as a problem of flawed measurement (for example Blalock 1968). Blalock states

61 E.g. making the connection obvious between a society espousing a racist ideology, and an individual’s uttering of a racist slur.

62 Cicourel and Feyerabend argue, from different positions, to free scientific inquiry from its positivist master. Feyerabend does not disapprove of scientific inquiry, but he feels that a dominant positivist paradigm has no capacities to incorporate or explain facts that are out of the narrow band of its theory. Feyerabend suggests to proceed counterinductive, i.e. to ask why the theory does not explain the fact instead of closing the "gap" through an ever more sophisticated control of identified variables. The dominance of models over reality, i.e. the uniformity of a scientific exploration of facts is broken by the interplay of various bodies of scientific and non-scientific knowledge.

Cicourel sees the artificial closed-ness of some social research methods as an impediment to a sensitive search for knowledge (1964:224). He points out that quantitative measures necessarily reify the events under study and thus treat them as positive findings. The non-measured, tacitly implied, remains unanalyzed in spite of its potential interaction with the event measured.

63 Blalock recognises two different kinds of concepts,
that the recursive influence of variables on each other over time makes the control of a conceptual model impossible due to the existence of too many unknown variables (Blalock 1968:163). The implication is that the interaction effect of variables obscures the clarity of the analytical concept. In consequence, Blalock concludes, we must endure the problem of flawed measurement and accept that conceptual models and empirical reality differ: a de facto invitation to mould explanation to what can be explained through an idealized model.

In the case of my research project, the continuous shift of gender, "race" and, to a lesser extent, class location as the significant identifier of the researcher-subject relationship provides one instance of exactly the kind of uncontrollable interaction effect which, according to Blalock, impedes proper theory construction. He suggests that the researcher "may rest contented with a qualitative listing (my italics) of the various supposed effects of each variable, with perhaps a rough guess of "

\[82\] (...continued)

theoretical and operational. These must be linked by common agreement or a priori assumptions, rather than by pure logical process (Blalock 1968:7). The interrelation between a theoretical concept and the measurement of the variables that underlie the theory constitute a gap. It is the "size of the gap" that one can attenuate by employing adequate operationalizations of the theoretical model in question. The general (theoretical) model becomes, once operationalized, a measurable auxiliary model. However Blalock's approach is more sophisticated than a pure empiricist method. He argues that in the social sciences the problem with measurement is exactly that theoretical models cannot be directly measured. But, and here he differs from the mainstream of positivist scientific thought, we do need to make theoretical connections, in spite of the fact that we have to operationalize them through measurable and potentially unmeasurable variables. But we need to make all efforts to control the impact that error terms have on what we, indirectly, measure as representing a causal relationship that we have hypothesized in our model.
the weight each should receive" (Blalock 1968:163). But the challenge in my research is to develop categories of explanation that capture the fluid character and the multiple manifestations of the complexity of constraints that determine the relationship between researcher and garment workers and colours the researcher's account of the skill and working knowledge of the participants. Not the permanent revision of means of measurement (as advocated by Blalock) but a modification of the theoretical concept alongside the development of new means of measurement promises to produce findings that approximate an explanation of what the research data, a description and observation of skill and working knowledge of garment workers, encompasses.

5.3 A Feminist Critique on Methods

The concepts, assumptions and methods underlying "male science" have been criticised widely from a Marxist point of view (Buck-Morss 1977) and from a feminist perspective (Chodorow 1978, 1986; Gilligan 1982; Kristeva 1986; Harding 1987; Smith 1987). A methodological approach developed by Kirby and McKenna (1989) and loosely based on Glaser and Strauss' "grounded theory", also appears capable of capturing the contextualized and fluid

---

64 Kanter and Millman (1975) propose a feminist empiricism by adding women and women's perspective to the dominant models of empirical research, a gradual amelioration of women's position within science and society can be achieved. Others, like Smith (1990) and Hartsook (1983) argue that women must resist any objectification on behalf of men or science and embrace their own subjective experience. The only unbiased knowledge of the world is women's own direct experience. From this point of view, a feminist standpoint, Harding differs when she argues against the idea of a distinctive feminist method of research, and contends that preoccupation with method has mystified the most interesting aspects of feminist research.
definition of racialized, gendered and class-based biases that combine in the process of constructing skill. Kirby and McKenna develop a concept of data generation and analysis that is grounded as much in the experience of the research subject as in the subjectivity of the researcher. They take issue with the dualism of theory and praxis as it is reified in scientific theories of knowledge. They propose an inductive formation of theory and are critical of theories that inform and presuppose the existence of a universal body of knowledge. Kirby and McKenna suggest that "knowledge" has been reduced to represent the categories of a scientifically captured objective nature. They propose that research and its outcome depends very much on the method it applies to collect and interpret data.65 Any given conventional research process will only reveal findings that are already implied by the assumptions underlying the application of its research strategy. To challenge those groups who hold a monopoly on the production of theory, Kirby and McKenna suggest a critique of those methods that force the subsumption of phenomena in categories that are fixed and rigid and purport universal applicability when, in fact, they only express the pre-established preferences of those who benefit from their

65 Research data are read and re-read, until a pattern of categories emerges. For a better conceptual grasp, charts which include all the categories, so far developed, can be drawn and their inter-relations made apparent. Having finished an initial coding, the assignment of events to categories, Kirby and McKenna advise the researcher to relax the research effort and let the findings sink in. Above all this it must be remembered, that the goal of all research is not the immaculate processing of research data, but the information contained within.
existence.\textsuperscript{66}

What in a statistical analysis becomes the residual variance, the unexplainable by its own definition, represents according to Kirby and McKenna the experience and knowledge of those who populate the margin.\textsuperscript{67} The existence of this margin is a manifestation of the political economy of social inequality, and a result of the stratification of society along class-based, gendered and "racialized" differentiations. With their conceptualization of a grounded theory approach as focusing on the margin, Kirby and McKenna move towards a recognition of the structural determinants pushing some workers to the margins.

In contrast to Kirby and McKenna, who modify grounded theory

\textsuperscript{66} Georg Lukacs observed that Kantian formalism (based on Aristotelian categories) allots epistemological value to the categories of cognition without considering that the social and political context in which these values were developed, is mirrored in the epistemological premises (Buck-Morss 1977). Lukacs concludes that reason, as a construct of the enlightenment, always comprises categories based on (bourgeois) values and interests. Mere abstractions of experience are disjointed from their context; in order to subtract the category of pure reason, one has to assume, that one can indeed separate experience from the cognitive structures experience tends to construct.

\textsuperscript{67} According to a recent release of Statistics Canada (29 March 1995, Vancouver Sun A5) women on the average earn only 78\% of what men earn. While this constitutes a pay-gap of 22\%, only 12 \% of the gap (12\% of a 22\%) can be accounted for by differences such as work experience, education or demographic characteristics. The report concludes that "the unexplained portion is due to unmeasured factors, one of which may be systemic discrimination". I would argue that the unmeasured factors are also solidified in the conceptualizing and measurement of "work-experience, education or demographic characteristics" and rest beyond the capacities of a human capital account. I suggest that the residual could be explained by giving attention to how work-experience and education, the very human capital on which the measurement of the survey is based, are themselves deeply gendered and racialized social processes, disadvantaging women in a patriarchal system and people of "colour" in a "white-dominated" society.
to make it a more critical vehicle for data interpretation, Harding (1987; also Smith 1987) challenges social scientists who work inside a positivist paradigm and refuse to extend their inquiry into realms that are undefined and notoriously ambiguous but part of everyday life. She takes issue with a scientific theory that declares a realm that it cannot measure as open to speculation if not even plain disregard (see Blalock, above). Kirby and McKenna claim that a lack of critical reflection on the assumptions built into a positivist research methodology is responsible for the construction of a model of reality where the (statistically) non-relevant is omitted as inexplicable from the model.

Harding shares with Kirby and McKenna the position that research "subjects" must resist the objectification by (male) science and must embrace their own subjective experience. Harding argues that the questions that need to be formulated in feminist research should address and focus on areas not captured by the dominant (and male) mode of quizzing and, to use a term introduced by Polanyi (1973), to focus on the subsidiary and not on the focal.\footnote{Please refer back to page 55 for Polanyi's definition of the terms "focal" and "subsidiary".}

At this juncture I want to summarize the points I made with respect to research methods. I embrace the extended case method, brought forward by Burawoy (1991) to link the data collected from personal observation to existing sociological theories. I dismiss a grounded theory approach for being a-historical and in its generalisation insensitive to the determinants of social
inequality and the actions of individuals under those conditions of inequality. I criticize positivist theories that through the rigidities of their "methodological soundness" cannot deal with marginal, residual variance. But because a focus on the non-obvious, the underlying and non-explicit properties that shape constructions of skill is the task of this research project, methodological adequacy requires the use of tools that allow the extraction of skill determinants from the relations structuring the social world as well as events on the shop floor. It is the question of adequate data gathering that I will address in the next section.

5.4 The Researcher's Desire to Produce Adequate Ethnography (and melt into the background)

One aspect of my methodological reflection centres on my presence as researcher on the shopfloor, my interaction with "subjects" and my attempts to present the research project to "subject" and reader alike as an "adequate ethnography". Stoddart (1991:2) remarks how after coming to terms with the difficulties of data assembly and analysis, the ethnographer is faced with yet another problem: given that his or her explanation of everyday life in the domain of investigation is to stand as more than a personal document, how are findings to be presented so that they will be appreciated by colleagues with a confidence and certainty similar to his or her own?

The good ethnographer regards his or her presence in a domain as potentially tainting its "natural" state, but also pretends that the domain of investigation exists independently of the dimension added to it by the ethnographer's presence as an investigator. While Stoddart illustrates textual strategies that ethnographers
use to produce adequate ethnography, I do not claim to attempt
the production of adequacy in my analysis of working knowledge on
the shopfloor. In fact, any such attempt was ridiculed and
disputed by workers' and managements' scrutiny of my actions.

The opportunity to enter the garment factory arose when
management and the ILGWU (International Ladies Garment Workers' Union), who were in the process of reorganizing the production process in the Company by replacing individual piece work with team-work, agreed to have a social scientist document the organizational and communicative changes that were to take place
on the shopfloor (and inadvertently amongst clerical staff and management). Over the period of eight months I spent two days per
week on the shopfloor, observing and discussing work with
operators and asking them to explain how they did their work and
what they needed to know to perform their tasks. Often our topic
of discussion would move from the working knowledge required to
perform certain sewing operations, such as hemming or

69 In his article Stoddart addresses the emerging awareness by sociologists of the practises with the help of which ethnographic studies seek to legitimize themselves as "properly executed," i.e. adequate. Stoddart's intention is to outline "some of the ways in which adequate-for-all-purposes solutions to the problem of being in a domain while at the same time attempting to retrieve its character independently from being there may be formulated within the research enterprise. "Problematic is in his view (1) the presence of the ethnographer in the domain of investigation, (2) an ethnocentric perspective of the ethnographer, (3) data gathering that creates data rather than collecting them, and (4) the role and position of the informant. For each of these four problematic aspects of ethnographic work, he cites occasions and passages from the relevant literature to illustrate how adequacy was fabricated in the act of writing up a report. "Good ethnography", that is, peer approved ethnography, he concludes, does not differ that much from a report a layperson delivers to another person. In order to establish credibility, information is presented so as to assert objectivity.
overseaming, to the general work conditions in the company and
the proposed changes to the production process. We would talk
about work, the company, and we would converse about the
difficulties and prejudices encountered by every single operator
in their lives as mothers, providers, "immigrants" and
"unskilled" workers.\(^7^0\)

In order to observe garment operators at their work I had to
negotiate with union and management the terms of my access. My
association with the university evoked amongst management the
impression that the research project was grounded in an economic
managerial framework: it was assumed that my interest in the
skill and knowledge requirements of garment operators was
embedded in a discussion of Taylorist or Fordist production
practice. I was expected to uncover ways in which the production
process could be enhanced by harnessing more of the skills of
individual workers. While these expectations placed me squarely
in the camp of the company, the union expected me to critically
analyze managerial practices and the organization of work on the
shopfloor, and accepted my presence under the premise that I
champion the union's cause, which, as it turned out, was not

\(^7^0\) The attribution of skill, or a perceived absence of skill
and working knowledge, serves management and unions to assess the
value of a worker and determine his or her wages. Frequently, the
construction of an "unskilled" worker tends to centre around
"immigrant" labour, and most often applies to the work done by
women. The differential recognition of skill and working
knowledge is expressed in a particular discourse on skill,
 differing according to the interests of the sides involved in its
definition: management, union and workers.
always necessarily the workers' cause.\textsuperscript{71} If balancing the interests of company management and union was a delicate process, getting accepted by the workers proved to be an even more difficult task.

In my fieldnotes from February, 1, 1994, the date of my first "official" visit on the shopfloor I note: "how can I operate in a hostile environment? Not only does every worker view me with curiosity, but when I approach any of them to introduce myself, they all are terribly busy and concentrate on their work so as not having to acknowledge my presence". Although, over time, the operators became less fearful of my presence, they certainly never quite trusted my intentions. Because many workers were wary about my presence and were suspicious of my purpose in being on the shopfloor (as I resemble management in sex, phenotype and educational background), my attempts to set up formal interviews with operators led to very few interviews. In these semi-structured interviews, operators were clearly hesitant to communicate any of their experience beyond the most common company knowledge: it was hard to get a job, work was difficult and tedious, lay-offs were imminent at any moment, and, yes, this was a good company.\textsuperscript{72} Managers, were a bit more comfortable with being interviewed, mainly because they

\textsuperscript{71} Sandberg, who undertook numerous studies in work organization and industrial relations in Sweden (in particular at Volvo) suggests that in order to accomplish meaningful research on work-life, access for the researcher must not depend on managerial or union acceptance, but should be "guaranteed by law or in collective agreements at the national level" (1994:178).

\textsuperscript{72} Subsequently I met Kamala, an operator, in the settings of a Christmas party thrown by the ILGWU. Mentioning to her that I was disappointed not to be able to conduct more formal interviews with concise questions, she consoled me by pointing out that I was likely to find out more about operator's work through "general talk" than by asking specific questions.
could bond with me on the basis of being "white" and male and university educated. Workers' suspicion of my co-operation with management was fed by management's repeated demonstration of authority over me as a researcher. Frequently, while engaging an operator in a conversation the plant supervisor would approach me and ask me to see him in his office. Regardless of the message he had to convey to me, at times merely chatting about my research, at other times reprimanding me for talking to operators and allegedly disturbing the "peace" on the shopfloor, he had demonstrated his authority by ushering me off the shopfloor. Upon returning from the office to the shopfloor workers were aware of my conversation with the plant supervisor and for the next little while no operator would want to speak to me. At other times I would have a conversation with an operator and a plant supervisor would pass by in a manner that would force me to acknowledge his presence and thus re-igniting an operator's suspicion that I was working for management.

One morning, Laura a line supervisor who had taken to flirting with me, called across the floor: "you can be our boss today" (ostensibly because the plant supervisor was out of town) and "don't talk to Angie too long, you are my boyfriend". Everybody was laughing, but there was clearly the notion that I had resources and powers that would allow me to become a superior (Laura, line supervisor, Journal 2, 24/5/94).

The pressure to legitimate my presence on the shopfloor came from workers as well as from management. And since all attempts to legitimize myself as a workers' advocate would have led to my "expulsion" from the premises, and since any contact with
management was interpreted as informing them about my observation, as snitching on operators, I could only trust that in the long run, operators would realize that I had no intention of reporting on them. To become "disattending by eroding my visibility over time" (Stoddart 1991:5) was a hope that I never gave up. However, I knew when I met Harry, a knitter, at a union Christmas party a couple of months after I had finished my research, that I could never have succeeded. Harry was completely surprised to see me at the meeting and asked me: what are you doing here? In the course of the conversation Harry told me that he never trusted me when I asked him questions "but that it did not matter to me because I was going to get laid off anyway".

Still, in my eagerness to convince workers that I was on their side I committed some grave mistakes: if I saw a flaw or break in the production process, or equipment in a malfunctioning state I would make a point of drawing the attention of the production engineer and if need be of the plant supervisor to this circumstance. In consequence, workers benefitted from my intervention because I helped them to get the equipment working and they could succeed in "making minutes". By the same token, my actions promised an authority and power that had no real grounding. Management followed my suggestions, because they wanted to look good in the report I was to write about the company, while workers got the message that I was a man on a mission.

At one point, I took my children to a beach clean-up, organised and executed annually by the company as a public-relation stunt. Many of the workers, but predominately the ones
who felt that they had to display their loyalty to the company, showed up with their families to the clean-up, and certainly all of middle and upper management was present.

My reasons for going to the beach clean-up were the following: I wanted the garment workers to see that (a) I was a family man, a person to be trusted; (b) that my children are of "colour" and not "white" as their father. This should demonstrate to garment workers that I was not a racist, and that, through experience in my personal life I was familiar with the more intricate politics of racial discrimination. I was hopeful that I could legitimize my interest in the racialized aspect of "skill construction" on the shopfloor by grounding this interest in my own biography. I was, as Stoddart (1991:7) suggests so pointedly, eroding my visibility by personalizing the ethnographer-informant relationship. I was hoping to become invisible, in as far as informants suspending concern with the "research aspect" of my identity and coming to like me as a person.

Managers and shopfloor workers suspected at one time that I had been placed in the company on directive of the parent company, a large American corporation, who wanted its Canadian subsidiary to restructure its production process according to the American "recipe". At another occasion I participated in a meeting of floor supervisors and upper management where the physical and organizational restructuring of the shopfloor was discussed. After the meeting I informed operators about the changes that were to be implemented, and again, involuntarily, and with the best intentions to support workers, identified myself as knowledgable and therefore powerful. How else could I
have had access to information that remains hidden from operators?

My positioning between management and workers was a very isolating experience. Those who, based on their assumptions of "likeness", opened up to me, managerial, "white", mostly male employees, were the ones whose attempts to bond I had to resist most. Although it was advantageous for me to collect information through interaction with managerial staff, I had to remain quite distant and non-committed when being asked, in an off-the-record manner, what I thought and intended to report. At times I was almost paranoid about being seen by workers as spending too much time with management although, if workers were particularly suspicious and reserved on a day, my impulse was to talk to those (managers) who would appreciate my presence and input.

As the research went on I started to loathe the days in which I felt like an outsider, unwanted by management for disturbing the work-peace and by workers for being an informant. With this frustration came the realization that I might have fared better to collect data as an employee in a participatory style, as opposed to being the academic outsider. My notes from April, 26, 1994, roughly three months into the research, read:

"I am very frustrated today. Desperate! Jana (a cutter whom I thought to have built a good rapport with, and whom I had let in on what my research is all about) does not trust me to take a photograph of her working, is very reserved and rejects me. I am upset because I thought we have a relationship and she'd understand where I was coming from. I get so frustrated because everybody walks away from me and

Agar (1980) explores the alienation of the ethnographer as a "professional stranger" from the people or settings observed.
nobody trusts me anymore. I run into Karl (a knitting technician who shares my fascination with computers) and complain to him how nobody wants to talk to me. Karl comforts me by telling how he thought initially that, given that company management has a reputation for being sneaky, I was brought in to spy on workers. I am still upset and return to Jana’s workplace to ask her why she does not trust me. I tell her to not treat me like scum, I am not an informer" (Jana, cutter, Journal 1 26/4/94).

I am particularly upset because I had "defended" Jana in the past from a racist attack by a co-worker, Ina.

"Ina immigrated to Vancouver from Italy 23 years ago, when she was in her early thirties. She explains to me the many jobs she has held in the factory, from pressing to marking and cutting to bundling, washing and sorting, and how she is comfortable in a lot of jobs. She likes the company and makes no secret about it. I follow her on the various tasks she performs and we come to chat on the cutting table. She introduces me to a colleague, Jana, who cuts sweaters according to sizes, free hand while chatting to me. She is a cutter, who has worked at AquaSuit for 25 years. She says she is not happy with the current state at the company, because she finds the climate at the company has changed over the last 10 years for the worse. Jana comes across very self confident, she is fluent in English, born in mainland China, raised in Hongkong and then Vancouver. Her husband is Canadian born, hardly speaks Cantonese, and neither do the children. She says that she’d like to go back to Hongkong, but her husband doesn’t want to. She figures that the taxes in Canada will kill us all, and she figures that Hongkong has a fairer tax system (a flat rate of 15% of total income as I understand it). She goes on about welfare fraud, U.I. fraud, and how she hates being on U.I., having been laid off for 6 months out of the last year. She is quite adamant that the Canadian social system is going down the drain" (Ina, operator, Journal 1 17/3/95).

It must have been Jana’s harsh words for Canada, and her statement that she’d rather be living in Hong Kong, that prompted Ina, who has overheard our conversation in the background, to let go of a racist slur. "All Chinese should go back to Hongkong" she says. Jana, is very annoyed, but contains her anger. I try to mediate between them. Ina bases her prejudice on the assumption that Chinese people buy houses and let them stand empty while living somewhere else. Ina is upset with speculators. She mumbles
that Jana has a $700,000.00 house.

I feel very uncomfortable, and make the statement that we are all immigrants, with myself the most recent immigrant of the three of us. I ask Ina why she stereotypes "Chinese" people, and point out that Jana probably has been in the country longer than Ina herself. But I cannot find any common ground and Ina walks away. Jana looks at me in disbelief and asks me if I had heard what was said and how these slurs were typical for the climate at AquaSuit.

After this experience I had hoped for some bonding with Jana. But the day I attempted to take a photograph of her work as a cutter, she refused and I got upset about her lack of trust and walked away in anger. The thin veneer of solidarity and trust I had dreamed up between workers and myself did not exist and Jana let me feel it as soon as my advances could jeopardize her job. My overt feminist and anti-racist attitude made me even more suspect. But since I could not bear the stigma of being perceived as yet another lackey of management (there had been some before), I took her caution as a personal rejection.

In hindsight, not only was that the last conversation I ever had with Jana on the shopfloor, but also I lost the opportunity of getting information from a competent operator, who had worked in the company for over 25 years. I was upset with my unprofessional approach and realized that I could not blame workers for their perception of my actions, rather that I had to recognize that apart from my (well-meaning) intentions, the operators had no reason to assume that my presence would in any way benefit or better their work-life. Quite the opposite. By
talking to me they could only loose. This realization led me to re-consider my strategy of data collection: it became clear to me that most of the information I had received was produced to satisfy my needs for an answer and did not necessarily reflect the experience of operators. Unless I could convince myself of the validity of my data, there was no way to confirm my observations with operators, as operators found it too risky to relate to me.

Frequently, a group of employees would take their time to chat with me, to feel out how my research was going, and what my observations were. Floor supervisors, in particular those with a European background, embraced me, for my male-, "white"- and "European-ness" and one flirted openly with me. All along operators did watch all my moves, my reactions, my gestures and body language and sought to derive where my position in the hierarchy of power was. At times operators tested me by enticing me into helping them with their work. And although I was more than willing to help out were I could, I was acutely aware of the satisfaction operators took in ordering me around, giving me little tasks and seeing me struggle with unfamiliar assignments. At the same time I was self-conscious about my attempts to erode my visibility by such displays of symbolic attachment (Stoddart 1991:6), in the hopes that my identity as ethnographer would become more subsidiary and less focal.

Reflecting on my encounter with Jana it becomes quite evident how strongly ascribed attributes define the position of all who are involved in this research project. I could not overcome my construction as the management mole, and my attempts
to reveal myself were taken as just another strategy to achieve the confidence of operators. The social context spoke louder than my voice.

5.5 The Method of Data Gathering

Data for this research consists mainly of observation protocols compiled over the period of one workday. These protocols account for the tasks and activities observed in one workday and in a few cases contain semi-structured interviews with floor-workers, management and union leadership. Because many workers were wary about my presence and suspicious of my intentions, my attempts to set up formal interviews with operators led, as mentioned before, to very few interviews.74

I have spoken at length to about one hundred of the two hundred and forty workers, 35 of whom I observed for the duration of a one day-shift. Frequently I spent time in the lunch-room chatting with operators over a cup of tea, or attended company events, like length of service-merit-award ceremonies, ESL (English as a Second Language) lessons, fire drills and meetings of workers or management, where changes in the workprocess were under discussion. The best opportunity to communicate with management or operators occurred in the context of problem solving on the job. Any time there was a difficulty in either the production process or the planning of operations, the discussion of possible avenues of action fostered a bond between researcher

74 Only the business-agent of the union and two managers agreed to a formal interview (conducted in the early stages of my research), but all of them made their more substantive comments once the tape-recorder was turned off.
and "subject". Based on this bonding experience operators and managers expressed themselves openly and the perspective on work and opinions of individuals became clear. In the context of trouble-shooting and problem solving words were not always carefully weighed and the interaction between me as researcher and the "research subjects" was the most uninhibited under these circumstances.

In the "informal interviews" on the shopfloor I always asked operators for their description of the skills needed to do a job, why and how they would go about doing a task in the manner I had observed, and what working knowledge it took to perform the tasks associated with this job. In addition I used documentary sources, such as reports, memos from management to workers, etc., to obtain insight into how management dealt with operators, and how new tasks and necessary changes in the working knowledge of operators were introduced. Another set of my questions addressed the biography of the interviewed worker and inquired about the educational and professional background of the interviewee. Frequently operators would take this occasion to reflect on the relationship between their educational, cultural and economic background and the demands of their present job. To get a sense of the different dimension of skill as described by workers or by management, I compared the knowledge and skill descriptions of jobs given by workers with the skill-classifications in use by union and employer respectively. As expected, accounts differ in the quantity and quality of tasks listed depending on which side did the reporting. This first phase of data collection (Feb. 1994 to Sept. 1994) was followed by producing transcriptions and
follow-up interviews with the business agent of the union, some company managers and a small number of workers in the Fall and Winter 94/95.

In summary, I have addressed three issues in this chapter: techniques, method and theory of collecting and managing, and interpreting qualitative data. Discussing a number of theoretical approaches to qualitative data interpretation, I discussed the strength of Burawoy's extended case method for my research enterprise. The extended case method allows for an investigation of social phenomena in a micro setting like the shopfloor of a particular garment factory, but considers the macro-determinants that may govern constructions of skill on the shopfloor, and points to the incongruence between sweeping macro attributions and the actions of individuals so determined. The extended case method incorporates the critical perspective on social structures as demanded by a feminist critique of methods as well as giving weight to the historical, cultural material conditions under which the structures of the social world translate into discourses between individual (and corporate) actors.

Discussing the method of data collection, I point out, in congruence with my methodological strategy, how the interaction between data collector and research subject in the micro-setting is determined by the attributions made by either party involved. These attributions are based on class, gender and racialized notions of difference, and are real in terms of the different political and material consequences they have on the lives of the parties involved. But rather than accepting the "difference", both parties, researcher and subject, respond in ways so as to
resist the determinants: workers "play" with the researcher to show him his inadequacy while the researcher attempts to escape his privileged position by pleading for acceptance and employing the strategies of adequacy reported above.
CHAPTER VI  The Organization of Work at AquaSuit

My first emotion as I walk onto the shopfloor is shock: how can anybody tolerate the noise and pace of the production process? More than two hundred operators busy themselves with pushing pieces of garment through sewing machines, or so it appears. The humming of machines, the spools of thread, the trolleys overflowing with cut garments, the isles between sewing tables stacked with bins of sewn garments, and all the operators, backs bent over the machines, heads bobbing up and down in a rhythm determined by the requirements of the seam to be produced. All this gives me the impression that I have just entered the realm of a modern day sweatshop. The next thing I realize is that the shopfloor is populated by women only, and that it is women of "colour" who make up the majority of machine operators. While walking through the isles, chaperoned by the AquaSuit plant supervisor who is committed to pointing out the various departments involved in producing a swimsuit, I can feel the eyes of the operators move up from their machines to my back, curious what the role of this visitor is?\(^75\)

I could be sent from the U.S. Headquarters of AquaSuit, I could even be sent from the corporate parent, the Beta Sigma corporation, which is the third largest apparel company in the United States, with an estimated $3 billion sales and a gross profit of 30% in 1991 (Appelbaum and Gereffi, 1994:47). Visits of

\(^75\) In hindsight I recall the stark contrast between the posters on the wall of the factory, depicting blond and blue-eyed male and female models posing in a variety of AquaSuit swimwear on the beach, and the operators who produce the garment and are not likely to ever parade around in the swimsuit they construct.
managerial staff from headquarters, as I subsequently found out, were frequent and could forebode anything from assessing the productivity of the Vancouver, BC subsidiary operation in yet another bid to increase productivity, and/or the closing down of operations. To all appearances I am treated with courtesy by the plant supervisor and, therefore, must be endowed with some power.

AquaSuit is a leading manufacturer of men’s and women’s swimwear, sportswear and sweaters. It employs in its Canadian Division currently over 300 people. The company was founded in the early 1920’s and in recent years with the coming of the Free-Trade Agreement has been able to expand its market share in the United States. AquaSuit Canada is part of a larger corporate structure with immediate dependency on AquaSuit USA, which in turn is one module in the larger structure of the Beta Sigma corporation. Since AquaSuit became part of the Beta Sigma corporation, the changes in the organization for the Vancouver based Canadian Division have been remarkable. From designing, producing and marketing mainly knitwear, sweaters and swimwear until the late 1950’s the focus of production has been modified to constructing swim-wear that AquaSuit receives pre-cut and bundled from its U.S. headquarters. According to the plant supervisor it was the need to respond to the competition AquaSuit had experienced from large-scale garment producers in low-wage countries that forced the restructuring of operations in Canada and brought with it the closure of the knitting department and manufacture of garments as a whole, in favour of specializing in
the production of up-market swimsuits.\textsuperscript{76}

The response of the North American industry to improve efficiency and profit margins has taken two significant avenues. Where labour is cheap and where an investment in technology is not feasible because it either outweighs the cost of manual labour or because technology is not adequate to replace human input, industrial production is accomplished either by outsourcing\textsuperscript{77} through subcontracting and homeworking, or through the employment of cheap labour in non-regulated jobs. Cheap labour is equated most often with the work of women and in case of the garment industry the work of women of "colour".

Where the cost of labour comprises a considerable part of production cost, the introduction of cost saving technology, and the re-training of workers to fully explore the capital investment becomes the strategy chosen by garment manufacturers. The introduction of new technology goes hand in hand with an reorganization of production in which capital is substituted for labour. Here new micro-electronic technologies and the reorganization of conventional production serve to create a "high

\textsuperscript{76} "For the last 20 years the garment industry has been undergoing massive restructuring on a global scale. The popular perception is that the Canadian industry is doomed as a source of jobs and wealth, because of increased competition from low wage countries" (Dagg and Fudge 1992).

\textsuperscript{77} Outsourcing is one method to secure cheap labour. Aiming to circumvent the cost associated with maintaining a permanent workforce, companies in all sectors of the economy have taken to externalizing some of the risk of the enterprise, by subcontracting some or all aspects of production to other companies or individuals. Beyond the contractual obligation concerning the delivery of services or goods, the risk and costs of performing work are placed on the subcontractor, who in turn may choose to engage into a similar subcontracting arrangement with yet another contractor.
performance" work system. An emphasis on labour-power as human resource corresponds with attempts to streamline the organizational structure. Where full automation is not an option, organisations seek to enhance productivity and establish competitiveness (profitability) through integrating automation processes with the management of human resources (HRM).

AquaSuit, the garment company that I researched, chose to invest in the reorganization of the production process, which translated into the restructuring of the work-process and the retraining of workers as well as the introduction of new, microelectronic equipment, such as a computerized manifesting system, and partially computerized sewing equipment. The employees subjected to this reorganization of the production process were seamstresses who operated sewing machines for piece-rate wages. The effectiveness of a new and more flexible system of manufacturing depended in part on the introduction of new technology but also on a more efficient extraction of mental and physical effort - that is - on the skill and working knowledge of the operators. Because the technological and organizational innovation on the shopfloor required the production process of a garment to be further broken down into a series of apparently simple and repetitive operations the explicit and nominal skill of garment workers was seen to be replaced by scientific management and managerial know-how.

At the time of my research, workers who had been alerted to impending changes in the organization of the shopfloor, were cautiously curious about the consequences that a restructuring would have on their jobs. Having experienced the new dependence
on U.S. based swimsuit production for the last few years, and
with it more steady employment, workers expected that a change in
production methods in conjunction with the implementation of new
team-work techniques would leave them in a position of exercising
more control over their jobs.

The financial resources to undergo the restructuring of
production methods and entry to the targeted market were made
accessible by the parent company. The purchase of a considerable
number of new sewing machines, the introduction of a computerized
manifest system, allowing to trace a garment through its
construction stages and into the warehouse, was accompanied by
training programs in which recent hires and experienced operators
were trained in multiple sewing operations. Design and cutting of
garments were reduced to a minimum, and of 10 to 15 cutters only
one remains employed full-time. However, for this cutter full
employment means that much of his worktime is spent painting,
helping out in the warehouse, and doing any odd job that needs to
be performed.

Considering the constraints under which AquaSuit, Canada,
operates, the subordinate relationship with and dependency on
company headquarters in the U.S., the rivalry with non-unionized
local and national producers, and the competition from low wage
countries the company so far has done well for itself. Given the
choice either to relocate production to a low-wage country or
even to externalize some production to subcontractors and in
effect home-based sewing, AquaSuit has opted to take up the
challenge of increasing its productivity in pre-sewing operations
as well as in the sewing process. In order to cope with the
demands of, on the one hand, an "economies of scale" production setup, and on the other hand, highly specialised and knowledge intensive small orders, or "economies of scope", the company has responded with the restructuring of shopfloor and office. A variety of Human Resource initiatives were aimed to establish total quality management on all levels and in all departments. On the shopfloor the re-organization of the work-process resulted in the introduction of team work. By introducing a team-work concept management has tried to shrink labour costs through engaging workers in a more labour-intensive production process, yet minimizing capital intensive investments into new machinery. As will be discussed later on, operators are sceptical about the introduction of new production strategies, mainly because they cannot see a translation into monetary gains.

Much of AquaSuit Canada's production is destined for sale in the U.S., and the company receives on average about 4500 hrs. per week\textsuperscript{78} worth of sewing from its U.S. headquarters. Fabric arrives already pre-cut, and needs to be sewn and shipped back to the U.S. within seven to a maximum of ten days. Only a small portion of the production capacity is reserved to supply the Canadian market. In case of manufacture for the Canadian market, the Vancouver division of AquaSuit has all the control over design, cutting, manufacture and distribution of the product. The Canadian market acts, however, only as a buffer for re-directing

\textsuperscript{78} With approximately 200 workers working a five day/37.5 hour week AquaSuit has the production capacity 7500 hr./week. Considering that on any given day roughly 15% of the workers are absent or work a short shift, due to illness or personal affairs the 4500 hours per week equal approx. 70% of AquaSuit's capacity.
capacities in times of low allocation of work hours from U.S. headquarters. The tie-in with AquaSuit USA enables the Canadian division to offer a large variety of styles on the domestic market, but also requires a close and often very competitive cooperation with the U.S. plant. Because headquarters considers the Canadian division to be a semi-dependent subsidiary, on one hand producing for the Canadian market, on the other hand producing on order of for the U.S. company, it demands from the Canadian division a cheap and efficient processing of U.S. orders while demanding that the Canadian operations remain financially viable and pose no burden to the parent company. In that spirit, the U.S. parent has no qualms in farming out work to manufacturers who offer to assemble a garment cheaper than AquaSuit Canada. The Canadian division finds itself trapped between the demand to deliver its product at preferential rates to its U.S. parent, in fact to deliver cheaper to the parent than to any other customer but also having to balance the books in its overall operation or face the threat of being shut down by the parent company.79

In the early 1990's, company management found itself in the situation of having to restructure the production process in order to attain cost efficiency to be able to respond to orders that call for small runs in some of the over 300 styles of swimsuits produced. In a first step the knitting department was disbanded in 1994. Machinery was sold or junked, and knitting technicians, all of them male, were either sent into retirement, or trained for new jobs inside the factory. The shutting down of

79 For an overview over the organization of the Apparel Commodity Chain see Figure 1 on page 110.
the knitting department not only resulted in AquaSuit losing one line of products, sweaters, that in the past had carried the reputation of the company, but also losing independence from U.S. headquarters. The new dependence on the U.S. puts AquaSuit in a peculiar position. For one, the Canadian Division is an outsource for the U.S. parent. Due to favourable exchange rates between U.S. and Canadian dollars, the availability of cheap and knowledgable immigrant labour in the Canadian West and a labour-force organized, if not pacified, by the ILGWU or ACTWU\(^\text{80}\), U.S. operations have put themselves into a position of administering flexible production capacities. Canadian production is known for high quality\(^\text{81}\), reliability, and availability. The Canadian Division finds that although an outsource for the U.S. based operations, it has to fend off competitors from low-wage countries, where operators make a fraction of locally unionized wages. AquaSuit Canada is a subcontractor to U.S. Headquarters, but as opposed to the majority of U.S. operations, a unionized garment manufacturer employer, the biggest in the Lower Mainland of British Columbia.

\(^{80}\) Since I ended my research the International Ladies Garment Workers Union (ILGWU) and the Amalgamated Clothing and Textile Workers Union (ACTWU) have joined forces to stem the ever swelling flood of garment production farmed out to Free Trade Zones and production in low wage countries. Under the new label of UNITE the two unions have made an effort to preserve jobs in Canada. Part of their strategy is compliance with employers restructuring the production process and introducing Human Resource Management Strategies. Whether compliance will preserve jobs and keep the garment industry alive in Western Canada remains to be seen.

\(^{81}\) Personal communication with the manager from U.S. headquarters liaising to Canadian productions (Chuck, Journal 2, 23/7/94).
Figure 1: The Apparel Commodity Chain (Source: Appelbaum and Gereffi 1994)

Figure 3.1 The Apparel Commodity Chain
Following the shutdown of the knitting department the space freed has been allocated to sewing operations. Approximately 40 more workers were hired in the ensuing months, and the numbers of operators increased from 180 to about 220. Spatial reorganisation was accompanied by the re-direction of production to swim and leisure wear and forced the reorganization of departments within AquaSuit Canada. When I started my research the company was organized in 8 departments: shipping, receiving, finishing, knitting, office, swimsuits, leisure-wear, and sweaters. Nine months later this number had been reduced to five. Shipping, receiving and warehousing were collapsed together, with warehousing operations sized down in response to the new "just-in-time" strategy, and knitting and sweaters was closed.

The shopfloor is divided along imaginary borders in three production lines, each of which is managed by a floor-supervisor, who takes care that materials are delivered from the receiving and bundling department downstairs, and that the workload is distributed to operators according to the immediacy of order. Supervisors have partially come up through the ranks, but some of them have come into the company from outside, often bringing along a few of their favourite workers.

Floor supervisors are on the lowest rung of the managerial hierarchy, without exception female, and of Eastern/Southern European ancestry. Floor supervisors together with the male mechanic, the boilermaker and maintenance man, the receiver, some shipping clerks, the knitters and some office staff comprise a strata, and often sit together in the lunchroom.

Management is comprised of a "white" female timing- and a
male production engineer of "colour", both with degrees from colleges or vocational institutes. The personnel manager and the head of shipping are women and "white", and the remainder of the managers, the director of finances, the plant supervisor, the director of sales and the president are male and "white". President and plant supervisor started in the knitting department and have come up through the ranks to the top. The managerial style is patriarchal and "benevolent", with men in key positions of authority and control, although there is a trace of open office policy, most likely the result of U.S. headquarters enforcing the application of new management styles.

Clerical staff is not unionized and while constituted from all ethnic groups is exclusively female. Clerical workers who rarely interact with operators are distinguishable by their office attire when they run errands on the shopfloor.

Among operators there is no clear organizing factor observable other than that they appear to be, with few exceptions, women of "colour" with ages spanning from early twenties to mid sixties. Operators sit in rows made up of 15 worktables in close proximity to each other for easy exchange of garments. Within the individual lines (consisting of 2 or 3 rows of workers), the flow of garment construction is uni-directional, and bins full of cut material transform while being passed along in the production row, to finished garment. At the top of every row is a large table, where the finished garment is freed of lint and loose pieces of thread, labelled, inspected for quality, and then hung up. The finishers who perform this job are paid by the piece just like operators, and many of them know how to sew.
The front office is staffed by Reception, Accounting, Payroll, Sales, with separate offices for President, Sales Director and Accountant, while Plant Supervisor, Production Engineer and Personnel Manager occupy office space in proximity to the shopfloor.

The building, a one storey post and beam structure with a full basement built in the late 1920's, is well maintained but cannot hide that it was built at a time when workers had to be happy to have a solid roof over their heads. On the inside, most of the space is taken up by the shopfloor where suspended from high ceilings, air-ducts, plumbing and electrical wiring supply a multitude of machinery.

The shopfloor is illuminated by natural light through a row of large windows in one of the exterior walls and large single-pane skylights, turned opaque over time. Fluorescent tubes are ubiquitous, and each sewing machine has a little lamp attached to it that directs a beam of light onto the sewing table. Sewing operations and shipping and warehousing are adjacent to each other on the main floor, while the boiler and maintenance room, a few cutting tables, some steam presses and the washing of garments takes place in the basement. The basement ceiling is quite low, and sound travels via wooden floorboards from the mainfloor into the basement. The building is not well insulated but has, as of last year, air-conditioning. Still, summer days tend to heat up building and workers, while winter days can become uncomfortably chilly and draughty.

Through the efficient work of the operators, the majority of
them employed for more than 5 years\textsuperscript{82}, the company has been able
to pull itself out of a major recession by focusing on orders
from the U.S. market. The President and Managing Director of the
Canadian Division summarizes his expectation of company
performance in a company newsletter as follows:

It has been very apparent when walking through the factory
over the past 6 months, how hard every employee has been
working. At times it has been stressful to get work
completed and shipped on time. It is a credit to each and
every employee, that we managed to complete and ship on
time, and maintain our good quality....[A]s we continue
into the next year, we hope to continue to change our
culture and move even closer to a "Team Oriented" way of
conducting our business. We want to achieve the kind of
organization where everyone is on the same team, working
towards the same goal, i.e. "To see AquaSuit thrive in the
90's". This means that different departments within AquaSuit
will become members of the "Team" and work together to
ensure the company's success, and to this end we will be
continuing our training programs which started this year,
and hope to put several more departments through the Working
Program in 1995 (AquaSuit newsletter, "The Way We Seam",
June 1994).\textsuperscript{83}

In October 1994 the same President of Canadian operations
reflects upon the
tremendous pressure from our customers to reduce or hold our
prices, while at the same time give them more discounts. As
our cost creeps up, it is becoming very difficult to make a
profit under these conditions. It can, in our opinion, be
only achieved by becoming more efficient. That is why we are
examining all our procedures. Everything we do, needs to be
meaningful. If it is not necessary, the task should be
streamlined or eliminated, Further, we need to decentralize
decision making. We are working towards empowering employees
to make many of their own decisions. In the months ahead you
will undoubtedly hear much more on this subject" (AquaSuit

\textsuperscript{82} The exact breakdown of length of employment of all operators
is documented in Appendix 1 on page 252.

\textsuperscript{83} It is ironic that part of the new team spirit involved the
exhibition of golf-trophies in the lunchroom, which, as a
facility, was never ever used by those who play golf. Hardly any
of the workers on the shopfloor was in a position to play golf.
The re-organization of the work-process was an economic necessity for AquaSuit Canada if it wished to remain competitive in the swimwear market. Being inside the company at the time when the restructuring of the shopfloor took place, opened up for me a window of opportunity through which to observe management and workers in their negotiations over new tasks and the payment that should come with these new responsibilities. While part of these negotiations took place formally in meetings and informally on the shopfloor, the task requirements that were the basis for a new production and payment system became explicit as both sides bargained to achieve a maximum return on their respective input. Observed through this window, the gendered and racialized properties of skill as attributes of individuals or groups of workers, and the association of specific tasks with particular workers became discernible.

While the notion of skill was never openly contested in negotiations between workers and management (but accepted as a somewhat obvious measure of gauging in a composite manner the overall-efficiency of an operator) the question of remuneration, and particularly the piece-work pay-system, became the foil on which claims around working knowledge, seniority and team-work crystallized. The pay-system for garment workers, a mix of guaranteed earnings based on time-work interwoven with piece-rate based incentives is the most obvious and contested focus of concern for both operators and managers. But individual earnings, as we will see in a later chapter, are not a reliable predictor for either operators or management to assess levels of skill. The apparent congruence of pay with skills, an equation which has
been under attack in much of the literature on pay-equity, for serving to secure higher wages for men, is suspended on the exclusively female shopfloor of AquaSuit. Here workers are not stratified according to any measure of skill and receive the same base pay. This is one method of obliterating difference. In this process whatever competence workers bring to the job or learn on the job remains hidden.

6.1 Labour Relations At AquaSuit: What the Union does

While much research interest has focused on capitalist, public and managerial policies that effectively lead to a devaluation of workers' skill and competence, to date only little attention has been paid to the role unions themselves play in assisting in the reproduction of jobs and job descriptions for women as "unskilled" workers (Hartmann 1982; Gannage 1986; Duffy and Pupo 1992; Yalnizyan 1993).

Women have a long history of union organization often in solidarity with men. In the 1980's women increased their rate of unionization by 6% while men increased by less than 1 per cent.\(^{84}\) However, the patriarchal structure of unions translates into a representation of women workers that still precludes women from

\(^{84}\) Expressed in numbers, women's membership in unions is increasing faster than men's. For the period between 1962-1989, 1.25 million women and 1.1 million men joined unions, signifying a 500% increase for women and a roughly 100% increase for men. Although the rate of unionization has slowed down for women and actually declined for men in the mid and late 1980's, women comprise 39% (1.5 million) of all union members, with 29% of all working women being unionized. As White (1993(b):191) observes: "while women continue to unionize and do so at a faster rate than men, it may be of little comfort to find that their influence is expanding in a labour movement that is stagnant or declining. See Tables 2 and 3 on page 118.
advancing into positions where they could influence policies with respect to the particular constraints and interests women have as mothers, spouses and caregivers. For example, women are often excluded from union business by the scheduling of administrative and organizational business around a "male time frame" which relies on the fulfilment of concurrent domestic obligations by a partner, usually a woman (Gannage 1986, 1990; Briskin and McDermott 1993; Warskett 1993).

A direct consequence of these policies is the exclusion of women from entering leadership positions in the union organization itself (Cuneo 1991, Kumar 1993). This has far reaching consequences with respect to the agenda and the issues for which the union decides to fight. But the resistance to women’s effective engagement in union organization occurs not only through excluding them from participation in business matters, but also through obstacles in the private sphere where male partners wish to discourage their spouses’ involvement in unions matters.

85 In her research of a white collar union Creese (1995:162) makes a disturbing observation: "during the six years that the [union] had a self-defined feminist president, there was little movement on issues raised by the Women’s Committee...[P]erhaps, ironically, women’s issues fared better, in spite of the inactivity of the Women’s Committee, after the election of a new president who was not identified with feminism...[M]oreover, perceptions of devoting too much attention to women’s issues can be more politically damaging and generate more resistance for a female than a male president, especially in a union historically dominated by men."
### Table 2: Women Union Members, 1962 to 1989

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Women</th>
<th>Women as % of All Union Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1962</td>
<td>248884</td>
<td>16.4</td>
</tr>
<tr>
<td>1964</td>
<td>276246</td>
<td>16.7</td>
</tr>
<tr>
<td>1966</td>
<td>322980</td>
<td>17.0</td>
</tr>
<tr>
<td>1968</td>
<td>438543</td>
<td>20.4</td>
</tr>
<tr>
<td>1970</td>
<td>513203</td>
<td>22.6</td>
</tr>
<tr>
<td>1972</td>
<td>575584</td>
<td>24.2</td>
</tr>
<tr>
<td>1974</td>
<td>676939</td>
<td>25.2</td>
</tr>
<tr>
<td>1976</td>
<td>750637</td>
<td>27.0</td>
</tr>
<tr>
<td>1978</td>
<td>835263</td>
<td>28.7</td>
</tr>
<tr>
<td>1980</td>
<td>932883</td>
<td>30.2</td>
</tr>
<tr>
<td>1982</td>
<td>995376</td>
<td>32.3</td>
</tr>
<tr>
<td>1984</td>
<td>1219065</td>
<td>35.5</td>
</tr>
<tr>
<td>1986</td>
<td>1310000</td>
<td>36.4</td>
</tr>
<tr>
<td>1988</td>
<td>1418900</td>
<td>37.5</td>
</tr>
<tr>
<td>1989</td>
<td>1518500</td>
<td>39.1</td>
</tr>
</tbody>
</table>


### Table 3: Major Trends in the Labour Force Participation of Women, 1901 to 1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Female Labour Force (000s)</th>
<th>Participation Rate of All Women in the Labour Force (%)</th>
<th>Participation Rate of Married Women (%)</th>
<th>Women as % of Total Labour Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>1901</td>
<td>238</td>
<td>12.0</td>
<td>-</td>
<td>13.3</td>
</tr>
<tr>
<td>1911</td>
<td>365</td>
<td>14.3</td>
<td>-</td>
<td>13.4</td>
</tr>
<tr>
<td>1921</td>
<td>489</td>
<td>14.3</td>
<td>-</td>
<td>15.5</td>
</tr>
<tr>
<td>1931</td>
<td>665</td>
<td>19.1</td>
<td>3.4</td>
<td>17.0</td>
</tr>
<tr>
<td>1941</td>
<td>834</td>
<td>20.2</td>
<td>4.5</td>
<td>18.5</td>
</tr>
<tr>
<td>1951</td>
<td>1164</td>
<td>23.6</td>
<td>14.9</td>
<td>22.0</td>
</tr>
<tr>
<td>1961</td>
<td>1764</td>
<td>29.5</td>
<td>21.9</td>
<td>27.3</td>
</tr>
<tr>
<td>1971</td>
<td>2964</td>
<td>38.7</td>
<td>26.3</td>
<td>34.3</td>
</tr>
<tr>
<td>1981</td>
<td>4098</td>
<td>51.0</td>
<td>51.7</td>
<td>40.6</td>
</tr>
<tr>
<td>1991</td>
<td>6118</td>
<td>58.2</td>
<td>61.4</td>
<td>45.0</td>
</tr>
</tbody>
</table>

Notes:
- 1901 - 1911 includes females 10 years and over
- 1921 - 1951 includes females 14 years and over
- 1961 - 1991 includes females 15 years and over
- The married category includes separated (but not divorced) women for 1901 to 1981. For 1991 the married category includes both divorced and separated women.


118
Beyond personnel politics and the resistance of husbands\textsuperscript{86}, unions historically have advanced the construction of unskilled female workers by focusing on employment opportunities for male skilled members and disregarding female employment as peripheral (Duffy and Pupo 1992; Hartmann 1982; Beechey 1988; White 1993(a); Creese 1995). An indirect consequence of the "male" perspective of unions is that perceptions of skilled work are attached to men's employment in "tenured" industrial jobs (Cockburn 1985; Wajcman 1991(b); Coyle 1982). Women's work is considered unskilled, because women might work part-time, might work in the service sector (not producing goods), or be in and out of work due to their involvement in reproductive work or due to the fluctuating demand for labour power (Duffy and Pupo 1992). Furthermore, women's wages are seen as merely supplementing men's family wage and therefore unions are often less inclined to fight for those they perceive to be peripheral members.

In many of my conversations with garment-workers at AquaSuit I found that operators were not too impressed with the performance of the ILGWU. The most often heard claim was that the

\textsuperscript{86} An illustrative example was related by the (male) business agent of the ILGWU, who received a phone call from the husband of one of the female members of the bargaining team, which at the time was involved in a confrontational and time consuming bargaining session with the management of AquaSuit. The husband threatened to brake the legs of the business agent if he continued to involve his wife in these confrontational and argumentative situations with the employer. Vas, the business agent, responded that he would be doing just the same thing to the caller, if he would not lay off his threats (ILGWU business agent, personal communication, Dec/1995). At the bottom of this episode was a husband who did not want his wife involved in politicking, perhaps fearful that some of her militancy could spill over in the private sphere and threaten his patriarchal privilege.
union was not doing enough to advance the workers' cause. This claim came to me as a surprise because I had witnessed on a variety of occasions how local union leadership and management locked into a fierce battle over workers' rights and payment systems.

Fara, an operator, at one point complained to me that the union was negotiating on behalf of workers without the backing of operators. She was afraid that union and company were making deals behind the workers' back and states defiantly: "I cannot be forced by a third party to engage into a struggle against my will". She says she has been doing well for herself and the company has treated her fairly in the last year. The union does not do anything for them [the workers], and after all the workers are happy to have work in the first place... Fara argues that she has a relationship with the company, that this relationship is reciprocal and mutual, and that the union should not disturb this relationship. And she wishes that the union stays out of the negotiations between operators and company because she cannot backup the union's demands (Fara, operator, Journal 2, 18/8/94).

Another operator, Kamala, who like Fara serves on the union's committee for the upcoming bargaining round, takes a very different view on the activity of the union.

Kamala tells me how in spite of negotiations around teamwork, pay, etc. she feels that these meetings are useless because nobody listens or takes any action. She accuses the management as much as the union of not dispersing information freely. She also suspects that decisions are made before bargaining even starts, and that any promises made by union or management lack credibility. She suspects that union leadership is in cahoots with management. Kamala wants to go to the next meeting of the Western District of the ILGWU because she figures "there are not enough of us on council." She considers the shopfloor a personal space, that should not be disturbed by contentious negotiations. But certainly if anyone would care to listen to her, she'd have a few suggestions how to make the production process more efficient (Kamala, operator, Journal 2, 23/8/94).

Some workers see the union as a vehicle to achieve their personal goals, and do not recognize that the union bargains on behalf of the collective. Fara's wish for a low-impact bargaining
by the union could be constructed as serving her well personally, while leaving many of the less experienced and more vulnerable workers unprotected. However, I do not suggest that Fara has an instrumental orientation towards work but argue that Fara resists further exploitation and protects her already small margin of authority and control over her job.\(^\text{87}\)

A theme that emerges from the above passages is that operators are afraid of conflict and would rather accept what is coming from management than start quarrelling. But at the same time operators, suspicious of union strategies, are sitting on a bargaining committee that pushes for concessions and carries the company to the brink of a strike.\(^\text{88}\) I found out through my conversations with operators that they had good reasons for not wanting to be involved in acrimonious negotiations with the company, because any indication that operators resisted was followed by a campaign of subtle discrimination. These could take the form of temporary lay-offs, intensified scrutiny of work habits, or worse, a ridiculing by management of the motives and

\(^{87}\) Nancy Folbre (1994:18) addresses the incongruity in the picture painted by neo-classic economic theory where workers behave as rational economic actors driven by self-interest in the competitive market place, while acting seemingly entirely altruistic as loving spouse and parent in the home. It is indeed hard to imagine that the collective orientation of family relations are replaced by purely self-interested economic motivations on the shopfloor. And garment workers’ cooperation and resistance to managerial policies of restructuring indicates that the collective orientation on the shopfloor is alive and well.

\(^{88}\) In October 1994 the Union took a strike vote over the proposed collective agreement that would prepare the transition to team-work. The company’s offer was rejected by a majority of 94% of the workers and the strike vote was affirmed by 95%.
reasons why operators complained. In this process the complainant is victimized a second time and constructed as unreasonable and a troublemaker.\textsuperscript{89}

Notwithstanding the effort of the union at AquaSuit, the ILGWU as an international organization has not had a very good record on some of the issues of concern to its membership. Aside from the inherent difficulty of organizing small companies, that on a moment's notice can close down operations and reappear under a new name at another location, thus circumventing union contracts for employees, the ILGWU has been less than effective in organizing the ever more marginalized garment worker.

One of the explanations given for the failure of the ILGWU to reach out to the workers populating the margin is that between 1953 and 1970 the ILGWU purged itself systematically of its leaders perceived to be Communist. This move caused the union to lose "some of the most dedicated and militant organizers in the industry, particularly when it came to organizing ethnic or racial minorities" (Laslett and Tylor 1989:88). In combination with an anti-immigrant position and the hesitance to organize undocumented and illegal workers, the ILGWU villainized those who were to become potential members. Politically, the staunch anti-communist, and nationalist position of the ILGWU has led to a consistent support of U.S. military interventions in the Third World. The backing of the CIA-funded American Institute for Free Labour Development is but one example of the ILGWU supporting,

\textsuperscript{89} The episode involving Tak (p.188) and Jana (p.173) demonstrates how it was a strategy of managerial response to undermine the self-esteem of operators.
indirectly the repressive anti-labour policies of U.S. backed military regimes in Latin America and South-East Asia (Weiner and Green 1984:291). By the same token the ILGWU kept the competition of cheap foreign garment manufacture in unregulated low-wage conditions alive.

But possibly the biggest oversight on the part of the ILGWU is neglecting to organize amongst the increasing numbers of sewers who work out of their homes. In a recent policy decision at the convention of the International (Triennial Convention, Summer 1995, Miami, Florida) the union decided to overturn a decision to extend membership to those operators who work out of their homes (personal communication, business agent, ILGWU, September 1995). With the disappearance of large scale garment production in the Canadian context (Yalnizyan 1993:285) the ILGWU has lost membership over the last few years, and the recent decision of the International not to pursue recruiting home-based garment workers has left the Local, representing AquaSuit workers, with a small operational basis to apply pressure on employers and bargain effectively. ⁹⁰

By 1994 the situation at AquaSuit was as follows. In recognition of the present state of industrial relations with an expired contract, workers were weary of management's vague information policy on restructuring the shopfloor. The position of the union Local was weakened by the loss of members through the continued shutdown of unionized garment companies in the

⁹⁰ Since union dues are linked to the income of the member, unions organizing low-wage sectors of the economy have only limited financial resources to support and lobby for programmes and policies that benefit their membership.
Lower Mainland of Vancouver. It became obvious that the ILGWU had no means to block a move by AquaSuit that promised to ensure employment and stability of income for their employees. Given the market conditions, where non-unionized and/or off-shore production competes with the market position of established, unionized producers like AquaSuit, the ILGWU conceded that a team work approach, although criticised as the harnessing of skills of workers without corresponding remuneration, was a (managerial) strategy that promised employment and security for its members. In consequence the union tried, only partially successfully, to convince its members of the mutual benefits to be achieved by new shopfloor organization.

The re-structuring process envisioned by the company called for the cross-training of operators, their placement in teams, the establishment of team leaders and the definition of the terms in which teams operate internally and with other teams. Unfortunately, the lack of communication between company management and the union, with the union being more or less excluded from the brainstorming and strategizing process, led to impoverished relations between the company and the ILGWU. It is hard to determine whether the union did a bad job of persuading its members to support the new style of organization, or if operators, lacking evidence that they could improve or at least stabilize their own situation, chose to ignore the advice of union and company management alike. Either way, the union itself, although supportive of the restructuring process, and willing to amend its policies to accommodate and experiment with new production methods, was shut out by management from any planning
or decision making process, and thus lost some of its credibility with the workers. This meant that the union became less efficient in educating its membership about the advantages and disadvantages of the possible changes. Although, at first glance, this situation might appear advantageous to company management, since it seems to permit them to bypass the union, operators often did not wish to listen to suggestions brought forward by the union or the company, and resisted working in any other way than the one they were accustomed to. Since operators had little confidence in the sparse information coming from management, the chance to successfully restructure was jeopardized. The exclusion of the union from strategizing and planning, and operators’ perception of the loss of credibility of their union, had the effect of disabling one of the steering forces on the shopfloor. Management was not able to fill this void and operators resorted to resist the planned changes. To remedy this resistance, and to access fully the skill and working knowledge of employees, is of course, one of the intentions behind the implementation of new production strategies.

In this chapter I have given an insight into the organization of the work process on the shopfloor of AquaSuit, and outlined the larger economic context in which the company operates. Industrial relations at AquaSuit are difficult because the union is put in a position to advocate team-work practices, knowing well that operators reject this form of organization. The union has failed to negotiate job descriptions for operators in the past and as a consequence, all operators, regardless of seniority and competence, earn the same base rate. Certainly, the
ILGWU has had success in bringing order to an otherwise chaotic and unregulated labour market in the garment industry and in this company. And it is evident that those garment workers who are not organized in a union do not have even minimal provisions for vacation pay, a guaranteed wage, pension benefits or any means of enforcing the contractual obligations of the employer. However, in spite of its predominantly female membership, the union has actively cooperated in creating a gendered and racialized hierarchy of jobs by bargaining skill classifications and pay scales for its small number of male members only. Further, the union has failed to bargain for a transparent internal labour market, leaving operators who want to move off the shopfloor without codified support. Most importantly, the union has no resources to oppose managerial strategies of change toward "unskilled" flexibility.

In the chapters to follow I investigate the contradictory elements underlying the construction of skill at AquaSuit. I look in particular at the pay-system, occupational gender-roles and team-work as factors that perpetuate a discourse on low skilled work.
"The piece rate tends to develop on the one hand that individuality, and with it the sense of liberty, independence and self control of the labourors, on the other their competition with each other" (Marx, Capital 1:555)

Following Taylorist principles, large scale manufacturing that is based on human intervention invites a production where the fragmentation of jobs, the increasing homogenization of skills and repetitive work, is accompanied by a wage-system that encourages the volume of production through a stratified incentive scheme. The purpose of a piece rate system, as Taylor and his associates presented it, was to coordinate the interests of management and worker through their common interest in the financial gain that could be secured from labour's extra effort (Burawoy 1979:83).

At AquaSuit the pay-system is different for administrative, clerical employees, utility workers and garment operators. While the first group is paid a monthly salary, the second is paid an hourly wage, and the third group, operators, is remunerated in a mixed system of an hourly guarantee and an incentive bonus. Incentive pay and a piece-rate pay system form the financial and organizational base of garment production at AquaSuit.\(^1\)

\(^1\) Incentive pay is not always associated with blue-collar work. For instance, it may sweeten those executive appointments where the contributions of the skill and working knowledge of an employee cannot be expressed in a regular and fixed remuneration, because the character of work is such that the efforts of an employee do not necessarily translate in a discernable result on a monthly basis. The difference between an executive's incentive and the garment worker's incentive is that the former can negotiate the conditions upon which the incentive is based and remains within the realm of the job description free to apply... (continued...)
Part of the philosophy that justifies an incentive pay-system at AquaSuit is that operators do mechanical repetitive, fragmented work that cannot be gauged or quantified in any other manner than time per unit. Workers respond to this managerial assumption and the resulting organizational practice by maximizing their utility and vying for the "right" to perform the most profitable, best paying tasks. However, the assumption that operators always prefer the more repetitive and profitable sewing operations over the more difficult, demanding and less profitable construction of intricate garments does not hold up in light of the fact that operators attribute a greater working knowledge and status to the performance of complex garment construction. Beyond affecting the actions of operators, the pay-system in the garment factory has a set of "determinants" that simultaneously encourage and distort the distinction between workers and their experience and abilities. At the same time these determinants construct garment work as low-value jobs and operators as low-skilled. I will discuss the function of the piece rate system as a homogenizing agent in treating workers as interchangeable while regulating their performance differences.

I will also outline its effects: managerial control over workers, the pitting of operators against each other in a competition for individual gain and the simultaneous profiting by the company from an undervalued and divided workforce.

\[\text{\textsuperscript{91}(\ldots\text{continued})}\]
structured and pre-determined work-program where the standard time needed per unit sewn is calculated in an hourly wage.
7.1 Piece-Rate System and Pay

Piece-rate work is often found where the work process is repetitive but requires the intervention of a human operator. The rhythm of this intervention may be pre-determined by a conveyor belt, other semi-automated machinery or the working speed of co-workers in an assembly line. Garment workers who interact with sewing-machines, are bound by speed and function of the assembly line, or their team-members, and respond to the repetitive demands with often idiosyncratic movements and work-habits (for example Zobreh's "dance" with the machine, page 161). Operators become part of the equipment but resist this incorporation at the same time by developing work routines that to an outsider remain invisible or non-sensical. The incentive pay-system attached to a piece-rate system fuses the promise of pay based on success to the condition of performing skilfully every moment in a day's work. The piece-rate system becomes the controlling agent that encourages a garment-worker to pursue an incentive.

That means the performance expectations on an operator are clearly defined by the wage allotted: at AquaSuit the hourly wage of $7.78 is based on the anticipated number of units she is expected to sew. Some allowance is made for downtime and transferral of bins, change of threads etc. and out of every 60 minutes roughly 55 minutes are expected to be worked

---

92 Burawoy's account (1979) of workers' resistance against managerial attempts to increase the company's profitability through an exertion of labour power, and the co-operation of workers in their own exploitation is a theme echoed in this research. The presence of an operator's tacit knowledge, in combination with a competitive piece rate system, individualizes the efforts of workers and serves, in the end, the interest of the company.
"productively". To give an example: if a seam is worth 13 cents then an operator is expected to produce \( \frac{778}{13} \) = 60 seams an hour. Given the 5 minute allowance, production at a hundred percent requires constructing 55 seams an hour, each taking roughly 60 seconds to perform. Any performance beyond is rewarded with an appropriate cent-per-minute value. For example, producing 60 garments in that one hour period translates into a bonus of \((5 \times 13)\) 65 cents and the operator will have earned $8.43 in that period. Facilitated by the recent introduction of microelectronic data processing, the line management has access to the productivity patterns of any operator or a particular department, as quotas are entered daily into a data base and performance is calculated.

If the disbursement of incentive pay becomes too costly, i.e. too many operators manage to push their hourly wage to around 150% of the base rate, the timing engineer will scrutinize these profitable sewing operations and more often than not reduce the seam-allowance. Operators will still "make minutes", but those minutes are not as well paid anymore. The piece-rate is cut, because the securing of an incentive on the side of workers has overextended the capacity on the part of the company to assimilate the number of garments assembled in this process. The company "looses" money because the surplus these fast workers create (under non-optimized flow-conditions of the batch) becomes absorbed by their relapse in make-up work due to the lack of volume of garments available. Operators who work too fast and efficiently disturb the flow of the production process, because they surge ahead of the rest of the workers who construct parts
of the same batch or order.

According to the plant supervisor, profitability of the company is calculated on every single operator "pulling her weight" and working around a 100% efficiency rate. But the fact that over two thirds of the operators work on "mark up",\(^9\) or as management likes to phrase it, are supported by the company, casts serious doubts on just how the figures given by management correspond to realistic calculations of efficiency. The business agent for the garment workers' union estimates that the break even point for the company is closer to 80% efficiency, which is a corresponding number to the actual practise of operators and the contention of the company that business is only marginally profitable.

Another issue for operators, closely related to the lack of recognition of expertise, is the fact that experience and efficiency does not translate into better earnings. At the base of this complaint is the practise that new operators get to do fairly simple and well paying operations, whereas experienced operators find that their "learning curve" has been calculated into the construction of more complex garments, and the times given to perform sewing operations on complex garments are tight and do not allow for the making of minutes. It is no secret on the shopfloor that experienced workers do more difficult work,

\(^9\) Although, I was not allowed to inspect efficiency/pay sheets in detail, I had access to information how many operators worked on "mark up", that means, sew less seams per hour than the seam allowance would prescribe in order to justify the guaranteed hourly wage of $7.78.
and that their efforts remain, in dollar terms, undervalued. In fact, often enough I would ask operators how they were making out that day and found that on a good day according to two operators who differ in experience, the experienced operator with 21 years of seniority, had earned less money than the newcomer. On that particular day Fara, the experienced operator was grossing $75 while Dat, the novice, had earned $79. Since standard pay is $57.80 for a shift of 7½ hours, both of them were pleased with the day's pay.

The equalizing effect this pay-scheme creates, transcends the realm of dollar and cents and enters into a social value system where low-pay equals low-skill. Although seemingly inconsequential to "what operators really do", the formal calibrating of their working knowledge to the lowest common denominator, the working knowledge of a few inexperienced operators, is another step to make invisible the expertise of garment workers.

From the different function incentives have for a variety of occupational strata one insight can be derived: while incentive pay is a reward for the successful professional, multiplying a contractually fixed income, it is a carrot on a long stick for the machine operator in the garment factory. Whereas incentive pay in the form of an annual bonus is a measure of success for executive positions, in the context of an ever-present piece-rate it is a measure of control over garment workers. Considering that

---

94 This is a significant characteristic of the garment industry and is not found in industries where men dominate the shop-floor.
only about 25% to 30% of operators at AquaSuit manage to "make minutes" and collect a bonus, a percentage that has not changed over the years and is more of a constant than the actual amount of incentive distributed, the motives for operating an incentive-based piece-rate system are not only fuelled by managerial desire to dispense rewards but also by the wish to retain control over workers productivity.

7.2 Piece-Rate System and Working Knowledge

The congruence of an industrial piece-rate pay-system and a Taylorist separation of execution and conceptualization of the production process already implies that a garment worker's job does not require mental capacities but merely requires dexterity. This misconception of what comprises a working knowledge is advanced by a piece-rate pay system in which earnings and earning power are correlated with degrees of skill and working knowledge. The piece work system is crucial for constructing money earned and speed exercised as a measure of skill. It transcends its function as a pay-system and contributes to the construction of operators working knowledge as a function of dexterity and practise, eliminating recognition of the substantive knowledge and the intellective skills involved in constructing a garment. And in correspondence to a theory of social constructivism, where externalized values gain the status of objectivity and then become internalized,\(^5\) operators come to accept the pay-system as

\(^{5}\) I follow the model of Berger and Luckmann (1966) who identify three moments in the construction of reality: externalization, objectification and internalization. The (continued...)
a medium that directly corresponds to the value of their contribution. However, "making minutes" is not a good predictor for the recognition of working knowledge.

No action is more illustrative of how an operators' work gets devalued than the cutting of a seam-allowance. Because an operator has achieved enough proficiency to perform the operation to a high standard of efficiency, management administers a direct intervention in the work process: the working knowledge of operators is "devalued" in the literal sense of the word, in spite of having proved to be valuable for the company. The differential outcome of an evaluation of competence based on earnings and operators' self assessment results in the ambiguity to accept or resist performance norms.

Kamala is timed cutting button-hole reinforcements. The engineer suggests to cut down on the operation by trimming reinforcements before they are sewn on. In consequence, a greater effort on part of the operator is needed to place the reinforcement in a certain position. Kamala argues that the suggested operation will take longer and require the use of a different style and size of reinforcement. Later she tells me that first of all, "if they play their tricks on me, I play my tricks on them", and second that she does not care if she is on make up "if it is a close makeup or a hundred minutes. Either I have a chance to make it, or I don't even try" (Kamala, operator, Journal 2, 26/4/94).

The engineer suggests a less wasteful method of cutting

95(...continued)

externalization phase sees the piece-rate system as embedded in the philosophy of liberal individualism, where reward corresponds to effort and merit (under the assumption of all actors having access to similar resources). In the second instance people accept as part of their reality that the relative value an employee contributes to the production process finds expression in the method and rate of pay. In the third instance this belief becomes internalized, taken for granted and part of reality. Once this third moment has been achieved the reproduction of this perception of reality is ensured and proliferated.
buttonholes that requires more precision, and that is, more effort from the operator. The simultaneous cutting of pay and requirement of increased effort upsets Kamala.

Kamala echoes what operators think: the timing of operators always serves the company to save on wages. In response operators give up trying to achieve "making minutes" and fall back on making a guaranteed salary. The sentiment amongst operators is that the timing engineer's suggestions to work faster entails a critique of an operator's competence and the commitment to deliver a satisfactory performance.

A complaint often heard amongst operators is that they do not have the time "to do it right", and feel that they could deliver a better product under different circumstances of production. Because the reward system focuses on output alone operators get cheated out of the satisfaction of having done a good job, simultaneously robbing the company of the chance to produce good quality at a competitive price. By expecting quality and speedy time-saving production, AquaSuit management defines the working knowledge of operators in terms of efficiency and forces operators to decide between making money and delivering an excellent product.

In one case the customer rejected an order of sweaters because the colour shading within single garments did not match. Although operators and floor-supervisors were aware of this problem early in the construction process, the pressure to perform, the need to make money and the lack of avenues to address and remedy the production problem led eventually to a refusal by the customer to accept the garment, and subsequently
to a costly repair and alteration process for AquaSuit. Again the expertise of operators, who long since had complained about the faulty colour schemes, had not been recognised and valued, leading to a complaint by the customer and, ironically but not unexpectedly to a reprimand for the shopfloor by management. Experienced garment workers take pride in knowing all the ins and outs of their trade and work in ways that allow them to produce acceptable quantities and make close to the standard or slightly above without trying or stretching for their "minutes". For most of them a blind hustling for minutes is something done by operators who do not understand the drawbacks of the production system. The physical exhaustion associated with working in a piece rate system is exacerbated by attempts to beat the clock.

The politics of piecework, with its law of ever diminishing returns for the worker, in conjunction with the risk to press for a few pennies more only to find this campaign stopped because of a defect in cloth or a quality problem possibly caused by the work of another operator, leads many an operator to abandon the chase for an ever increasing number of sewn garments. One of the more implicit aspects of working knowledge is to become able over time to assess under which circumstances to go for an incentive and when to lay off, when to play the game and when to quit.96

96 But consent to ones exploitation, as Burawoy (1979) interpreted machine operators willingness to engage into "making out" for the sake of the game, has different rules when it is played by machine operators in the garment industry. Although bragging rights are part of the incentive to make minutes, it is the economic need of individuals and the lack of financial recognition of a working knowledge that forces the consent of garment workers. Far from being a game, making out in piece-work is a necessity for survival. While skilful performance is a (continued...)
The piece-rate-pay and production system only makes sense if workers perform efficiently and knowledgably. If all piece-rate workers underachieve, and fail to make minutes, the company cannot produce according to its calculations and will fail to be competitive in the market. In this sense, a piece-rate system is an unstable equilibrium defined by workers' need to earn and by management's desire to make their labour power profitable. The complex steering mechanisms that regulate an effective piece-rate system, workers control over the production process and the tension between directives and production-plans of engineers and practise on the shopfloor, in short, the resistance and cooperation of operators, remain initially obscure to the observer.

Workers' control may express itself in rate fixing where operators agree on the maximum number of units to be constructed in a certain time-period so as to receive a bonus without being in danger of having the time-allowance cut for making too much money on that particular operation. Another possibility is to control the output by experimenting with new and faster methods of garment construction or subsidizing a slow shift with some work of an earlier and more productive shift. To exercise this control requires covert communication amongst operators for the purpose of negotiating similar performance amongst themselves. The competence which allows some operators to perform at double the speed of other less experienced or energetic operators is a result of years of handling fabric, garment and machinery, and a

---

96 (...continued)
straight function of time and experience according to Burawoy (1979), garment machine operators need to find less linear indicators to acknowledge competence.
manifestation of their skill and working knowledge.

For the company the competence of operators is a matter of production-time per unit. Manuel, the production engineer at AquaSuit tells me that at this company a gain in productivity is not so much based on the increased physical and mental input of the individual worker, but on a rationalized production process. This statement reflects how managers appropriate and transfer some of the skill away from operators into a process of organization. Human activity and creativity is juxtaposed to the aforementioned clinical sterility and objectivity of production engineers. But in fact it is sewing-machine operators who, well aware of bottlenecks in the production process, manage to control and keep constant the time required to construct a garment in light of ongoing organizational changes. This knowledge to control a production process is in part "tacit" and indispensable for employers.

The homogenization of workers is embedded in the organization of the production process itself. The incentive for workers to work fast and make better money is curtailed by the differential distribution of tasks. This means the material recognition of workers as knowledgable is withheld. When experienced operators complain about making less money for a day's work than a worker with 6 month experience, their claim to skill and working knowledge needs to resort to legitimation other than financial success. But how could they establish this if not

97 Henry Ford commented on this process of appropriation and administration of workers' skill as having "put skill into management planning and building, and the results being enjoyed by the unskilled" (Herzog 1978:21).
by a reference to earnings or rank?

Manuel the production engineer reflects upon "the current production phase, where approximately 100 styles are produced at the same time, operators, or better, teamleaders have to learn how to read the style books themselves. They cannot just wait for the supervisor to be coming around to explain. But with all the shifting of operators from one machine to another they never make any money and they get frustrated. We do have a problem with our pay-scheme" (Manuel, production engineer, Journal 2, 12/7/94).

In a circuitous way Manuel addresses what differentiates good operators from the average. The working knowledge of experienced operators is indispensable for the company. The institutional memory of these operators, a knowledge of the variety of styles, or better, the components of a variety of styles, is a knowledge the company depends on. This knowledge, highly personalized, is at the disposal of a few operators who are frequently called upon by line management as well as other operators to give advice on construction of a style.

The uncertainty about tasks to be performed, translates into reluctance on the part of operators to engage in new tasks:

Laura, the floor-supervisor, confirms that she has a problem with operators having to change styles frequently. Operators are less efficient as they move around and engage in the construction of a variety of styles, putting an increased stress on her to supervise. But also operators react to insecurity by vying to get themselves onto tasks that pay well. They perform tasks in a way that allows them to "make money", for instance, by insisting on a construction sequence that is, [from the point of view of management] impractical and costly (Laura, line supervisor, Journal 2, 7/7/94).

Because skill differentials do not translate into a stratified remuneration scheme the lack of stratification amongst workers has the effect of underpaying, and in terms of skill, undervaluing more experienced workers. In this context the attempts by experienced workers to secure "money making" work for
themselves becomes understandable. It is also their preference, when given a choice, to perform well-known tasks and operate in a work environment with which they are familiar. Any potential desire to explore organizational or technological changes is hampered by the loss of income associated with it. Although the company does not stratify operators on the basis of skill, operators do not constitute a homogenous crowd in terms of their training, working knowledge and abilities. In fact, the social relations between operators are at times strained when operators feel that equal effort is not rewarded with equal benefit. The fact that company management considers all operators equally unskilled, and seniority only a factor in the event of a lay-off, points towards the contradictory practice of internally differentiating between operators' capacities, but omitting the translation of these capacities in a formal job description and financial recognition.

While I stand and watch an operator sewing a waistband in a pair of trousers, Monika the senior floor-supervisor walks over to me and tells me that this production line is very experienced and that they can work very fast. When I ask her if these operators make more money than others she tells me that "only once in a while they get a good job, something not too complicated [like a tank style suit], but if they are let loose on tank style suits there is nothing left and they make a killing" (Monika, line supervisor, Journal 1, 22/3/94).

With this statement Monika refers to the fact that some operations allow operators to work fast and make a lot of money. By occasionally providing easy tasks she baits and pleases her experienced operators allowing them to make good on their speed. But the company is certainly careful to curb these occasions as it looses twofold by allowing operators to work through their
bundles too quickly. First, workers make a bonus of possibly 50% of their base wage by producing garments at a truly incredible speed. Second, after having earned the bonus they sit idle but are paid a guarantee wage while waiting for new work to come in. However, as only some garment styles are easy to construct these "gravy" jobs need to be distributed equally amongst all operators. As the piece rate system pits operators against each other, operators are at all times watching jealously over the work allocated to their colleagues or to other lines. And every so often a dispute breaks out between operators who attempt to secure for themselves the best-paying operations.

Han tells me that in the time of her absence from the workplace (due to a car accident) someone had removed a little device, a feeder guide, that makes it easier and faster to overseam. She suspects that because she is a "minute maker" and other operators performing the same task are much slower, possibly a supervisor (here she points to the tank-suit line, where all the novices work) has taken the feeder and given it to one of her own crew. Now she complains, she cannot make minutes and work is more difficult to perform (Han, operator, Journal 2, 19/7/94).

The pitting of one operator's performance against the other and the race for making an incentive is indicative of the competitive individualism management attempts to foster amongst operators. And since the organization of work is such that experienced operators do not distinguish themselves from newcomers by making better wages, the opposite is the case, Han finds herself at a grave disadvantage without the use of her device.

Clearly the discourse amongst workers about who can perform the most difficult jobs conflicts with a generalized assumption, embedded in the public discourse on skills (as discussed in
Chapter Three) that speed and experience translate into higher wages. At AquaSuit this equation does not hold for operators, because their capacity for increased speed is redirected into constructing complex garments. This is not to say that an ideology equating speed with skill is not internalized by many operators as an integral part of their identity:

I ask Hertha, an employee of 25 years, who is proud to have gone through an apprenticeship as a tailor before immigrating to Canada, if it is worth it to put out a lot of effort just to earn a few more cents of incentive pay. She responds: "well, money is a good incentive, but yes there are other reasons, like satisfaction to do a good job, and being able to say and feel that you are above average", i.e. the standard rate paid per hour (Hertha, operator, Journal 2, 12/7/94).

The same operator had told me a couple months earlier that "we used to try hard when we were young but nowadays people give up" and although she holds to the belief that operators are skilled she does not consider skills to be differently evaluated for men and for women. She tells me that operations are very different depending on the garment to be sewn, and that she enjoys the flexibility to be able to operate different machines. She mentions that she enjoys housework as much as paid work and that in fact, she even learned to love fishing because her husband loves it. She says she is open to everything and enjoys life. The fact that company managers are male is a coincidence, but "I am smarter than a few men I met", "men and women are different, let's face it" and "I would not want to be a fireman". Hertha came with her husband to Canada but says she does not know why she came. There were "no economic pressures, we left all our families behind and came here, just a foolish twist of destiny". Hertha is both affirmative of her capacities and accepting of her
external determination as the compliment to male and managerial aspirations. The contradiction, although not formulated by Hertha, illustrates the strain under which operators need to negotiate their professional and private lives. Much of what Hertha said, she could have said for my benefit, but also to cover up the discrepancy between what she feels but cannot formulate, and what she has been forced to accept. Hertha's thoughts are paradigmatic for many operators who seem to recognize their financial and physical exploitation but who lack the emotional resources and the energy, syphoned away in years of struggle on the shopfloor, to fight against the constant devaluation of their work and themselves.

Operators find themselves pitted against each other while competing for an incentive, but they also share a class position. The cohesion and solidarity amongst workers that expresses itself in the informal ways they assist and support each other, is contrary to the character of the paysystem, that penalizes workers for digressing from pursuing their individual economic interest. The pay-system rewards the narrow focus of operators to performance, but the shopfloor inevitably requires cooperation and interaction. Cognizance of both aspects is essential to comprehend operators own ambiguity about making money versus communicating working knowledge, or doing a good job.

It becomes clear that the discourse on skill is double-edged: at AquaSuit workers are evaluated by their earnings, but at the same time newcomers in training can make more money than experienced operators. And experience is a disadvantage if it is to be applied on complex garment construction where operators...
"make no money". The measures and concepts of skill are opaque and contradictory, not clear to the observer, and yet another means to suspend recognition of working knowledge of operators in an indeterminate zone defined by non-congruent relations between seniority, work-experience and pay. Even if operators at AquaSuit do buy into an evaluation scheme were they assess their competence in terms of money earned, an option that seems unlikely, given the emphasis on discreet pointers for working knowledge, it may not be the absolute amount of money that is earned at the days end, but the context, the task in which the operator succeeded to "make money" that matters."

One way for the employer to construct and exploit a tacit working knowledge rests in the gendering of job descriptions. That a job description does not reflect what people actually do, and that pay does not relate to task performed, becomes clear on occasions where "unskilled" women perform exactly the tasks of their skilled male colleagues, for less pay.

Elaine is working on a cutting table. Her work is classified as cutter II, and she cuts, freehand, using similar equipment as her male counterparts whose work is classified as cutter I. But contra Burawoy (1979), operators at AquaSuit are not at liberty to choose between making money in easy operations or dropping out of the game if any of the scope conditions, (a) challenge, (b) realistic chance, (c) indifference to economic gain is not fulfilled. Given that operators at AquaSuit are performing a low-valued, low-paid job that pays only a fragment of the wage male machinists at Allied received as a family wage, economic need does supersede indifference, but never obliterates awareness of who makes money in which operations.

As per collective agreement between ILGWU and AquaSuit a cutter category I ($12.11/hr.) works primarily on volume lays of all grades of fabric regardless of complexity and is fully experienced in use of a lay-up machine. A cutter II ($8.77/hr.)
account of men, performing physically more demanding work or using sophisticated or "dangerous" machinery. However, in my observations, male cutters regularly call upon women asking them to assist in precisely the physically demanding work (for example setting up a big roll of fabric for spreading and cutting) for which men are being better paid. Female cutters, on piece-work, use a band-saw and other "perilous" machinery that according to the collective agreement should only get operated by special cutters or cutters I, i.e. men (Elaine, cutter, Journal 1, 26/4/94).

Piece-work carries with it the stigma of being repetitive, unimaginative and boring work. It comes as no surprise that, with few exceptions, male workers at AquaSuit are on time work. This means they receive an hourly wage. Also many of the less demanding jobs are populated predominately by "white" women, for example, pressers, cleaners, warehouse-clerks, are paid by the hour as well. An hourly wage might be an expression of the potential of the job to be occupied by either men or "white" women. While incentive pay is meant to be a tangible translation of successful application of skill, for a garment worker making an incentive is not necessarily a recognition of skill and working knowledge but it is a reminder that performance below a particular output is negatively sanctioned.

The gendered and racialized aspect of skill recognition, where an operator's work is associated with low-skill work, and work becomes low-skilled because of a women's association with it, has yet another circular property to it. The pay women receive for "women's work", or the association of women with low-paying jobs follows the same pattern of allocation. Since in the

99(...continued)
is qualified to cut smaller and less complex lays, "may use lay up machine and perform all duties of a stacker as required. When qualified by test and time shall move to Cutter I category only when an opening exists" (ILGWU, Agreement 1990:33).

145
eyes of management the stratification of workers inside the female ghetto, the shopfloor, is less desirable, because it hinders the flexible allocation of operators to the most pressing jobs, a pay-scheme recognizing differential experience is contrary to managerial intention.

There is a contradiction between, on one hand, a division of labour that in traditional terms labels the operator as un- or semi-skilled, and, on the other hand, a piece-work pay system that rewards individual effort and assumes a self-interested attitude in operators. It is, indeed, hard to believe that garment workers would entertain a completely individualistic perspective at work when their actions and their commitment as family members, parents and providers, on the shopfloor and off work point towards a collectivist orientation. There are constraints that press them into acting "selfishly": a need to retain employment, and the piece-rate pay and production system that allows managerial control of the work-process by controlling individual tasks and output. These constraints are embedded in a production system that penalizes experience, that provides no formal trajectory which allows seniors to assert their competence and that trains operators to calculate their input according to the maximum of output that they can achieve. But countering managerial strategies of controlling the production process is the strategic restriction of output governed by operators in their quest to keep control of the production process. I will return to operators' resistance in a later chapter of the thesis.

In summary, the pay-system is a major factor in the
devaluation of an operators' work because it does not differentiate between workers' individual variation in competence by taking a financial recognition of competence and working knowledge away from those who acquired it over long years of employment. The piece-rate pay-system as applied at AquaSuit does not recognize or reward working knowledge, rather it penalizes "skilled" workers.

High seniority is not a predictor for high pay. Among operators not the absolute amount of money made, but how the money was made is an important indicator for working knowledge. An internal, and informal stratification of operators according to competence exists, and all parties are well aware of it. But since experience and efficiency in constructing a seam do not translate in better earnings, skill and working knowledge are not made explicit but are implied even among operators.
CHAPTER VIII From the Production of Garment to the Production of Skill

In the garment industry today, women, hired as unskilled labour have taken the places skilled male tailors occupied as recently as 40 years ago. While men since have congregated in the cutting rooms as patternmakers, graders, lay-makers or cutters, at AquaSuit, where cutting was largely eliminated, men were retired or re-trained as skilled workers. Women, presently constituting 95% of the employees, and 100% of the operators are employed as an unskilled workforce. The feminization of garment work, documented by Cockburn (1985; Weiler 1984; Wajcman 1991(a); Phizacklea 1990; Rosen 1993; Coyle 1982), goes hand in hand with the introduction of new production technologies and the division of the manufacturing process into self-contained operations.

Research by O'Donnell (1984) confirms that the change in properties of jobs from male and "skilled" to female and "unskilled" is a trend observable in all of the garment industry and is based in part on the organizational resources men had available to them, such as union representation, the male association with technology but also a male privilege, reinforced by patriarchal structures. O'Donnell argues that an explanation for the difference in wage rates has little to do with skill and more to do with the place of the male cutter in the production process, and the actions of the union.

"The position of the cutter is a powerful one in that the entire production process can be held up by a small group who stop cutting cloth. Management has exploited this division between cutters and machinists in order to keep the wages down. The numerically small, more militant cutters have created a labour market shelter for themselves while the majority of the employees, the machinists, receive the lowest possible wage" (Wajcman 1991(a):37).
Accordingly, the industry recruits its workforce among those who, due to a lack of resources cannot expect to obtain a high wage job.

8.1 Working Knowledge on the Shopfloor: Now You See it Now You Don’t

Usually ads for job openings at AquaSuit are published in small local papers that serve the Chinese, Vietnamese or East- Indian communities, and target women who are in urgent need of employment. Many of these women cannot get a job in a better paying industry because their qualifications are not recognized in Canada, because they often do not have a full command of the English language, and because their job-opportunities suffer due to a lack of economic opportunity and time to train for another job (Ocran 1995; Das Gupta 1996). However, most of the recruitment for the company is channelled through informal networks constructed around family-ties, or a common bond such as similar religious or cultural and ethnic background. Frequently women switch over from other garment companies that have fallen on hard times or choose to seek employment with AquaSuit because the employees are organized through the International Garment Workers union (ILGWU) and enjoy benefits not widely available to operators in the local industry.100

A hiring decision is based on the demonstrated sewing skill and potential for training that an experienced ex-seamstress sees in

100 The ILGWU, Local 287 estimates the number of operators in the Lower Mainland of British Columbia to amount to 10000 or 12000. However, only about 1200 of them are organized by the two garment unions, the ILGWU or ACTWA (Amalgamated Clothing and Textile Workers Union).
the applicant. Competency-trials are given for about thirty minutes and, if the applicant passes, she (and it is only women who sew on machines) is accepted on a six month trial. Yet, even those operators who cannot approximate "standard production" by the end of their probation period often remain employed.

Upon being asked why hardly anybody ever fails the probationary period, floor supervisors and the personnel manager admit that it is inefficient to train new employees only to let them go again, and that it is quite difficult to replace the average "unskilled" worker. Since it takes anywhere from two to six months for an operator to come "up to speed", with a training cost estimated at between $2500 and $3500 dollars, the company cannot afford to lay-off trainees, even if they appear to lag in performance.\textsuperscript{101} This is an first indication that sewing garments is skilled work and requires training. Furthermore, the assumption that garment construction is low-skilled work is challenged by the fact that in this company only about 2 out of 10 applicants are even accepted for a probation period as potential employees. Once applicants have been accepted they get channelled into either one of three lines: the tank-line, which is the easiest sewing, namely straight hemming, or the Lady-Di\textsuperscript{102}

\textsuperscript{101} Although apparel operators are seen as lacking skills, industry estimates of training costs for new workers are between US $2000 and $3000 for the 12 weeks it takes, on average, to sew to industrial speed and proficiency. This figure represents 15\% to 23\% of an apparel operator's yearly wage" (Rosen 1994:203; Hoffman & Rush 1988:62).

\textsuperscript{102} Lady Di line is so named because the style of garment produced in this line corresponds to the style of swim wear preferred by Lady Diana Spencer of Royal fame. In the wake of her choosing an AquaSuit suit, the exploding demand for this style (continued...)
line, which demands fast and complex operations, or in rare cases, the unique-style line, where small runs of intricate and complex designs are constructed. Clearly, there is a demand for a knowledgable and flexible workforce; meanwhile the workforce remains labelled as "unskilled" by management.

The organization of the work process is the same for all operators: cut garment is delivered in boxes from the U.S., and gets bundled (a female job) according to the various components needed to produce a particular style. Garments arrive in bundles of 24 identical pieces and are processed bundle by bundle. Each bundle has its own manifest number and each worker processing the bundle identifies herself by a 3-digit number on the accompanying manifest. In many cases a bundle containing cut fabric is accompanied by a bundle containing liners and depending on the style, a wide variety of additional pieces like trim, hooks and labels to be worked into the fabric.

Typically a swimsuit is constructed from up to 20 pieces consisting of cut fabric (often of different characteristics), straps, labels, liners, pockets, sleeves, collars, hooks, buttons, and more. Often the fabric needs to be sewn in a particular manner so as to achieve a desired effect in the design or fit of the garment. These operations require more experienced operators than, for example, straight hemming or the construction of an elastic overseam in a one-piece swim suit, an operation usually performed by workers with less experience. To join two or more materials and construct curved three-dimensional patterns

\[102\] (...continued)

has, for years, kept dozens of operators in work.
requires knowledge of the fabric as well as the sewing machine.

I watch Yok at a difficult operation. She works in the unique style line, and is an experienced operator. She has been working for AquaSuit for only over a year but has had extensive work experience over a 10 year period in the garment industry. Her task is to sew a button trim onto the front of a one-piece, high-cut, tank-style, swimsuit. The material is very stretchy and since it has patterns, it is of utmost importance that the location of the button on one side of the cleavage matches with the button hole on the other side. Both sides of the cleavage need to be reinforced with liner on the underside, before the trim can be attached. The elastic quality of the material and the fact that Yok has to perform four sewing processes all of which have to be precise in linking patterns together make this task a difficult one to perform. Yok not only needs to align patterns and button/holes, also she has to worry about the thickness of the seams she is producing. Since a swimsuit is of thin and stretchy material, addition of a liner and a trim, all of these attached with a lockstitch over the already existing basic suit, requires to stretch the fabric as it is fed under the arm of the sewing machine. Given that the length of the trim is approximately 10 centimetres and the width about 2 centimetres, and that any inaccuracy will become quite obvious on a seam so small and exposed, the task at hand will drive the unexperienced operator to desperation. Yok uses all her ten fingers, spread in the most incredible "contortions" to keep the garment in place as she feeds it under the needle. She tells me that neither engineers nor supervisors had been able to suggest ways of making this task easier and so she has devised a little tool that allows her to control the alignment of patterns and make the job easier and faster. Yok tells me that she mostly performs difficult jobs like the one I observe, often working on five different styles a day. She thinks that the particular task I observed, is completely unnecessary, a design-whim, a waste of everybody’s money. She tells me that she never "makes money" and is on "mark-up" most of the time. Every once in a while she may get a few hours worth of easy operations where she can make a bonus (Yok, operator, Journal 1 28/4/94).

The themes echoed in the short interaction with Yok range from a working knowledge based on experience and innovation to a sense

---

A long time operator confirms that the present 200 odd styles in production is a multiple of the styles produced only a decade ago. She finds it very demanding to keep up with the different styles now, and cannot recall them now without consulting the style-book. In conjunction with short batches sewing many different styles translates in loosing money (Fara, operator, Journal 2, 21/6/94).
of neglect by supervisors from making little money to performing a meaningless task that serves no other purpose than earning a living. All these themes are repeated, though often not as condensed as in this instance by operators across the shopfloor. The division of labour, the relationship with supervisors and the meaning of work for individual workers are all aspects of a shopfloor culture in which operators have to accept their role as "unskilled" workers.

Most operators are very capable of performing a basic maintenance of their equipment such as changing needles, oiling moving parts and performing minor adjustments on sewing equipment. They receive a weekly time-allowance of ten minutes to clean their machines. The confidence and knowledge to work on one’s machine(s) rises in proportion to the years employed, and experienced operators seldom need wait for the male mechanic to come around to fix their machinery in case of a breakdown. Operators routinely help each other fix machines, and often it is the older operators who quickly slip behind the machine of a "newcomer" to tension a belt or adjust a linkage. However, supervisors do not like to see operators fix their own machinery and often scold operators whom they see adjusting or replacing some part of the sewing equipment.

In the eyes of floor-supervisors the mechanic is the authority on fixing machines, on assessing the need for replacement of parts and on keeping the machine running. Floor-supervisors are sensitive to this division of labour and the potential loss of control over operators, if all operators should attempt to run the adjustment of their machines themselves.
However, this division of labour is clearly counter-productive not only from the point of view of operators, who spend valuable time waiting for the mechanic but also from the point of view of management, considering that the mechanic is forever trying to catch up with the demands made on his time and often just fudges a repair in order to be able to move on to the next project.\footnote{As of the Fall of 1995 and with the termination of the knitting department, and its physical replacement with approximately 45 sewing machines, one former knitting technician has been hired to assist the mechanic in the maintenance of the increasing numbers of sewing machines.}

In fact, at times it is an explicit disadvantage to have the mechanic look after the machine, as operators tend to be very responsible and knowledgable about their machines, and perform a fine tuning to much more precise specification (in light of their intimate knowledge of how the machine has to perform) than the mechanic could possibly accomplish. Many of the operators have a little toolset, their own property, in a drawer under the sewing-table, and every time they begin to sew a new style, they adjust their machine by sewing on a sample of the material soon to be processed. These adjustments may reach from deploying little devices invented by workers to make the job easier, to a physical re-arrangement of the sewing table and the different operating levers of the sewing machine.

While I talk to Yuen-Ha, who, at age 60, has worked 3 decades for AquaSuit, she attempts to fix an airhose that connects her machine with the central compressor. While she stands on her chair and inspects a coupling, the Plant Supervisor walks by and demands that she immediately call on the mechanic. Yuen-Ha steps off the chair, and ostensibly ceases to attempt a repair but she is annoyed that now she has to wait and further interrupt her work, when she is perfectly capable of taking care of the repair. She points out to me that if all operators were to rely on the mechanic...
operations would be even more inefficient. (Yuen-Ha, operator, Journal 1, 18/3/94)

To maintain the equipment in good shape is not only a way of exercising control over one's workspace, it also allows the completion of jobs and it increases the chance of making a bonus. But the technical proficiency of an operator is not only a matter of maintaining equipment, it also extends to coercing machinery and materials into cooperation:

While observing a seamstress attach elastic waistbands to trousers, I realize that it is not only important for the operator to exercise all the steps of garment construction in a given sequence but also to operate the machine so as to perform the stitching that is necessary. For instance, the feed of elastic waistband, sheared onto the garment in a consistent flow with even tension, requires a high level of anticipation, flexibility and coordination on the part of the operator. (Ming, operator, Journal 1, 1/2/94.

The non-technical aspect of task performance is although unobservable, significant.

I observe Fara sewing samples. She explains to me that the difficulty with producing samples is to produce only one piece of a size, i.e. the measurements of seams change constantly. From sample to sample the span of elastic lining is shortened or lengthened by a 1/4 inch, and the shearing of the seam changes from size to size. Fara adjusts the feeder tension for elastic band in a quick movement of her right hand. Cause and reason for her action escapes my perception. The differing quality of the rubber band requires constant supervision. I wonder how she can be so sure and quick in her adjustment. (Fara, operator, Journal 1, 1/2/94).

Although I cannot discern how Fara determines the necessity for the adjustment of the elastic band, it is exactly the intervention of an operator in sewing operations that

\[105\] Hohn (1988:98) supports my observation: [for training] "... operators need about six weeks on the spooling machines and about three weeks for spinning. It's not so important to be able to reconnect the broken thread, what matters is to see what is likely to happen, and what you need to do to prevent it snapping".
differentiates a smooth from a difficult production process. The most taxing aspect of sewing is not the feeding of the garment through the machine but the experimenting with the sequence of steps in which components are to be assembled. At times the garment needs to be sheared for look and fit, an operation in which the operator coordinates the speed of the machine with the swiftness she feeds the garment through. Operators use a non-observable amount of discretion, a working knowledge, to decide how much shearing is appropriate for the size and fit of a particular style.

Part of the attraction of working on samples is to gain some control over the construction by defining the most efficient and profitable sewing sequence. The privilege to explore and experiment with the various types of sample constructions is, although not a money maker (since it is remunerated by hourly pay and not part of the piece-rate pay system) one moment in which operators can exercise a large degree of control over their work. In general however, operators are not encouraged to diverge from the sequence projected by the engineers.

Kate, the right hand to the production engineer tells me how supervisors strongly suggest to operators how to construct a particular garment in the most efficient way: "... we let the girl do as she likes. But as soon as the girl does not measure up to the standards she will be asked to do another job or revise her technique. Times are given from Portland [Headquarters], very tight times, almost impossible to achieve for the average worker who performs well". At the same time Kate mentions to me that as a time engineer she does an unbiased, clinical job, and implies that the "girls" can trust her (Kate, timing engineer, Journal 1, 22/2/94).

Another aspect of working knowledge extends to the capability of operators not only to perform in a technically proficient way but also to develop a cognitive map of how the garment is intended to
look, and to translate this vision into a stepwise construction.

Lai, sews a bikini top. This is a complex operation because not only are the tops made from two different materials but she also has to deal with underwire and cups. First she attaches one bikini shoulder strap to the side of the cup/fabric of the bikini. While sewing on the strap she has to feed the label indicating size and material into the seam. Then a support for the shoulder strap is sewn to the inside of the cup. Next, a strap attaching both cups across the chest is put in place. Padding for the second cup and attachment for the second shoulder strap on the side of the second cup follows. The garment is now "roughed in" but still without hemmed seams etc. It gets moved on to next workstation (Lai, operator, Journal 1, 15/3/94).

One of the challenges of this procedure, which requires the identification of all these pieces, and the knowledge when and where in the construction process to attach them, is that often the whole sewing process is performed with fabric turned inside out. This requires the constant monitoring of seams as being mirror images of the envisioned sample. Sewing a garment does not entail only the two-dimensional joining of pieces of fabric with a lockstitch, it also encompasses the construction of quasi three-dimensional spaces, containers, that have to accommodate the human body. I observe an older operator, Ziu, who uses a lockstitch machine\(^{106}\) to construct a one piece swimsuit. In this particular style the fabric of the swimsuit is a lace/spandex combination, with the lace extending from the bust to and around the neck, draping the chest of the wearer. Attached to the lace are the shoulder-straps which connect in the back to the straps extending from around the front. The difficulty in constructing this style is to construct a joint between the actual bra-cups

\(^{106}\) Lockstitch machines use a bobbin, and are in essence the industrial version of the sewing machines available to private households.
and the extending lace. The seam constructed to form and join cup
and fabric is curved, three-dimensional, and has to allow for a
proportional ration of depth, width and height of the prospective
wearer's bust. Jean knows the length of the seam and stitch
necessary for each particular size and style, adjusts the tension
of the thread periodically and modifies the machine accordingly.

Since she works on a computerized machine I ask her if she
knows all the different functions, and she explains to me how
patterns of stitches differ and when and where they are applied
in garment production. She explains that, depending where on the
garment a strap is attached the stitch pattern and density of
stitches differs. The reason for this is that the movement of the
human body puts different strains on the straps and requires the
seam to be elastic, therefore a particular stitch needs to be used
to provide elasticity in the garment.

Operators tend to check the quality of their work and at
times decide to rerun the operation. In these cases seams are
swiftly opened up again, and a new seam is constructed. Faulty
seams are caused most often by a malfunctioning machine where
tension or the pre-defined tread, or stitch-width or length has
come out of alignment. A less frequent source of error is that
operators overlook the attachment of a label or even construct a
seam in the wrong place. If, however a whole batch of garments
has been sewn in either a sloppy or non-specified manner, or if
the quality of a previous sewing operation is not satisfactory,
the operator who is in receipt of a bundle that proves to be
faulty sends back the pieces via the "floor-girl" to the operator
who according to the manifest, is responsible for the faulty
Of late, repairs have become a sore spot with garment workers. In an attempt to entice operators to produce higher quality work and employ stricter self-monitoring, management decreed a policy change on repairs. It used to be that repairs were done at a time convenient for the operator, most often between the processing of two different styles, or even in breaks or at the end of the work day. Now repairs need to be done on the spot. Under the new policy, operators have to stop the current production, change to the appropriate thread and possibly bobbin, fix the garment and then return to their previous operation. Changing operations in mid-run, and repairing a garment from a previous batch, usually destroys all prospects of "making money". Consequently operators give up the chance to achieve a bonus and may even slack off to the point of not making the standard for the shift. In spite of protests to management who are aware of the fact that operators like to do repairs at the end of the day, possibly even after hours, so as to maintain a good overall productivity and the bragging rights to have exceeded the standard, management maintains this policy arguing that it is in the interests of just-in-time-production that garment batches pass in their entirety through all the departments.

Two managerial objectives are accomplished through the new repair policy: workers are burdened with the cost of just-in-time production, and management achieves a better control over the work-process by being able to monitor the work-flow and the exact location of each batch of garments. In financial terms, the outcome for the worker may not be different as operators have to
put the time in to fix garments, and in case of the old policy frequently did so without getting paid after hours. Under the new guidelines the operators lose some discretion over their work and, with the intervention of the supervisor, see their autonomy curtailed.

8.2 The "Innate" Skills of Operators

The experience that operators develop with respect to a task helps to disguise the working knowledge imbedded in a work routine. Dat, an elementary school teacher who emigrated from Vietnam, states that she likes sewing:

since age seventeen I have been making my own clothes. I cannot find a job as a teacher because my English is not good enough. Sewing is good for me. I don't need communication. Sewing something is very simple but one needs to be accurate. Often the material is defunct, that makes sewing difficult. But if you work here for a long time that is not a problem any more (Dat, operator, Journal 1, 29/3/94).

The "dexterity" of operators, their knowledge of how and when to slow down the machine and adjust the garment, keeping seams aligned and patterns congruent, all contribute to the efficient production of a garment. While hands and feet with the help of various foot and knee-pedals operate the machine, the mind of an operator coordinates these motions and plans the next stages in the work process.

I observe Zobreh while she frames buttonholes. She tells me that much of what she does and needs to know while she is sewing I cannot see. At times her intensity and concentration and the precision and harmony of her movements makes it appear as if she dances with her machine. Many operations have become sub-conscious but there are tasks that still need her conscious attention. She explains: "while picking up a garment I already make a mental note how to turn and how to position it under the machine. Operating the machine has become an almost automatic process but every
so often a buttonhole requires my attention. You cannot see how I assess a buttonhole as satisfactory, or how I check that button and buttonhole match up. You can only observe my corrections (Zobreh, operator, Journal 1, 7/4/94).

In a discussion between team members about who in the team will sew the buttonholes, operators discuss the knowledge requirements of running the buttonhole machine and sewing buttonholes. One operator, Shari, who has never done this particular job, needs to be trained on the machine. Operators who know the job explain the intricacies of this task to her.\footnote{Sewing buttonholes requires not only a lining up of marked garments under the "stem" of the machine, and a step on the foot-pedal to get the machine going but also the foot-pedal needs to be "stroked" in a way that corresponds to the size and shape of the buttonhole. If the stroke is not powerful enough the sewing process comes to a halt in mid-operation with the consequence that the needle might break or, at the very least, the hole will need to be sewn again. Sewing it again, however, requires the exact lining up of the garment at the same location where it was lined up at the start of the operation. It may take an experienced operator only a few seconds to perform this operation. A novice might re-align the garment improperly thus extending the buttonhole and consequently ruin the garment.}

What this passage illustrates is how operators talk to each other about the demands of a task and how they are aware of the degree of difficulty embedded in a job. They share their knowledge among themselves but do not seek recognition outside.\footnote{The machine first stitches out the perimeter of the buttonhole and upon completion, a knife comes down, cutting out the stitched-in surface.}
the circle of co-workers. Their silence can be understood as resistance to the appropriation of working knowledge by the company and the fear of having to perform under even more demanding time-standards once their working knowledge becomes common property. But what it shows also is that a hierarchy among operators exists. Operating a particular machine is less of an indicator for experience than the kind of sewing operation that is performed. The hierarchy among operators is based on experience, speed, and the variety of machinery and operations a seamstress can perform. That this hierarchy exists becomes evident when teams are assembled, and operators squabble over whom they like to work with. This matter is discussed at a later point in the thesis.

The most prominent aspect of working knowledge in the description of the previous paragraph is the personal character of working knowledge that operators accumulate on the job, and the heuristic strategies they employ to construct a garment successfully. Much of this working knowledge fails to be recognized as an active contribution that workers exercise while doing their jobs: company management considers sewing machine operators as unskilled or semi-skilled, and this status is confirmed by the absence of job descriptions and job classifications.¹⁰⁸

¹⁰⁸ The literature and research analyzing and criticizing job evaluation schemes has become notable in recent years: the point of reference for job evaluations is no longer a male standard of job classification, but an analysis of the ideology and evaluation practises that keep women from gaining positions of control and power in the workplace (Acker 1989; Steinberg 1990; Boyd et al 1991).
Many women have been working at AquaSuit for decades. The lack of any career ladder of promotions explains why seniority, or better length of employment, frequently referred to by operators in introductory meetings, becomes the most important indicator for the presence of skill and working knowledge. Among operators length of employment is one of the few clues that point towards a stratification based on working knowledge. But for management, length of employment is not a good predictor for skill because the majority of operators employed for more than five years is listed in performance sheets as only working one machine with a rate of efficiency approximating 85%. Under the proposed teamwork system, even individual seniority has been eliminated and teams are now laid off according to the amount of work available for the machines used in a particular team.

However, since job classifications and descriptions are missing for operators, management can move operators across the shopfloor into different tasks, and can regulate the productivity of the shopfloor by matching fast operators with jobs that are complex. Moving operators to different jobs is one way of controlling the work flow. In periods when production is low, those operators who are capable of performing a variety of tasks are kept employed if their expertise is needed. To avoid overpaying experienced workers, management for fear of having to pay out large incentives, attempts to lay these workers off if

109 This poses no contradiction to the fact that many of the long-term employees have no official recognition as being skilled (see footnote page 193).
110 See Appendix 1 (page 252) for source.
the anticipated production consists of garments that are easily sewn by more inexperienced and cheaper operators. Moving operators from task to task serves to maintain a flexible and profitable work organization and allows management to regulate and homogenize the workforce in a manner that secures the instant allocation of labour to the most urgent production line. Depending on the volume and difficulty of orders placed, operators must be interchangeable and disposable at the same time.

Furthermore, the physical demands made on operators who switch from machine to machine because they are multi-skilled are increased. Operators like Barb who know how to operate half a dozen different types of machines, and who know how to sew swimwear as well as sweaters and leisure wear are forced to perform different operations on different machines, each time adjusting the body to a new sequence of movements and repetitive strains.

Barb tells me how her body hurts every time she engages in a new operation. Four a couple of weeks, after she starts a new task, her arms, legs, shoulder hurts because of the new motions. Although she concludes that her body will get used to it eventually she is not enamoured to have to go through this period of the physical adjustment and pain (Barb, operator, Journal 2, 10/5/94).

Kamaldeep, who works in finishing (final inspection, cutting loose threads, tagging, and pre-packing garments) relates to me how reluctantly the company acts on occupational injuries. She had been working for 2 years at AquaSuit, when she became laid off. While laid off she decided to have the pain that kept re-occurring in her arms, back, and shoulders examined by a physician. Subsequently she was disabled for 10 months and stayed at home but the company refused to acknowledge that her aches were associated with employment related stress. She could not get her claim through and is now back on the job that caused her body to ache in the first place. (Kamaldeep, operator, Journal 2, 23/8/94).

Kamaldeep points out that Shari, the team leader of the tank-
line, suffers from repetitive strain injuries in her fingers and
observes that the physical requirements of piecework under
conditions of constant change of movements take a toll on the
whole body.

Annabel, who is proud of making minutes most days, complains
about the pain in her wrists, originating from putting
pressure on a garment while shearing it. Sometimes she has
cramps and needs to immerse her hands in warm water. But she
needs to keep on earning, being a single parent to two
teenage children (Annabel, operator, Journal 1, 15/4/94).

Annabel is one of the operators who, recently hired, is trained
for flexible work. Although hired as a finisher, and preferring
this task, Annabel who worked in a garment factory in Portugal
before coming to Canada, is being coerced into operating a
variety of machines. She tries to avoid machine work because of
the toll it takes on her body, and has not revealed to the
company that she is in fact already cross-trained and multi-
skilled. Occupational health aside, the fact that being multi-
skilled holds no monetary advantage is yet another reason for
operators to hold back on disclosure of their flexibility to
operate a variety of equipment.

The lack of organizational structures to accommodate and
recognize skill differentials amongst workers, and the absence of
means to stratify the workforce leave length of employment and
speed of production as the indicators of the skill and working
knowledge of an operator. Operators themselves refer to skill in
terms of length of employment and clearly equate experience with
skill and efficiency. Those operators who work on unique, and
often difficult styles, consider themselves as experienced.
However, they seldom "make minutes", that is, advance beyond the
guaranteed base rate of $7.78/hour because the sewing operations required of them are so difficult that no operator comes even close to making a bonus.\textsuperscript{111} As a result operators with a large working knowledge cannot translate this knowledge into salary. Typically the "unique style line" produces the most complex garments and operates at 40% efficiency. Translated into dollars, these operators only produce three dollars worth of sewing operations, where they should be turning out a production equivalent to 7 dollars and 78 cents. The "minutes" projected for production of garments in the unique style line are "short", meaning not sufficient to actually construct a garment in the allocated and pre-configured time. Since this line is staffed by experienced operators only, they are deprived of making a bonus and by extension they are denied the recognition of their working knowledge.\textsuperscript{112} Being recognized as "skilled" worker on the shopfloor means being further exploited.

According to the company's Personnel Manager the operator who constructs a garment is un- or semi-skilled because all she needs to know are the technical skills to operate a sewing machine. Knowledge of the techniques of stitching, hemming, serging and running the machine are, although part of the in-house training, also a prerequisite to being hired. The ability to interpret patterns, to understand the sequence in which to

\textsuperscript{111} In 1994 the minimum wage in British Columbia was $6.50/hour.

\textsuperscript{112} The relevance between a pay-system based on piece work and a recognition of skill and working knowledge are discussed at a later point. For now it should be noted that one means of dismissing working knowledge is the refusal to remunerate it financially.
construct a garment and how to handle material are part of the
assumed and tacit knowledge an operator has. From the point of
view of management there is no need to recognize and remunerate
this non-technical skill and knowledge as it is presumed to be an
integral part of an operator’s knowledge. The personnel manager
of the company speculates that:

most of the women who are hired are recent immigrants, who
have been trained as sewing machine operators in their home
countries and now continue their vocation (Miriam, manager,
Journal 2, 21/07/94).

This statement contradicts reports by operators themselves, who
if they are immigrants to Canada, often have received an
education other than sewing in their countries of origin but have
never had the chance to apply their education and skills in
Canada. The case of one sewing machine operator illustrates this:

Angie, who holds an electronic engineering degree from a
University in Northern China, has never had a chance to
learn English well enough to apply for a job commensurate
with her education. With only a short interruption, she has
worked in the "needle trade" ever since she came to Canada
five years ago. Angie has to keep working to meet the
mortgage payments on her house, and finance her children’s
schooling. She tells me that she has given up all hope to
better her life circumstances but invests all she has to
give in the future of her children (Angie, operator, Journal
1, 25/3/94).

A big part of the discriminatory selection process that slots
Angie and other women, and in particular women of "colour", into
jobs as low-skill garment workers takes place outside the
workplace (in the context of, for example, immigration laws that
allow male spouses to prepare and train for work and life in
Canada, including language training) and exclude women from
receiving similar government benefits.

Angie works at the garment factory because she has no other

167
choice. The constraints imposed on her are: (a) the financial obligations arising out of her economic role as a provider of a home and education that force her into a job that offers no possibility for promotion and no satisfaction beyond making money and, (b) the lack of time or funds to calibrate her knowledge and education to the requirements of the Canadian context. Angie sponsored her husband’s application for landed immigrant status, and has been the main provider for many years. Still, she considers her income as supplementary to her husband’s higher income, although she has been the main bread-winner in the past and carries the burden of raising children and providing economic security. Angie states that she knows she is stuck sewing because she is committed to provide a better life-chance to her offspring than she had enjoyed herself. A reason why Angie is stuck in garment production is that she sells all her capacity to work to the employer.

Rinehart (1995:127) observes that once settled into unskilled work, the individual has no place to go. The lack of time to further educate oneself, on or off the job, prohibits workers from advancing. It is fairly rare that workers manage to

113 Roshnee has been working at AquaSuit for 15 years. She operates 4 different machines and never makes minutes. Her bimonthly payment of roughly $455 has been the main contribution to the family’s income since her husband, who at times operates a taxi, has been in ill health for a few years (Roshnee, operator, Journal 2, 2/6/94).

114 Angie’s plight is not unique. Jenson (1989) and Walby (1989) observe that the assumption of women’s supposedly innate flexibility to cope with demands arising out of employment, reproductive work and the domination by men, takes advantage of and concomitantly constructs flexibility as "natural" and not a skill at all.
move off the shopfloor into a white collar setting. This observation is substantiated, as I speak to Josepha, who on account of being a multiple-skilled and efficient worker, gets moved around on the shopfloor to fill-in where production is most pressing.

Josepha tells me that prior to her coming to Canada from Jamaica, she took 2 years of accounting courses in college. When a job opening became available in the front office, Josepha applied but was questioned by the Personnel Manager why she wanted to move off the shopfloor. Nevertheless, the Personnel Manager asked Josepha to bring in the references of her accounting experience. Josepha told her that it would be difficult to bring in references, as she did her schooling in Jamaica, and has worked at AquaSUIT ever since she came to Canada. Sensing the "inappropriateness and futility" of her request from the supervisors reaction, Josepha does not pursue her application (Josepha, operator, Journal 2, 2/8/94).

As she tells me her story, she relives the experience and gets upset. She is disappointed that the Personnel Manager never followed up on her request, and appeared in fact to be quite glad that she did not submit an application. It is clear to her that, given her reputation as a good worker and a trustworthy person, the insistence of the Personnel Manager on producing references and a resume is a tactic to discourage her advancement from shopfloor to office, and without being able to pinpoint it, she suspects a racialized subtext.

Josepha, who has two children aged 7 and 13, tells me that she has applied for a student loan because she plans to attend a college and take up accounting. But to follow up on her application is difficult because she cannot pursue matters while she is at work from 7:45 in the morning until 4:00 in the afternoon. Underlying the disinterest of the Personnel Manager in
her application, Josepha believes, is not the attempt to keep a flexible and valuable operator, rather the assumption that she holds a position adequate for a women of "colour": on the shopfloor. Her escape from a job considered as low-skilled is blocked not only because of the lack of career ladders, it is also blocked because of the assumptions on part of the Personnel Manager (see p.167, 169) that construct Josepha as incapable of performing a white collar job.

But it is not only the patriarchal bias or the racalized assumptions of women as docile and nimble-fingered operators that sentence garment workers to a worklife on the shopfloor. These qualities are also a prerequisite of a flexible production system that promises greater manufacturing competitiveness wedded to improved human resource management. According to managerial logic, workers who are unskilled can be enskilled and their worklives enriched by engaging in new forms of garment production such as team work initiatives.

How a large number of the above mentioned aspects of skill construction are daily practiced and successfully operationalized, is the subject of my discussion of the introduction of a flexible manufacturing process at AquaSuit. The reorganization of the production process according to a team concept exposes, for a short moment, while the complexity of new and old tasks is negotiated, the tension that surrounds the multi-faceted constructions of skill.
8.3 How a Restructuring of the Shopfloor Translates into the Restructuring of Skill and Working Knowledge

The restructuring process at AquaSuit takes place partially in response to the competition from manufacturers that produce garments in low-wage countries and partially due to the requirement of producing small batches of garments on short notice and "just-in-time". Given the character of its product, labour-intensive fashionable swimwear, AquaSuit was faced with making the decision to either externalize production to subcontractors who in turn may subcontract to homeworkers\textsuperscript{115}, or to restructure the shopfloor so as to allow the introduction of high-tech in-house production, based on flexible manufacturing strategies. En route to restructuring, the company placed a special emphasis on re-skilling workers. Workers who had in the past performed a very limited variety of tasks, are in the newly conceptualized team-environment expected to execute a diversity of tasks requiring them to operate a number of different sewing machines. However, operators who have been employed in the company for two or three decades report that in the early years production methods were not as fragmented as they are now, and that at one point a single operator constructed the whole or most of a garment by herself.\textsuperscript{116} The new demand on workers is the

\textsuperscript{115} Subcontractors prefer to recruit homeworkers. Homeworkers are a formidable source of cheap and skilled labour. They perform intricate sewing operations, supply machinery and space and are motivated to work since their earnings are based on a piece rate or seam allowance (Johnson and Johnson 1982:60,61; Weiner and Green 1984:28; Bowman 1991:111).

\textsuperscript{116} Piore and Sabel (1984:224) write about the organizational change that is necessitated by new production technology: "The hallmarks of the old system were narrow jobs, defined by precise (continued...)
flexibility to assimilate to the requirements of a re-organized job and to accommodate their actions in a way as to ensure proper execution of tasks in the team-environment.¹¹⁷

Yet another way of undermining the working knowledge of operators, and exclude them from participating actively in restructuring the production process, is the silencing of their voices. Li, who has been sitting on the bargaining table on behalf of the operators adds that the company does not listen to their complaints and that it is obvious to her that management does not take suggestions seriously if they come from operators. In fact, management does not want operators to discuss shortcomings or requests for a change. Rather management is seen as actively discouraging the input of operators. Operators feel as though they cannot win by speaking up. They even suggest that speaking up works to the detriment of the speaker. The consensus among operators is that nobody gets to voice their questions, let alone their opinions. Workers are extremely frustrated.

Fara, repeatedly tells me that she has all but given up in

¹¹⁶ (...continued)

rules, constantly amended by a highly developed system of procedural justice. The emergent system is based on broader job classifications, which reduce the number of distinct jobs and facilitate the transfer of workers from one task to another... semiskilled production jobs have been grouped into a single classification... Workers are paid for what they know - their skills - rather than what they happen to be doing - the job at the moment".

¹¹⁷ According to some of the literature on economic restructuring the numerical and functional flexibility of the workforce is a structural feature of organizational and processual change in the process of industrial restructuring (Atkinson 1986; Piore and Sabel 1984). There is no recognition that it is predominately women who seem to provide this flexibility.
putting energy into changing management attitude towards workers and the work process. She argues that the lack of trust between workers and managers, and managerial arrogance in setting standards without consulting with workers will get the company in even greater financial difficulties. Fara tells me that workers have complained for a long time about incentive rates being too hard to achieve. Operators have given up to make an incentive since they find it too chancy to extend themselves for a full shift in a race for a bonus only to see one operation go wrong and loosing out on the bonus. But Fara discloses that "we have power too, and even if they don't listen, we control our hands and work just as we like it" (Fara, operator, Journal 1, 12/4/94).

The feeling of operators of not being heard is echoed in all responses to the question of how production could be improved. Clearly, the skill and working knowledge of operators is drawn upon by supervisors if they are in a jam but an operator's working-knowledge does not translate into "having a voice," being taken seriously. Silencing operators, branding them troublemakers, and disregarding the advice of those who work the fastest, indicates the arrogance with which management disregards the knowledge of their workers. Implied is that all women working as operators have only limited intellectual capabilities.

Jana, who was shop steward at one time, tells me that she used to get in a lot of trouble for speaking up. She is insulted by management's assumption "that women are completely stupid and uneducated". She describes an incident where upon presenting a grievance to the plant supervisor, the plant supervisor had asked her incredulously if she had compiled the submitted document, questioning in effect her capacity to think and organize. (Jana, operator, Journal 1, 25/3/94)

Jana's experience identifies how the intellectual capacities of operators are equated with their position in the occupational hierarchy. The assumption that an operator has not enough skill to compile and edit a letter of grievance, or, in other instances, not enough knowledge about what machine setup works best for her, is grounded in a variety of beliefs: that garment
workers are not educated, that managerial knowledge is superior
to an operator's experience, that women cannot express themselves
clearly. Based on these kind of responses from plant management,
workers do not wish to communicate with the managers.

Management for its part seeks to rationalize why the
communicative flow between shopfloor and office remains a
trickle: the language barrier is a frequent explanation for why
communication, and that is the exchange of knowledge, between
operators themselves and between operators and managers does not
work. Although AquaSuit has a policy of "English only" on the
shopfloor, many of the operators and supervisors do not follow
it. Partially, because at times an intricate matter may be
explained faster in Hindi or Cantonese, at other times it may
serve to exclude unwanted commentary from third parties, and some
times one of the partners in the interaction may not be
comfortable speaking English. But the outcome of the English only
policy on the shopfloor is that those who cannot use the language
find themselves ridiculed and not taken serious by those who
speak no language other than English. How language is used to put
operators in their place and reenforce positions of authority is
evident by the following interaction:\(^{118}\):

Laura B. a line supervisor, really dresses an operator down
because she has used too many plastic clips on fastening a
garment on its coat-hanger. The operator, Amy, a small
women, who hardly speaks English, just sits and lets herself
be abused (Laura, line supervisor, Journal 2, 31/3/94).

\(^{118}\) While a class and gender based prejudice appears in many of
the comments of managers, at times in unison at times isolated,
comments based on racial prejudice travelled horizontally as well
as vertically across the shopfloor and, as a subtext, remain
implicit.
On another occasion Laura reprimands two operators, Angie and Dat, for checking the waste bins for pieces of material, and tells them that in order to check the bin, operators have to ask her for permission. Regardless of the substance of her directive, it is the tone in which she addresses the two grown up women as if they were naughty children that is offensive. I think to myself, how can operators stand to be treated like that? (Laura, line supervisor, Journal 1, 15/4/94)

Laura pontificates on how operators should ask her if they do not understand their jobs but her announcement is an empty exercise because operators do not feel comfortable asking her for assistance. In fact operators do not find that the communicative skill they are expected to employ between themselves does extend to communications with managers and supervisors. Attempts to communicate are frustrated in various ways: supervisors are patronizing and talk to operators as if they were children; supervisors pretend to not understand, or do not take time to understand what operators have to communicate, supervisors equate productive criticism with suspicion and "label" those who speak up as complainers.

In another instance a new operator, Amarjit, works on a new machine that needs a lot of adjustment. One of the problems is that the machine does not fit its mounting holes on the table and therefore does not sit in the right position to be used efficiently. Kate, the production engineer's assistant and Laura, the supervisor, discuss the matter with the operator. Shortly after another supervisor and the Plant Superintendent show up, discuss the matter and propose a solution that is quite different from what the operator wants. I encourage the operator to lobby with Laura and Kate, and then speak to the Plant Supervisor about the inconvenient setting of the machine. He does not think it is a problem, and suggests that the "girls" adjust to what management decides to be the most efficient practise. Laura, standing next to me, disagrees but does not dare to speak up. In effect, the voice of the worker, who certainly knows why she complains, is discounted (Amarjit, operator, Journal 1, 29/3/94).

In the end, even Laura, the floor-supervisor defers to the voice
of the Plant Manager. The (working) knowledge of all the women is superseded by the authority of a man.

A few days later, I observe Monika, a floor supervisor, shouting at an operator who, unwilling to wait for more work, had walked across the isle to fetch a bin of garments from another operator. Although Monika has a point in criticising the operator for getting production processes mixed up, her shouting at the woman and the fact that she addresses the operator like a child reveals the power relations between Monika, as parent, and operator as child.

8.4 The Shopfloor As Living Room: Parental Authority Meets Deviant Adolescence

The mother child-theme is a theme that is often invoked by employees at AquaSuit. Incidentally, it is Monika who tells me on various occasions how she is taking care of the girls who are under her supervision. Discussing lay-off practices with management, she mediates between operators' preferential dates to go on Unemployment\textsuperscript{119} and the projection on demand for work-hours during the summer. On another occasion, Monika, who has been employed by AquaSuit for 28 years, tells me how coming to work is like coming to see your family. "We are all one big family" is a comment Karl, a knitting technician makes, after one of the operators has offered him a piece of cake in the coffee-break.

\textsuperscript{119} For a fair number of operators the seasonal character of employment, with the low season occurring between June and September, is a welcome opportunity to be laid off and spend time with their family. This is only true however, where a husband or partner provides a continuing income. In all other cases lay-offs are an economic hardship, in particular because Unemployment Insurance rates are barely covering the most immediate needs.
Kamala, the operator, also compares the shopfloor population to being one big family.\textsuperscript{120}

Some operators have an almost proprietary notion of the shopfloor as their territory (and "living" room), and from this notion of the private space emanates the desire to keep the territory free of political struggle. But then again, how many operators can uphold the illusion of the living room as a place of fairness and security?

Certainly management makes every attempt to invoke the image of AquaSuit as a harmonious organism, a harmony only disturbed by occasional and rather inconsequential squabbles. The managerial effort to construct an ideology of the family within the company is certainly not out of keeping with the real relationship of power and dependence at AquaSuit. The greying patriarchs head the family, supported by a female Personnel Manager and the various female floor-supervisors in their quest to keep the operators in line. But the reproduction of power relations point beyond a gender based stratification and imply a hierarchy based on racialized attributions as well as a class prejudice. Embodied in

\textsuperscript{120} Although I witnessed baby- and wedding showers held on the shopfloor of AquaSuit, I am not convinced by Lamphere’s (1985) observation that the solidarity experienced on the base of these events deepens the ties between workers across ethnic lines and build a basis for resistance to managerial authority. I concur with Lamphere that the material conditions of the piece-rate system shaped women's culture of resistance. My observations were that operators tend to celebrate within their ethnic group, sit at events or at lunch amongst members of the same ethnic group, in fact communicate very little across ethnic boundaries. And even within groups there were decisive divisions. For example, there was tension on the shopfloor over a highly publicised murder case where male members of two families (in the sense of kin) of the same ethnic community had (allegedly) killed each other (Shari, tack-bar/finishing, Journal 1, 7/4/94).
the garment worker is not only the incapacity to perform "skilled" work but also the inability of ever having had access to schooling or training, mainly because of managerial assumptions that "where they come from" schooling is secondary to the production of subsistence. Here, racialized notions of skill reinforce gendered notions of skill.

That operators get lulled into a sense of security by belonging to the family, relishing the benevolent protection through the patriarch, is not only the result of an ideology played out in the workplace, and re-enforced through the command structure at AquaSuit but also wishful thinking on the part of operators who re-interpret their oppressive reality in order to fantasize about a world that is less threatening. On one occasion, Fara assured me that the company has been dealing fairly with operators over the past few years and that she had no plans to raise issues at the upcoming bargaining round for a new collective agreement. In fact she insists that there is a contract between her and the company and that the union is merely interfering and obstructing the communications between workers and employer. These assurances are in open contradiction to the comments Fara made earlier where she complains about cuts to piece rates and denounces the introduction of a new pay-system as an injustice to the individual potential of operators to secure a good pay for themselves.\footnote{But in spite of the attitude displayed to me it is of interest to know that Fara did after all join the bargaining team and became one of the most vociferous and precise critics of management.} Personally she agrees that a worker like herself should be working for a wage but she concedes that
not everybody is mature enough to handle waged work and might use wage security to slack off. For these reasons she wants to retain a pay system based on individual effort. (Fara, operator, Journal 2, 21/6/94). Jenny, a fairly new employee whom I had congratulated that day for having received Canadian citizenship, wrote me in a little note:

AquaSuit is a very big company. Workers' age is very different. But sometimes there are no jobs for the new workers. They lay us off. But some workers are never laid off, and get to work overtime. Maria's [a supervisor of another sewing line] side is better. Almost everybody is the same. I know Maria she is always fair. When I change to Laura's side (a supervisor of the beginner's line) it is better. I feel her to be very nice and energetic, and a smart woman. AquaSuit's managers are good. Right now, no one is laid off. I like to work every day. I will become a real Canadian, who is hard working and loves Canada. I like AquaSuit, I like Canada (Jenny, operator, Journal 1, 29/3/94).

Part of this contradictory message is aimed at placating me, as I may report to management, and maybe even to Laura, her present supervisor. Jenny and Laura do not get along particularly well. But another aspect contained in the passages above is the loyalty and obligation these workers have developed to their employers. The patina of security is thin, as Jenny's reference to the fact that lay-offs are part of the work experience indicates, and if the conditions of the market require yet another turn of the screw, squeezing operators for higher productivity, the helping hand of the patriarch becomes a menacing claw. No amount of "fuzzy" feeling can alter an operator's reality: their voices are heard only if what they say is compatible with management's projections. The construction of operators as children, seen but not to be heard, disenfranchises all operators from being recognized as competent, knowledgable and intelligent.
This bias translates into the restricted mobility workers have to movement off the shopfloor. Those women who manage are stratified amongst themselves. "White" women will have direct access to "white" patriarchs, as the position of Miriam the Personnel Manager and Ruth, the plant manager's assistant-turned-designer indicates. The access of women of "colour" to the echelons of power remains mediated by the lack of credentials they are able to produce in order to legitimate their voice. Clearly the metaphor of the "family" is not suitable: children become adults and with an increase in competence gain privileges, responsibilities and authority. At AquaSuit, operators, in spite of all their social and technical competence remain "children" for as long as they are employed.\textsuperscript{122}

When I mention operators being treated childlike, I imply that operators lack power and resources to resist this treatment. One means to deny power and authority to operators is to disenfranchise them from sources they could draw upon to establish competence and authority. Racism and gender based discrimination are two strategies to construct a subordinate subject. Exclusion from positions of power is one of the outcomes of racial and gender discrimination on the shopfloor of AquaSuit.

An example of the bias operators encounter when applying for

\textsuperscript{122} The practice of infantalizing is a common phenomenon experienced by people of "colour" in their dealing with "white" employees or managers. Negative evaluations of "coloured" work go hand in hand with constructions of natural skills, and reflect as Das Gupta (1996:37; also Henry and Ginzberg 1985) points out ideologies emanating from colonialism and slavery. "Condescension, belittlement ... are all subtle ways in which a person can be harassed. In the process, the person's dignity, self-worth and adulthood are reduced."
a new task is the experience Hsin relates. While I discuss a racist incident with Josepha\(^{123}\), the operator sitting right next to her, Hsin, overhears our conversation and decides to confide that she had a similar experience at AquaSuit:

Recently she had applied for a job in the Shipping Department, having had previous experience in shipping in the job she held before coming from Hongkong to Vancouver. She was told by the Personnel Manager that in order to apply for a job in shipping she would have to quit her job as operator. The Personnel Manager reasoned that in order for applicants to be on a fair footing, applications would have to come from outside of the company. Discouraged by this response, Hsin gave up, and remained in the Sewing Department (Hsin, operator, Journal 2, 2/8/94).\(^{124}\)

Underlying the difficulties experienced by Hsin in her attempt to switch to the shipping department are not considerations of fairness and "due process", as claimed by the Personnel Manager. What weighs heavier is the fact that the Shipping Department is staffed by a pre-dominantly "white" group of employees, and that company policies require staff in the shipping department to be fluent in written and spoken English. In the past this policy has served to exclude women from the shopfloor and prevented their move into the shipping department, although there is no evidence at all that a good number of the operators could not write or speak English fluently.\(^{125}\)

\(^{123}\) I refer to this incident on pages 167, 169.

\(^{124}\) The blocked mobility of Hsin, is a prime example to demonstrate the lack of an internal labour market. For garment workers the segmentation is permanent.

\(^{125}\) Women who are active in the Union movement report in an interview with Leah (1993:166), how "for women of colour who have emigrated from another country, the insistence on Canadian work experience hurt's their chances of advancement not only in the labour market, but also in the labour movement. The treatment of their non-Canadian accents exacerbates the problem..."[P]eople (continued...)
Further, the imposition of a policy that requires fluency in English as a requirement for employment in the Shipping Department is itself another racialized restriction. There is no reason why the demand for reading labels and checking manifests inside the Shipping Department should be constructed as qualitatively different from the demands made on all operators who work on the shopfloor, who need to read and understand style-books and manifests accompanying the bundles of garment. Fair recruitment and selection procedures for positions, and the lack of career paths have been ongoing concerns for many AquaSuit employees in the context of a 20% increase in the number of operators over the last 12 months. Operators complain that at peak production times they are hurried and pushed to perform, only to be laid off a few weeks later. The hiring of new workers, and the frequent lay-offs brings it home to workers that they are disposable - and new hires only increase the chances of being laid off more frequently (Kamala, operator, Journal 2, 16/8/94).

Although the union has put guidelines in place that state the proper procedures for hiring new operators, at times it is not quite clear how the demand for new workers is determined and how the selection process is applied. For unionized members this poses the dilemma that they will have to accept members, once they have become part of the bargaining unit, even when the circumstances of their hiring are suspect and out of line with Say [I] don’t communicate well. It’s not that I don’t communicate well, it’s because I have a dialect, I have an accent, and I do it differently."
the guidelines.

Both, Josepha and Hsin identify the problem at the centre of the issue of blocked mobility as one of racism. This is not to imply that class boundaries are superseded by racialized boundaries. Rather, patterns of employment at AquaSuit suggest that an initial channelling in clerical work or shopfloor determines further opportunities. Women of "colour" may be present in the clerical sphere but there they occupy the low rungs of positions. Shopfloor and shipping remain segregated, and only the persuasion of personal influence by a manager, on behalf of an operator seeking a transfer, allows for the occasional transgression of the cultural and disciplinary boundary from shopfloor to shipping.

On the shopfloor those workers whose cultural background is most similar to that of company management find themselves, willing or not, promoted to the position of spokesperson and eventually teamleader. The economic strength of cultural and ethnic groups in society at large are reflected in the hierarchy of employment opportunities open to particular members of a respective group. West European/Anglo-Saxon women are absent from the shopfloor but present in managerial jobs. Southern/Eastern-European women tend to be floor-supervisors or hold senior positions on the shopfloor. Women from the Indian sub-continent have more influence than women of Chinese descent. Women with Vietnamese and Thai background hold the least prestigious positions. However, they do not necessarily earn less than other operators. This may be a function of an "ethnic" stratification where a relationship between the hold some groups have on
particular occupational niches and the socio-economic patterns of immigration coincides with the low-skill jobs allocated to the most recently arrived group (Hiebert 1994).

While the gender of garment work is a function of the continuing feminization of the occupation\textsuperscript{126}, inside the occupational group jobs are stratified as those for women who are "white" and those who are of "colour." Occupational trajectories are calibrated according to skin pigmentation, with economic clout, or lack of it, a function of length of employment, and membership in a particular privileged ethnic group, depending on the degree of perceived assimilation of the group to Canadian society.

Racial prejudice may be deflected by successful assimilation to the Euro-Canadian ideal, however, if economic prosperity, an indicator for class-membership, exceeds the allocated social strata of a group; racial prejudice will surface and operate as a restraint in place of economics. For other than purely analytic purposes it is hard to distinguish which of the blocks to social mobility are in place at any given time: the salience of one block (ethnicity, gender, class, "race") merely indicates the presence of other momentarily invisible blocks in the particular location.

The union is without power to interfere in the company's internal selection processes, mainly because the collective agreement does not provide guidelines for promoting a seamstress to another department or another task. Certainly, there is a

\textsuperscript{126} See: the feminization of garment work on page 148.
relation between immigration patterns of the Pacific Northwest
and job distribution at AquaSuit. At the time of my research,
Eastern European women and Asian men had moved into positions of
line/floor management, while the company executive was populated
by "white" Anglo-Saxons. Interestingly enough, the class
disparity and "human capital" differentiating management and
operators and commonly presented as being decisive, turns out to
be less pronounced between company management and garment workers
than among garment workers themselves. A good number of operators
have had academic schooling and hold a degree from an institution
of higher learning, while others spent their working lives sewing
garments. In particular those operators, having passed through an
education system created during British Colonial rule, are very
capable of expressing their thoughts clearly and succinctly in
written and spoken English. One could assume by taking the
variety of educational background as an indicator that class
distinction between operators exists. But class differences are
superseded by other determinants that allow homogenized operators
to become a collective source of cheap labour. The mechanisms by
which operators are homogenized, and their resistance to adopt
the characteristics of homogeneity, becoming predictable,
controllable, standardized, in short, an universal worker, is
subject of the next section.

8.5 Racism Uncovered: How Asians Changed the Shopfloor

Blue collar employees other than operators, many of them
"white" with European background, fear that their jobs will
become redundant because of technological innovation or the new
focus on swimwear production. They mention how many years ago the company was worth working for, whereas now all the skilled work had been taken, and, moreover, how the new staff, "Asians", significantly changed the character of the shopfloor.

Karl, a (German-born) knitter tells me that in order to get information of any sort I must not ask Orientals, as they would not share their knowledge, and keep to themselves. But he also says: many "white" people left because they were frustrated with the plant-supervisor. He is two-faced (Karl, knitter, Journal 2. 25/4/94).

It is remarkable how Karl, perhaps unconsciously, characterizes the work situation at AquaSuit. While an increasing number of workers, mostly recent immigrants, get hired for "unskilled" labour, "white" and "skilled" workers, often members of earlier immigration waves, choose to leave the company. Many left due to lack of work, due to a restructuring of jobs, their refusal to take pay-cuts, and/or willingness to put up with the increasing demands on their labour power that remains unremunerated. Having the privilege of a choice in the first place enables those who are "white" to leave. Remaining in the company are those who have less choice or no choice at all. Those "white" employees remaining on the shopfloor perceive the employment of an increasing numbers of garment machine operators in racist and exclusionary terms. A common-sense explanation, of Asians taking over the shopfloor and pushing the deserving "Whites" out of their jobs, diverges the attention from the economic imperatives and managerial strategies leading to the restructuring of the company. Karl is participating in the construction of Asian as different and threatening.

Typical of a racist subtext is, for example, one occasion in
which Nirmela, an operator, is brought into the job of attaching snap-buttons to batches of Patagonia jackets. Because she has never done the job before she does not realize that parts are missing and in consequence the production line is held up. A couple of supervisors congregate but cannot see the problem and finally Kamala, who usually does this job, gets called. She talks to Nirmela in Punjabi, quickly explaining the problem. Meanwhile Ruth, the British-born designer who is standing by, rolls her eyes and says to me (bonding): "now we converse in our mother tongue". Later Ruth points at one of the labels inside a sweater bound for export to Japan and makes fun of the printed Japanese instructions (Ruth, manager, Journal 2, 31/5/94). Hertha, a German born seamstress, figures that "things are bad now because the Chinese all stick together, help each other, but do not help anybody else, and speak Cantonese in spite of an 'English only' policy at AquaSuit" (Hertha, operator, Journal 1, 15/3/95).

While I sit with Kate, the timing engineer, and watch videos on the construction of various garments she explains to me how some operations are performed faster at AquaSuit, Canada than at the U.S. plant where the video was filmed. Ruth, interrupts and tells us how when she came from England (early 1960's), she was surprised about the slack working speed of women in Canada. Laura, a line supervisor who immigrated in the 60's from Italy mentions that operators do not work hard enough and then connects this statement to the fact that operators are mainly Orientals (Laura, line supervisor, Journal 1, 3/5/94).

In all the above cited occasions "white" supervisors or "skilled" workers have alluded to the lack of work-ethic, lack of
collective consciousness of operators, and attributed the perceived lack of a particular property to a basic characteristic in the Asian character. How racial prejudice is grounded in assumptions about people's capacities and how it is played out in its systemic as well as more overt disposition will be illustrated with the following example. It is the only occasion where I observed racism or racist behaviour as becoming an explicit topic during my research in the company.\textsuperscript{127} The occasion I relate below involves union and management in discussing racism.\textsuperscript{128} My notes read:

"Incredible meeting with Satchel [the plant supervisor, "white"], Miriam [the personnel manager, "white"] and Ratna [the business agent of the ILGWU, of "colour"]. It is all about the almost grievance of an operator over a racist slur, uttered by Maria, her line supervisor. The problem: Tak and Ko, both operators in Maria's "Lady Di" line, feel that they have received difficult work, unpleasant tasks and short minutes [meaning not much time to perform particular operations] in the past. They feel that Maria is giving preferential treatment to other workers, many of them more recently hired, with less seniority. Although they realize that it is custom and necessity to provide new workers with easy work, they feel that they work harder and make less money. Believing that within this unjust system they were not doing well in the first place, getting swamped with difficult tasks made it even more difficult to make minutes. Tak kept mentioning this to Maria, who did not seem to have taken time to deal with the complaint, and neither of the shop stewards - whom according to the business agent do not like either of the two operators- followed up on the complaint. Maria, approached by Tak once more, responded: you better learn English first before you complain. Tak subsequently took the whole issue to the union, and the Local launched a formal complaint with the company. Showdown in Satchel's office: I don't really know why I was invited but it is a great opportunity to observe union-

\textsuperscript{127} This is not to say that racial discrimination inside the company does not exist. I was at various times witness to racist slurs, where one worker or supervisor (usually "white") would insult a co-worker in a more or less subtle manner.

\textsuperscript{128} Following is my account of events as I wrote them down immediately after the meeting.
management-worker interaction. Satchel starts lecturing in his paternal ways, going on an on about perceptions while trying to frame the racism charge into an issue of language and communication. He complains how little he is pleased with the letter he has received from the union, and Ratna responds that the union is not here to please managers. "I have not pleased you for 15 years and I have no intention to do so now. You do not please me either. I have a job to do and so have you". Satchel is a stickler and proposes that neither of the operators understood enough English to even have understood a racist slur. He does not want to acknowledge that the operator was indeed upset ... Ratna threatens to leave the office, and Miriam, who has not said a word so far, tries to intervene and suggests to deal with the issue in a more constructive manner. Satchel tries to play the incident down and portrays the union and Ratna as if they were out to create a problem where there is none. Ratna gets fairly upset but then realizes that he has to keep his cool. It all ends with an agreement to meet after the lunch hour with the operators and the supervisor involved, while Satchel maintains that he had investigated sufficiently and nothing was to be gained from pulling the operators out of the production process for a further questioning. As we leave Satchel asks me how he had performed. He is proud of himself and vain to the point of letting me in on his strategy. He tells me that he has provoked Ratna in order to assess how far the union is willing to carry the issue. I tell him that I thought the talk could have been more constructive, if they could have agreed to move on their mutual understanding that all it took to resolve the issue is an apology from the supervisor to the operator. [Satchel did a "good" job in terms of being completely insensitive to the issue and stubbornly pushing his view of linguistic incompatibility]."

Afternoon:

The two operators have joined us in the plant-supervisor's office and are questioned about the incident. Both display a rudimentary understanding of English. Ko translates for Tak, who understands but cannot speak fluently. Tak insists that she was hurt by Maria's comment and that she did not misunderstand Maria. Ko adds that the real source of the problem is the unequal distribution of work. Maria explains once more how the system works, and concedes that it is not always just. Then she apologizes and explains that she wants nothing bad for anyone. Satchel continues to frame Maria's misconduct in terms of not spending enough time with the girls, being too busy, and having to learn how to accommodate the demands of operators better. Ratna maintains

---

129 Satchel allegedly said to the personnel manager: I don't know why I let Uli in on this...[I suppose he wanted to present himself as a "good" guy].
that it was a case of racial discrimination (Satchel, plant supervisor, Journal 1, 5/5/94).

Although the plant supervisor considered himself a mediator, who merely facilitated a discussion about an incident that could be considered discriminatory, his attempts to distract from the issue and excuse Maria's actions as borne out of time-pressure depicts the systemic nature of racist attitudes. His failure to acknowledge the possibility of a racist slur, and his denial that Maria's slur could have been racially motivated, make his conclusion that operators were not competent enough to understand hardly feasible, especially in light of the long term relationship between operator and supervisor. His attitude points to a fundamental problem, first, of AquaSuit policy to address equality issues beyond a polished mission statement, and second, the reality of prejudice in day to day action.  

This incident is of interest in another respect as well: it is not often that operators complain openly about the non-recognition of their working knowledge and the preferential treatment of one set of operators over another. They will complain about pay, and the fact that someone else seems to be making better minutes, they will complain about lack of work, a cut piece-rate but not about the challenge jobs pose to their

130 Revealing and indicative for the insensitivity and racial bias of management towards operators is an excerpt from the company newsletter (The Way We Seam, October 1994). It reads:

HALLOWEEN PUMPKIN CARVING CONTEST

Prices for:  
(1) Most Original Pumpkin,  
(2) Scariest Pumpkin,  
(3) Best Effort Gone Awry.

Anyone who would like to, is welcome to dress either in an ETHNIC or HALLOWEEN costume (their emphasis).
working knowledge. The homogeneity of operator's skill, although a construct everybody involved knows as flawed, is usually not challenged by operators themselves for it allows them to exercise a minimal degree of flexibility. But under the proposed changes to the organization of work, operators fear that their assumed homogeneity will be replaced by the control of worker over worker, and in effect reduce their (relative) autonomy and control over a task.

8.6 Conclusion

At AquaSuit, Canada, the union does not present operators as skilled\textsuperscript{131}, since according to the collective agreement, the union subscribes to the notion that men perform skilled work, as spreaders, cutters, knitters and mechanics, while women operators merely extended their "non-skills" into the workplace. For these reasons the collective agreement does not provide job descriptions for operators nor any differentiation other than slightly different pay scales based on length of employment for all operators, who make up 85\% of the employees of the company. Knitters and cutters have very elaborate definitions of their tasks anchored in the collective agreement, and there is clearly an vertical mobility designed into these male jobs.\textsuperscript{132} In fact,

\textsuperscript{131} When I did my research in the garment company the collective agreement did not have a provision for a differential pay-scale amongst operators. Since then, in the process of negotiating a new collective agreement, workers took a strike vote to force the company to develop and employ job classifications based on the complexity of tasks and length of service of operators.

\textsuperscript{132} A study conducted in a school district in Long Island, N.Y. "found that job descriptions of male jobs more accurately (continued...)
the current president of AquaSuit Canada, as well as the current plant supervisor came through the ranks of the knitting department into the managerial ranks.

The best possible promotion a female operator can expect is to give up the union book and become a floor supervisor. This job is not coveted, as operators recognize that the buffer-position taken by line management is only marginally better than their own jobs, with floor supervisors neither protected by union contracts and provisions nor equipped with real authority and power and placed on the lowest rung of management. In fact, there is no avenue for operators to better their careers. Even if women perform jobs similar to men, cutters being one example (discussed on page 145) they do not get paid the same wage.

While a gendered distribution of jobs is reflected in the collective agreement with 95% of the workforce operating as unclassified workers with no skill differentiation between operators except length of service, racialized aspects of job distributions are much more subtle and less obvious. Although the union makes attempts to provide equal opportunities for all members on the shopfloor, perceptions of skill based on membership in particular ethnic groups permeate throughout the shopfloor. Certainly the union is not promoting or intending to promote a differential treatment of members based on their ethnic background. But in the reality of the shopfloor, ethnicity can

132 (...continued)
captured the actual work performed than the description of women's jobs. All incumbents of male jobs reported that their job description was accurate...[B]y contrast, in all of clerical titles, respondents reported additional job responsibilities" (Steinberg 1990:462).
become a determinant for the kind of work made available to employees.

Operators find it difficult to oppose new managerial directives and have a hard time organizing consent amongst themselves, as often their commonality does not reach beyond the bond of sharing similar tasks. While particular ethnic groups may interact frequently, the communication between groups is strained for lack of language skills and, at times, the difficulty to accept each other as differing. The perceived homogeneity of the operators, conveniently invoked by management, conceals the fact that operators come from very different ethnic and cultural backgrounds and differ in education and life circumstances. Some women who are recent immigrants attempting to start a new life in the Canadian context plan to use sewing as a first job and a springboard to further, better paid employment. Others have come to Canada decades ago and have settled for working in the garment industry as long as they remain employable. The length of employment of most operators indicates that the opportunity to leave the garment industry is limited. This blocked mobility exists independently of the educational attainment that any human capital operators have accumulated. For some workers who immigrated, being a seamstress is a continuation of the work they did in their country of birth, for others, who might have a

133 Weiner & Green (1984:282/283) observe that "particular to the garment industry is the absence of a seniority system ... [T]he garment factory has very little room for personal advancement...[T]herefore women stay on one task all their working lives, afraid to insist on training, or unwilling in the short run to absorb the loss of time and pay that training would entail...[R]arely are women able to penetrate the domain of men's work."
different vocation, it is the first and often only chance to engage in paid employment. Over the years the outcome is the same for all operators: they remain employees of one garment factory or the other, their earnings are invested in purchase of a residence and the education of their children, which leaves them with few resources to be invested in furthering their own occupational careers.

The recognition of being only employable in the garment industry translates into a particular attitude and explains the actions of garment workers. For fear of losing their jobs and with little recourse to other sources of employment, garment workers do not pose a militant and demanding workforce. The union, by default, becomes the arbitrator of conflicts instead of being the advocate of workers. The union is put into a position of protecting members, many of whom are not helpful or supportive in transforming union policies to shopfloor policies for fear of economic and inter-personal reprisals. The experience of Jana, a former shop steward who found herself marginalized and persecuted by the company for being outspoken and critical, and the fact that most of the women, including the present two shop stewards, are reluctant to engage in shopfloor activism indicates the high degree of apprehension and fear that governs the relationship between workers and management, but also reflects the success of managerial tactics to offload managerial concerns of sales volume and profitability onto the piece-rate worker on the shopfloor.

So far, I have observed the following attributes of a working knowledge that are shaped by constructions of skill: (i) recognition of the technical demands of a task, (ii) the
cognitive mapping of a sewing operation, (vi) a pay system insensitive to the varying working knowledge of operators, (iii) the attribution of working knowledge according to the cultural background of an operator and, indirectly, the use of language as a powerful tool of domination. The limited career trajectories available to women who by the colour of their skin, do not approximate the managerial picture of a skilled worker become manifest in an industrial production system that requires flexibility, cooperation and competence from operators and successfully integrates human resources into a high performance work system without recognizing and rewarding the intellectual and physical effort of workers.

In the two chapters that follow I will address the effects technological and organizational innovation has on the performance of operators who work under a piece-rate pay system. The introduction of the team-work concept, as I argue, served as a catalyst to verbalize operators' reservations about changes to the production system.
CHAPTER IX Team-Work at AquaSuit

In this chapter I explore the link between a team-work concept as an organizational form of the labour process, the demands that arise from it on labour power and working knowledge of employees and the resistance operators develop against this work organization. As indicated earlier, the introduction of team-work at AquaSuit provides the organizational context in which skill and working knowledge of operators becomes discussed. The team concept and quality circles were seen by management as a means to improve labour relations and the productivity of workers, and this message was tied to an improvement of operators' "individual skills."

Workers on one hand faced the requirement to apply their working knowledge openly and in ways that were shaped by pragmatic opportunities to cooperate and characterised by the redistribution of information. On the other hand, the organization of work in cooperating teams led workers to feel that they were giving up their control and understanding of what the production process demands from them and they felt that as individuals they needed not buy into the purposes and values of the company (i.e. team-work) in order to perform competently and enjoy the rewards they have earned through their effort. The fact that a proposed team-work method was so vehemently opposed by workers, mainly because it took control from the individual and placed it, observably, in the hands of many, points to the resistance of operators to revealing their working knowledge to the company at a personal loss of control and earning power.

The organizational concept known as "Quality of Work Life
Initiative" (QWL) unites many aspects of the management of human relations and technological processes in the workplace.\textsuperscript{134} Participative management, job-redesign, and lean production are strategies designed to implement QWL in organisations with a view to improving employment relations but above all in the expectation of increasing productivity and profitability by involving employees in the supervision and monitoring of their own activities. The accountability of each individual worker to peers and superiors, and vice versa, is meant to diminish the waste of material and human resources. The need for a restructuring in particular industrial production processes is brought about by the competitive advantage of those companies which have access to a huge labour market with low-wage levels or highly automated production processes. The rationalization of the production process and the elimination of unproductive activity is, as part of the QWL initiative, achieved by persuading workers to cooperate and invest more of their working knowledge in increasing surplus value.

The intent of job redesign initiatives is to allocate an increased number of tasks and discretionary power to employees who in the past have performed routinized, standardized and highly fragmented tasks. Part of such job enrichment is the voluntary control workers perform over their activities, achieved in part through an identification of a particular group of

\textsuperscript{134} Human Resource Management (HRM) techniques apply to organizational culture and change and are within organizations applied to: selection and recruitment, appraisal, reward, career management and development, employee-management communications, and employee participation, small group activities and team-working (Collard 1993).
workers with a certain stage of the production of a product but also by monitoring the production process so as to hold accountable the individual worker or team for the quality of their work. At the heart of job enrichment schemes is not cooperation nor the democratized workplace but the granting of a very limited extension of control over their work to employees. Self-regulation on the shopfloor makes superfluous costly institutionalized control mechanisms, and in the wake of job redesign a large number of line managers and specialized quality controllers become redundant.

The human centred resource management approach within QWL initiatives aims to develop a scientific framework of interdependent relationships between co-workers, with team-work being the organizational frame that glues workers activities together.\textsuperscript{135} Thus it focuses on workers attitudes and feelings and not primarily on a workers capacity to replicate or equal the performance of a machine as previous forms of scientific management intended. While the early efforts in Human Resource Management (HRM) focused solely on the contribution of the shopfloor, later bids applied participatory concepts not only to the shopfloor but also to the bureaucratic and administrative structures of corporations. But short of a promise to integrate and make transparent managerial strategies and policies to

\textsuperscript{135} Mayo's (1933) research on General Electric's Hawthorne Works is the first recorded attempt to systematize the conditions that determine worker output. The research found that counternorms developed by the observed workgroups were the most significant source of output control. This control could be used to slow down (chiselling) or speed up (rate-busting) production (Roethlisberger & Dickinson, 1939) and is since recognized as a common feature of the workplace (Roy 1952).
workers, to democratize the workplace, participatory management strategies, quality circles being the best known of these, proved to be a limited tool, and as Rinehart argues, are devised to define

"limits on the scope and degree of workers' involvement in decision making. QC circles and other participatory mechanisms have as their focal point workers' immediate jobs and work areas. Workers or their representatives are thus kept from making decisions on matters such as what is to be produced, investments, distribution of profits, technology, size of the work force or plant closures" (Rinehart 1995:169).

In a similar vein, lean production contrives the cooperation of workers by promising unprecedented worker input into the manufacturing process, by obscuring the internal hierarchies between shopfloor and management, and by fabricating a spirit of competitive cooperation inside the organization. At the same time it uses the threat of external competition to encourage worker cooperation with the new work system. Workers are completely integrated in the production process and are expected to perform at a 100% efficiency at all times. Practices on the shopfloor include job-rotation with workers able to perform a wide variety of tasks. Given the lean structure of the production process, the flexibility of the employees provides the (only) mediating buffer for any variations that may arise in the complexity of the production process. The unimpeded flow of the production process is the credo of lean production with workers' activity and the design of the production process laid out to minimize waste of human energy on non-value added labour. In consequence, workers are encouraged to suggest constant improvement (Kaizen) while struggling to maintain a just-in-time production that is designed
with human output required to approximate close to one hundred percent of a worker's efficiency. Management by stress\textsuperscript{136}, as unions have tended to label the lean production strategy, does not permit workers to create for themselves a space where they could "fudge", "stockpile" or otherwise manipulate the production process to provide a break. Workers are pushed to perform in an industrial production system closely associated with Taylorist practices.

But where a scientific management in the guise of Taylorism propagates individual piece-work, lean production requires cooperation in a team, and individual low-performance invokes repercussions from team members. The burden loaded upon workers who attempt to maintain production on understaffed, lean, shopfloors translates into an extraordinary high rate of physical and mental stress. As one worker aptly summarizes: "if it doesn't get you physically [ill] it will get you mentally sooner or later" (Krause 1986:44).

Common to all participatory management schemes is encouraging workers to adopt a management perspective. Training on cooperation, team work and the responsibility of the production line worker cannot obfuscate the fact that, in the framework of QWL initiatives, workers of one factory are pitted against workers of another factory with both fighting for secure employment by outperforming the other. The solidarity of workers

\textsuperscript{136} Womack et al (1990) propose lean production as a model suitable for all manufacture to regain competitive advantages. Voices critical of their focus on the competitive capitalist enterprise and the disregard for the experience of workers under lean production are widespread (Berggren 1993, Robertson et al. 1992, Fucini and Fucini 1990, Graham 1993).
as a class is undermined by a managerial discourse of cooperation and consensus. How the olive branch of cooperation is formed in actual practice will be the subject of the following discussion on team-work at AquaSuit.

9.1 Team-work and its Effects: How Garment Workers Defend Their Working Knowledge

AquaSuit Canada had to deal with a few obstacles in its attempts to turn a profitable operation: the subordinate relationship with, and dependency on, company headquarters in the U.S.; the rivalry with non-unionized local and national producers of garments; and the competition from garment manufacturers who produce in low wage countries, to name just a few. To counterbalance these structural disadvantages, the corporate parent strongly suggested that AquaSuit Canada engage in restructuring its production process by adopting quality circles. AquaSuit Canada management responded with the introduction of team management concepts on all levels and in all departments. But the process of implementing the concept of team-work met with difficulties. To begin with, at the time of my research there was not a single worker on the shopfloor who could understand and communicate the requirements of team work to co-workers. In fact management itself did not have a good idea where to go with its quality circles,137 and employees were apprehensive about proposed

137 According to J. M. Juran, one of the co-founders of the Total Quality management (TQM) concept, at least 85% of the failures in any organization are the fault of systems controlled by management. Fewer than 15% are actually worker-related. Management and only management can be responsible for improving the performance of organizations (Collard 1993).
changes to the production of garments.

It appeared that there were a number of problems associated with the implementation of team-work which has become the most contentious issue in recent company history. First, there was no effective strategy to move operators (and managers) into teams other than physically placing operators within a team close to one another. Second, there was no attempt made, other than a workshop introducing the most basic concepts of team-work, to inform operators and managers about the changes to be made, and how these changes would figure in a larger picture of internal restructuring. But third, and most importantly, operators were very reluctant to engage in team-work for they perceived the restructuring to be a threat not only to the relative autonomy and control they held over the tasks they performed but also to the recognition and remuneration of their individual contributions to the production of a garment.

The challenge in restructuring the workplace at AquaSuit was to facilitate a change from individual work ethic to a team work spirit. In order to bring an understanding of team work to the shopfloor (where operators have for decades worked in a piece-rate system) management had to communicate its intentions and plans. Team work was advertised as a concept about changing the attitudes, values, and beliefs of management and workers and said to be relevant to all strata of the organization.\textsuperscript{138} The emphasis on the non-technical aspects of team-work offered by a company

\textsuperscript{138} The office-newsletter attached in Appendix 4 (page 262) is the product of a new strategy to establish better communications between shopfloor and office.
manager served two purposes: to oblige operators into dignified cooperation (nobody wants to be seen as uncooperative), and to downplay the real impact the new form of work organization had on an operator’s work routine.

Team Work is not primarily an issue of productivity or technology but a framework of cooperation that is supposed to facilitate a change in the relationship between employees and in consequence enhance the quality of the product manufactured. Team work has to do with people interacting and co-operating, and it is the task of the management of a company to introduce guidelines along which employees need to co-operate (Chuck, Manager, AquaSuit U.S., Journal 2, 17/8/94).

By engaging operators in team work, knowledge as a human resource can be exchanged more effectively between workers. The sharing of a tacit, in addition to an explicit, working knowledge in a systematic manner is one of the desired effects of the team-work process, and was an outcome envisioned by management at AquaSuit. But as a productivity tool, the sharing of a working knowledge would require a context in which the direct and indirect costs of communicating, the time spent over organizing and executing a task as well as support between team members, is not born by the workers who, after all, are still paid by the piece.

9.1.1 Cooperation

In the period of my research, the shopfloor was far from accepting concepts of team-work or team-pay and there were a variety of reasons for this. The conditions under which operators were manipulated to accept the position of team-leader, many against their will, casts doubt on the benevolent intentions of management. Over the years, many operators have experienced how
management prides itself in taking operators seriously while simultaneously singling out those who criticize the production process and personnel politics and labelling them "troublemakers", "union stooges", "unreasonable and vindictive". If the experience of the past is an indicator for future developments, then operators have reason to suspect that management, not having planned out production to the point where a team concept can function, will react unpredictably if operators want to have their input validated. Together with the confusion about what mixture of skill levels comprise a team's composition, and the unresolved terms of pay, team-work looks like a lot of trouble without benefit to the operator.\textsuperscript{139}

Another aspect that makes workers uncomfortable is the need to give up individual control and authority over their operations and become integrated into a system where the speed of production of each individual is monitored by co-workers. It is no coincidence that the operators most opposed to team-work are those with a long history of employment in the company. Because autonomy on the job and control over the task becomes the only expression of working knowledge (with pay differentials, seniority clauses and job-stratification absent from the collective agreement) giving up autonomy and authority over the execution of a job is deskillimg, a demotion, and threatens the self-perception of operators as skilled. At the same time, these experienced and "unskilled" operators are the most valuable workers in a team environment as they are able to understand and

\textsuperscript{139} For a detailed listing of the expectations management put on team-leaders see Appendix 2 page 257.
monitor a team's activity.

In reaction to management plans for a new flexible workforce, operators at AquaSuit maintained that they would prefer to work in a straight piece-rate system where everybody gets rewarded according to their merit. Barb expresses what many operators have told me:

If you were to be an operator, making 120% of the standard and you'd be thrown in with an operator who only makes 70%, would you not resent to share your piece rate with her? If team-work at all, then everybody in the team should be working in the same speed. But people are lazy, they need an incentive. If I can slow down because I know you work hard, that is not fair. Team work is not fair (Barb, operator, Journal 2, 10/5/94).

Given a choice between working in a team-environment or working within the current system, Barb admits openly that all she is interested in is producing bundles. She explains to me that individual piece-work is fair because everybody gets rewarded according to merit and effort. This reasoning is shared by many experienced operators, who by and large constitute the body of workers reluctant to engage in team-work. They reject giving up the control over their work and loosing money in this process. Barb, as most operators, focuses on the free-rider problem when she problematizes team-work. Her biggest concern besides earnings are the compromises she has to negotiate with other operators, and she resents having her own success depend on the commitment and competence of co-workers.

Only a few operators are willing to frame the problematic of a team-approach in the wider context of competitive capitalism, by acknowledging that within a team, the amount of control exercised in a "democratic" and non-authoritarian manner
displaces the cost of enforcing control from management to the team, and ultimately to individual operators. Barb fears that the monitoring of each other within a team, although meant to produce efficient strategies to increase output, will bring tension to the shopfloor. Without a doubt, different work-styles and the fact that operators’ individual pay is linked to collective productivity might cause some friction.

Some operators, like Barb, appear to be completely self-interested. Facing the fundamental injustice of their work-situation, they have hardened themselves to maximize their utility -- and make as much money as possible. Many of these outspoken operators, Kamala, Betty, Fara, Barb, Jana, confirm that they are worn down by the fight with the company for just piece-rates and for the appreciation of their working knowledge, and a recognition of the capacities and competence that they possess both in and outside of the workplace.¹⁴⁰ The constraints of a consolidated gender, "race" and class hurdle become accepted by most operators and they accommodate their expectations and activities accordingly.

But Barb’s position is used by management to construct operators as individualistic, greedy and self-interested and in need of re-education. As one manager states: "there is no solidarity between operators." It serves a managerial discourse on the "immaturity" of operators to perceive operators battling each other over privileged access to well paid work. By

¹⁴⁰ Here I refer to the complaint of operators that they are considered by managers to be uneducated, incapable of expressing themselves and merely dull-witted, malleable labour power (see pages 167, 173 for reference).
constructing workers as competitive individuals, management induces a notion of re-educating "the raw and unrefined, unskilled human essence, namely individual competitiveness, the survival of the fittest", to a more social and communal and empowered human being.

A workshop on communication skills, organized by company management for shopfloor workers and accompanying the physical changes of the production line, was meant to teach operators the importance of communication skills. But workers are well aware that what is really at stake is the appropriation of their working knowledge in the spirit of cooperation as became obvious in these workshops. The goal of these workshops was to introduce the communicative demands of the new production environment. Aimed at selling communicative skills in the guise of individual personal development and growth, these workshops carefully avoided discussion of their instrumental value for the company, and purported to educate operators about how to communicate and share working knowledge.

The "skills" taught in these workshops on team-work emphasized only the communicative aspect of team work, and pointed toward equipping, organizing and motivating operators to work more effectively.141 As is characteristic of the one-

141 Eleven commandments that guide an enthusiastic team, are put on bill-boards in various locations across the shopfloor. The commandments are:

1. Help each other to be right - not wrong
2. Look for new ways to make new ideas work - not for reasons they won’t.
3. If in doubt - check it out. Don’t make negative assumptions about each other.
4. Help each other win and take pride in each other’s
sidedness of managerial initiative, communication and communicative skills were not identified as additional working knowledge, which would have to be recognized and rewarded but presented as a new mode of communicative culture on the shopfloor.

In practice operators have always helped each other, talked to each other about the difficulty in the construction of a particular seam, or given each other support in the case of technical malfunction. In my journal I write:

While I chat with Fara she gets up and takes care of an operator who approaches her for help on hemming done on a new style. Fara interrupts her work, goes to another, unused, machine, threads up the machine and hems the garment. She is quick and effective. Then she goes back to her own machine and continues (Fara, operator, Journal 2, 21/6/94)

For many operators the communicative skills taught in training courses do not pose a new challenge since they already use many of these skills in negotiating the demands of a workday, both inside and outside the factory. Rather, the demands of operators to have their communicative skills recognised and remunerated is juxtaposed against company policy to make communicative skills part of the unpaid prerequisites of the job at hand. This is

---

5. Speak positively about each other and about your organization at each opportunity.
6. Maintain a positive mental attitude, no matter what the circumstances.
7. Act with initiative and courage as it all depends on you.
8. Do everything with enthusiasm - as it is contagious.
9. Share the glory; to get credit - give it away.
10. Don’t lose faith - never give up.
11. Love what you do and have fun.
another instance in which, the working knowledge of operators remains unrecognised and unrewarded but is appropriated into the production process.

In a meeting to discuss changes on the shopfloor amongst garment workers, Kamala, a very knowledgable operator and one of the old time employees, complains that supervisors tend to place the responsibility for new workers on the shoulders of the experienced workers. Betty confirms Kamala's claim and states that she, a long-time employee like Kamala, feels taken advantage off by co-workers and supervisors in their frequent requests for help. She explains that she is obliged to finish her own work but also has to support other workers. How can she meet all expectations? Even worse, supervisors often ask for help themselves and Betty feels that the demands made on her do not correspond with the recognition and pay she receives.

The practice of helping less experienced operators is somewhat contradictory to the logic of a pay-system geared towards rewarding individual effort. With the introduction of a team-work system, the availability of a personal working knowledge for the benefit of all team members becomes the basis for a team-performance. An operator's resistance to this formalized sharing is often expressed in personal attacks on the productive capacity of co-workers. Because younger garment workers are aware of how in the long run working in piece-pay strains the physical and mental health of operators, they argue that they do not want to be teamed up with older operators, who may work precisely and efficiently but who cannot any longer stand up to the pressure of "making minutes". And since the
piece-pay system applies for team-work the same as for individual work, with pay rate assessed on the basis of team-performance, every increase in productivity on the team level will over time, given the company's intent to keep incentive pay within certain parameters, lead to a decrease of individual earnings. The operators' reluctance to hike up productivity by engaging into team-work is based on their awareness of the relationship between high production and a decreasing piece-rate.

In the new team setting, the singular effort of one operator is multiplied by a factor of 10 or 12, as a dozen or so operators cooperate now to maximize their gains (and output). This is thought of by management as a win-win situation for employees and company but does not account for the increasing investment of individual, non-material effort for operators. The flexible shopfloor promises an upgrade in skills and enrichment of work for operators, as well as increasing productivity. And although the productivity of the company has increased over the last couple of years, workers complain that work has been getting harder, money scarcer, and management more unpleasant to deal with. But whatever the gains might be, they certainly have not translated into monetary gains at AquaSuit.

Paralleling the new functional flexibility and teamwork is the increasing deployment of operators in a variety of different tasks and locations on the shopfloor. If one team lacks an operator and is in a jam, other teams, who may have over-capacities, have to supply the labour power. Barb tells me that neither she nor her colleagues have a choice in determining where they work on any particular day, and that being moved around the
shopfloor and getting set into a particular operation impedes the efficiency and the possibility of achieving a bonus. When moved between tasks, Barb estimates that, as an experienced operator with 15 years of sewing for AquaSuit, it still takes her three to four weeks before her learning curve flattens and she begins to approximate the standard but even then she still does not work highly productively. In general women see their speed and earnings reduced as result of frequent job changes accompanying the team-work concept, and expect a loss in pay with a raise in responsibility.\textsuperscript{142}

But workers are not without strategies to protect their space and some of the control they exercise over their job. One such strategy, chosen by operators who fear that impending demands on the multiplicity of their skills and the implementation of team-work may lead to a drop in earnings and self-determination, is to remain nominally unskilled and thus avoid becoming moved around on the shopfloor. Fear of being moved around encourages many operators to pretend to be single-skilled.

This becomes obvious if the length of employment of operators is correlated with the numbers of skilled jobs they perform. Of approximately 200 operators, 74 have worked in the

\textsuperscript{142} Being moved around the shopfloor is an experience none of the operators enjoy, in particular, since it often involves the change to another operation, possibly perceived as less well paid. The seamstress may not be familiar or comfortable having to interact with a new supervisor and new colleagues. In a team based production system, the flexibility within individual teams to respond to the bottlenecks in given tasks should alleviate being "displaced" at the will of a supervisor (operators in general do not want to recognize that it is not a supervisors decision but a function of logistics such as production deadlines that sends them across the shopfloor).
company for longer than five years. The average employment for those operators employed longer than five years amounts to around 17.5 years (with a standard deviation of 7.72) and in spite of this lengthy career, the majority of them are listed as "having one skill attained or in the process of attaining, with a job efficiency of 85% or greater".\textsuperscript{143}

Of those 75 operators, 17 have two or more skills, 17 have two skills and the remaining 35 have one skill.\textsuperscript{144}

Given the length of employment and the exposure to a large number of operations over the years, it is quite obvious that many of the old-timers make sure that their flexibility is not taken advantage off by the company. And it is indeed the old guard of operators that opposes the concept of team-work most vehemently. In part these operators do not want to loose money by having to change machines but also some of these operators may not have allowed time or afforded the financial loss to cross-train in the past. When supervisors complain about operators who do not want to learn new operations, they suspect that behind the resistance to learn new operations is not only concern for economic gain but also the protection of a working knowledge and the exercise of control over it.

\textsuperscript{143} These numbers are taken from a tentative skill category list, established by AquaSuit management in October 1994. See Appendix 1 page 252.

\textsuperscript{144} According to company management a definition of three skills is an expectation of:

$\bullet$ excellent quality work, skill in most difficult operations,
$\bullet$ operates two types of machines with 100% or greater efficiency, and the third machine with 85% or greater efficiency.
$\bullet$ willing to change jobs and learn new skills
In conclusion, operators' hesitation about teamwork is not only economically driven, being held to a team average but also driven by their fear that individual skill and working knowledge will become assimilated by the team thus, move beyond the bounds of personal control. Also they suspect that their loss becomes a gain for the company, as teams now administer control over output, pay and job allocations, and in effect have replaced line management in its supervisory function. Under conditions of similar pay for all, the emotional and organizational effort invested into individual piece-work with a piece-rate compensation is preferable over other forms of work organization. Restructuring calls for the abandonment of individual piece work, only to replace it by a mode of production in which the control over the individual operator is externalized and exercised by team members. In contrast, individual piecework requires the self-supervision of workers, by allowing them to control the quantity and the intensity of work. In teamwork, productivity is upheld and expanded by expecting team-members to exercise additional functions. In this respect, teamwork requires the application of communicative skills and flexibility in respect of operating different machineries. It demands, in addition, an increase in control and awareness of the productivity of each team member.

The redesign in the organization of work, from piece work as a method of pay and also an expression of individual effort, to team work\footnote{For my purposes I contrast individual piece-work with team-} (continued...)

\footnote{145 For my purposes I contrast individual piece-work with team-work}
wage by bonuses and productivity incentives, requires a discussion of the various operations required in the construction of a garment. In this discussion, the complex demands made on individual operators are verbalized because only in the moment of transformation from one method of organization to another does a working knowledge that is taken for granted, by managers and workers alike, become explicit. By the time a new work routine has set in, many of the tasks that require complex working knowledge become integrated and consolidated into the work process, thereby losing visibility, and becoming implicit.

Most operators recognize that the rationale behind restructuring, re-skilling, just-in-time production, flexibility, cross-training, and a team-approach is the rationalisation of the production process to the demands of a more complex and diversified market, and the maintenance of a healthy dividend for the stockholders of the company. So far, operators have been asked to change their attitudes and their approach, to make their working knowledge available for the benefit of the team and the company. But management has not bargained in good faith in its attempts to communicate with operators. Workers are expected to advise on improving production processes and to adjust their own actions accordingly, while management reserves the right to alter organization of the shopfloor and allocation of jobs without informing or consulting operators.

\(^{145}(...)\text{continued}\)

work, although technically piece-rate work refers to a method of pay whereas team work refers to an organization of work. However, piece-rate work necessitates an organization of work that differs much from a shopfloor organized by team-work.
As a result, even those operators who were curious about restructuring and new forms of cooperation, are frustrated now because they do not feel that management’s attempts to communicate were honest. Although workers may find it appealing that their participation in decision-making translates into determining outcomes, such as production strategies and the distribution of tasks, they also recognize that management has no intention of acting on the advice received from operators. When the managerial ideology of democratic participation is rejected operators become even more focused on protecting their only asset, working knowledge, from being controlled by cooperative relations and the collective interest of management. It is in this struggle that the notion of the tacit skills of garment workers, the implicit knowledge based on years of working and living, turns into a contested terrain between employers and employees.

9.1.2 Resistance: Game or Necessity?

Some of the determinants in recognizing working knowledge, such as gendered and racialized constructions of skill, are all but beyond the control of operators. Certainly, the failure of bargaining teams to push for differential skill categories and the desire on the part of the company to employ multi-skilled but disposable and cheap workers does not serve to accentuate the skill and working knowledge of this labour-force. But beyond those constructions of skill that function to obliterate rather than acknowledge working knowledge, there is room for a small degree of autonomous control exercised by individual operators.
over their work. What this space looks like, why it is important, and importantly, how it is upheld by operators is described in this section.

Management at AquaSuit has made attempts to encroach on this space by operators by devising a variety of regulations. First, they banned the holding back of tickets (representing the pay for a bundle of sewn garment) in order to discourage operators' ability to substitute a slow shift with pay banked from an earlier more productive shift.\textsuperscript{146} Next they devised team-work schemes and for the first time in the history of the company attempted to chart the depth of skill of employees in order to assemble teams in which experienced operators would have to teach (and share piece-rate pay) with inexperienced operators. Employees responded by refusing to select team-leaders and to become involved in the official and regulated communication-processes devised to construct particular garment styles more efficiently. These actions indicate that operators knew well how a team-based production process would curtail their potential to make minutes and the decision when to make minutes.

In his study of the production of workers consent to participate in exploitative production strategies Burawoy (1979) observes that making out in piece-work ("making minutes" in the context of my study) was not an economically motivated strategy but served as a means to defeat factors related to the labour

\textsuperscript{146} Note how this announcement (Appendix 3, page 261) refers to the holding back of tickets as unearned time, insinuating that banked work is no work at all, and that operators cheat. A small but important point that further clarifies how work is constructed and recognized as valued only if it is of value for the employer.
process -- reduction of fatigue, passing time, relieving boredom. Making out is seen as a rite of passage, a game that is played to undermine the rules and regulations of a production process that is designed around management's interest in generating profits. In essence, "workers find themselves in a prisoner's dilemma: what is in the interest of the individual worker -- the maximization of output -operates to undermine the workers' collective interest- higher piece work prices" (Burawoy 1979:86). And as Blau (1963:81) observed: "the game itself produces conditions that make the game more difficult to play."

My own observations at AquaSuit support Burawoy's (and Roy's 1952) contention that in a piece-work setting, making minutes is not based on economic incentive alone. But in the case of garment workers at AquaSuit, an economic incentive to maximize one's gain cannot be as easily dismissed as in the case of the blue-collar workers Burawoy describes who earn a family wage in an unionized setting of a machine shop. Where Burawoy suggests that playing a game emerges out of the organization of work once the basic survival, guaranteed by an acceptable wage, is assured (1979:85) I suggest that garment workers play a game, and that this game is organized at times around the restriction of output. But the purpose of this game in the end is the maintenance of control over the work process, earnings, employment and economic security.

Contrary to Burawoy (1979:85), I find that workers interests and opportunities are determined and brought to the shopfloor from socialization experiences outside of work, and not merely defined by relations to the game of making out. If socially
valued resources are available to workers outside the plant, they improve conditions of employment on the inside. A Canadian College diploma, or the relationship to a floor manager, may well help to land a job in the front office of AquaSuit.

Operators are locked into their jobs because the macro-determinants, that is, their often fragile economic situation and the limited avenues of employment open to exploration, the gender-roles engrained in family relations that perceive women's work as secondary and their wage as supplementary, and the bias that renders their knowledge as natural or non-skilled, spill over into the micro-sphere of the shopfloor. Their contest for degrees of autonomy on the shopfloor is a game played where the stakes are not to reduce fatigue, to pass time, to relieve boredom but the stake is to hold on to a job -- without burning out, to work "overqualified" in an underpaid job -- without slipping into the notorious and low-status unregulated labour market of sub-contracting and homework.

The often ambiguous opposition of garment workers to managerial schemes of innovation sets the stage for a multitude of strategies of resistance exercised by operators. Importantly, resources, such as knowledge of the labour/production process, and particular conditions of the organization but also the "multiple, shifting, sometimes fragmentary often inconsistent and frequently contradictory subjectivities of operators" (Collinson 1994:29) shape the form and character of their resistance. Barb rejects any involvement in shopfloor politics but Kamala seeks election for an union office. Tak and Ko challenge their supervisor for an apology, Josepha leaves the company. All
respond to the injustice they perceive: their competence is appropriated while simultaneously they are of low-value and disposable.

But all operators have to balance consent and resistance. Their resistance is organized around their ability to work independently and unsupervised with the purpose to maintain employment and economic security. The means by which operators restrict their output, and allow themselves some leeway and discretion in producing their wage are centred on control over the (tacit) working knowledge they command. A recognition of this realm of autonomy is implicit in all the managerial bids for a restructuring of the production process. Operators cooperate and consent to their own exploitation by upholding an individual piece-work system at the same time that they resist the integration into a team concept. Their resistance to team-work is mediated by their weak structural position and lack of power to assert themselves in the labour market as skilled and knowledgable workers. But their lack of power is simultaneously a source of resistance. Being considered "unskilled" allows for the completion of tasks that skilled workers will not get a chance to perform and also aids in retaining a job in the garment industry. For, if the workforce would be considered skilled and knowledgable, the wages for garment workers were to be raised and company management, unhappy with the profits made, might consider the relocation of the production facilities in a country with a low-wage economy.

My findings support the claim that power and domination, and resistance to it, are best understood in their contradictory
practises in specific sites under specific social and historical circumstances. Resistance, as we saw, is embedded in, and part of the relations of power between agents. The tension garment workers experience between their own perception as being exploited, their newly constructed "co-operative" identity as responsible agents in the labour process, and their determination as low-skilled workers points to the contextuality of knowledge and discourses that are routinely deployed in attempts to shape the conduct of others. A non-explicit working knowledge controlled by workers allows garment workers to resist team-work practises and further appropriation of their working knowledge. Garment workers use their working knowledge to defend against the appropriation of their competence by management. If the opportunity to use their working knowledge is taken away from them, as in the projected team-work environment, their means to resist and the reason why they resist are lost.
CHAPTER X  Concluding Thoughts

On December 15th, 1995 I attended the annual Christmas party organized by the ILGWU, Local 287, for all its members. I was happy to see many familiar faces of garment workers I had spent time with talking while doing my research at AquaSuit in 1994. Approaching Jana with a big smile and asking her how she was doing she looked at me incredulously and asked: "haven't you heard, we all have lost our jobs. AquaSuit is closing down. We will be laid off by April 1996." Immediately I thought of all the garment workers, roughly 300 by now, who will loose their jobs and not likely find new unionized work as operators in the Lower Mainland. AquaSuit was the biggest employer, paid the best and had the reputation of being fair to its workers. Filled in on the details, it became clear that the U.S. parent corporation, had terminated 15 of its subsidiaries on this date, while continuing to concentrate production in its sun-belt facilities, and sub-contracting substantive capacities to off-shore companies.¹⁴⁷

In hindsight, all attempts to restructure the production process were a vain attempt to satisfy corporate greed since it was obvious to all workers that production in low-wage countries turned a higher profit for the corporation than Canadian operations could ever have achieved. AquaSuit Canada was not losing money but had managed to remain competitive and somewhat profitable. Above all, it had kept people employed.

The union has negotiated a severance package of 16 weeks pay

¹⁴⁷ Right to work legislation in sun-belt states provides a cheaper and more exploitable workforce, bare of the protection of workers' rights through unions.
for all its AquaSuit employees with an additional bonus of $300 for each year of employment. But given that AquaSuit occupies a prime piece of real estate in Metro Vancouver, the expense of the severance package for all employees (including management) will be more than offset by the sale of the assets that AquaSuit Canada holds.

Some of the workers at AquaSuit will seek early retirement, some of them will find employment in smaller companies but many will find themselves with no other choice but to engage in homework, sewing for contractors. Long hours, a lack of employment benefits and less than minimum pay characterize local industrial homework. Here working knowledge of operators once more becomes individualized and devalued.

In this thesis I have proposed that the construction of skilled work encompasses also the construction of a "tacit" working knowledge. I further argued that the construction of knowledge as tacit is the result of gendered and racialized stratification processes in which categories such as "unskilled" labour are constructed and attributed to particular workers. In the first part of this thesis I reviewed literature on the labour process debate, labour markets and in particular the debate on skills for evidence that skill was widely accepted as unproblematic and indeed measurable. This finding I juxtaposed with a feminist literature that has been critical of unexamined biases in practices of skill measurement, categorization and conceptualization. In this literature methods of evaluating skill have been shown to represent the ideological and political interests of a dominant class, a dominant sex and a dominant
"race".

The outcome of my literature review in the first part of my thesis wielded the insight that skill is a concept that is defined through contradiction. Its construction is a reflection of the contradictions that constitute the labour process. But, since tasks do get performed and workers do have varying levels of competence, a tacit or explicit working knowledge exists and might be recognized, if only within the limitations of the observer.

In the second part of the thesis I examine the skill and working knowledge of garment workers on the shopfloor of AquaSuit, a Vancouver garment manufacturer. In particular, I look at the piece-rate pay-system, the team-work initiative, and the actions and interactions of garment workers among each other and with management. I explore those elements that, I argue, serve to construct categories such as high-skill and low-skill: gendered and racialized assumptions about competence and the perpetuation of privilege. With the proviso laid out in the chapter on methodological reflections that my observations on the construction of skill are just as selective and partial as those of any other observer (although I would like to think otherwise), one of my findings is that garment construction is a task that requires a lengthy training, and considerable mental and manual capacities and could certainly not be learned within days or weeks. Furthermore, I find that all parties involved are aware of the fact that operators performed difficult work.

Some theoretical evidence has pointed to "unskilled" work as a category that is functional to an advanced capitalist economy.
But "unskilled" work is not only a function of the capitalist demand for cheap labour, it also is the outcome of social and cultural preferences and inequities that match people with jobs. Garment workers endure racism, sexism and blocked mobility, both inside and outside the factory, not only in overt form but as a systemic impediment.

The management of AquaSuit can capitalize on the constraints under which women need to find employment. A stratification of workers along racial lines within the company is also a profitable consequence of the external constraints under which women of "colour" seek employment. Once they are employed as operators they find it difficult to move into a different track of employment. The company rewards them as unskilled and declines to acknowledge that the working knowledge of operators surpasses what the company remunerates as skill. The reluctance of operators to engage in team-work is a refusal to make more of operators' tacit skills available to the company without adequate compensation.

For garment workers, the basis for a relative autonomy and control over the performance of tasks, is embedded in their non-explicit working knowledge about the production process and garment construction. Managerial attempts to harness this tacit knowledge materialize in the introduction of new production technology and new production strategies that include the transition from individual piecework to a team-based effort. In the end, the introduction of labour saving devices such as computerized equipment, or labour management devices such as team-work, are not only an attempt to further streamline the
operations on the shopfloor but also an attempt to access an operator’s knowledge base for the purpose of controlling the knowledgable activity of garment workers on the shopfloor.

It is not a coincidence that the resistance of operators to work in a team-environment, their demand for a differential pay-scale and their demand for a transparent internal labour market, coincides with the decision of AquaSuit headquarters to close down Canadian operations and move garment production South to one of the Free Trade Zones in Central America. In fact, this move confirms that the existing balance between, on one hand, resistance of operators to company policies, and, on the other, operators' consent to work as "unskilled labour" is off-set by the new mobility of capital to take advantage of a global labour market. The highly labour intensive garment production of AquaSuit takes advantage of the expertise of "unskilled" seamstresses in a "new" labour market in a Free Trade Zone. Flexible production, praised as the accomplishment of a post-industrial economy, not only constructs the flexible worker (as discussed in Chapter Two of this thesis) it also allows the flexible investment of capital in low wage economies, thus effectively taking advantage of a female workforce that can be constructed as even more "unskilled" than its Canadian counterpart. In a global perspective, garment workers in low-wage economies are exploited as "unskilled" labour at precisely the same time as the label "unskilled" is challenged in the local garment industry.

The knowledge of Canadian operators to control the production at AquaSuit led to the loss of their employment to
lesser "skilled" Mexican or Guatemalan workers. It is partly for this reason that AquaSuit operators, aware of this potential for a long time, had attempted to remain employed without drawing attention to their status as knowledgable workers. In fact, being considered a "skilled worker," a privilege and positive attribution associated with most "male" jobs, turned out to be a disadvantage for those female operators at AquaSuit who command a complex working knowledge.

We can conclude from the empirical data that the concept of skill needs some critical rethinking for its utility to reflect the working knowledge of those considered "skilled" or "unskilled". My research shows that the processes of recognition that reify conceptions of skill at AquaSuit are permeated by racialized, gendered and class based properties. It follows that this contextual quality of skill makes it difficult to use the concept of skill without qualification. In fact, one of the questions arising from my research is whether there is any utility in applying the concept of skill?

The findings of my thesis, highlighted, are:

- the label "unskilled" does not deter workers from acting knowledgable and competent;
- there is a demand for a knowledgable and flexible workforce; meanwhile the workforce remains labelled as "unskilled" by management;
- racialized notions of skill reinforce gendered notions of skill;
- the union has no resources to oppose managerial strategies of change toward "unskilled" flexibility;
- under conditions of similar pay for all, the emotional and organizational effort invested into individual piece-work with a piece-rate compensation is preferable over other forms of work organization;
the piece-rate pay system as applied at AquaSuit does not recognize or reward working knowledge, rather it penalizes "skilled" workers;

high seniority is not a predictor for high pay (however, among workers, years of seniority are equated with a large working knowledge).

It follows that since i) seniority is not a good predictor for pay and ii) pay is not a good predictor for working knowledge

• seniority is not a good predictor for skill (50% of operators employed longer than five years know only one operation according to a managerial survey);

therefore

• autonomy on the job and control over the task becomes the only expression of working knowledge (with pay differentials, seniority clauses and job-stratification absent from the collective agreement).

Since under proposed team-work practice this working knowledge is to be made accessible to co-workers and company it follows that

• workers resist engagement into team work practises;

and that

• workers' resistance to changes on the shopfloor are an attempt to retain a small amount of control over the work process and hang on to essential, albeit low-waged, employment.

However, with this strategy

• workers also cooperate in their exploitation (by supporting an individual piece rate system) as a means to retain control over some aspects of their work.

Finally,

• operators recognize that being recognized as "skilled" by management is not desirable:
  o because fighting the gender, "race", class hurdle is draining resources needed otherwise;
  o because being "skilled" on the shopfloor means being further exploited;
  o because being recognized as unskilled, and as cheap labour, increases the chances to make money (as a competent operator in easy, well paying operations) and remain employed (as flexible but "unskilled" worker).

My thesis touches on several topics that might be worthwhile to
follow up. In this sense the limitations of my research are a promise for further research. Themes to be followed up should include: i) an analysis of how racialized gender hierarchies shape cooperation among operators on the shopfloor; ii) researching team work for its utility in garment manufacturing; iii) exploring the link between the local experience of garment workers, and the economic, gendered and racialized strategies that allow garment manufacturing to dip into even more vulnerable labour markets. The ability of AquaSuit to terminate profitable production in Vancouver, Canada and set up new facilities in a more profitable environment in Central America is testimony to the globalization of garment manufacturing facilitated by policies like the North American Free Trade Agreement. Follow up research on constructions of skill in the new plants of AquaSuit may well substantiate the findings of my research in Vancouver, Canada.

Another strand of research might explore how workers who loose manufacturing jobs transfer their skills and knowledge in new occupations. For many garment workers industrial homework may be the fastest avenue back in the labour market, and research should explore the circumstances under which they could escape that fate.

At the beginning of this thesis I stated that I "do not set out to construct a sociological theory of racial, class and gender inequality in the workplace" (page 4), and in hindsight I recognize the boldness of this statement. Not that I disagree now: rather I am more humble as I fully recognize the complexities that an analysis of racial and gender discrimination
One of the findings of my research into the social construction of skill is the importance of "racialized skills" on a shopfloor where class differences are broken down, with women from all class backgrounds working in the same position, and gender divisions weakened, with women constituting 100% of operators and the vast majority of floor and middle-management. The real difficulty is separating the impact of one or the other discriminatory practice for constructing garment workers as "unskilled", and this has practical consequences for my thesis. I cannot provide essential categories that allow us to capture skill and understand working knowledge. However this is not so much a shortcoming as an important reflection on the subject matter: the notion of skill, understood as a product of mental and physical human effort, is a dependent variable in a social and economic system that itself is based on conflict and contradictions.

My research provides an unique insight into the shopfloor routine of a garment factory because it took place under conditions of re-organization of the shopfloor. The work-routine, challenged by management and defended by operators was the subject of negotiations on the shopfloor. Not only did operators develop their own discourse in this process but management was forced to establish criteria by which to compose new work teams. The contested and contradictory constructions of skill became obvious in this window of opportunity and were challenged by workers who saw themselves as having to give up some of their tacit knowledge in order to comply with managerial notions of
skill, empowerment and competence as members of prospective work-teams.

The resistance of operators to the harnessing of their skill leading to the brink of a strike, is a good indicator of the agency and resourcefulness of workers in spite of gendered and racialized association constructing them as docile, malleable, nimble and weak. One of their resources is the application of non-rewarded and implied knowledge to control the production process. The use of this resource by operators and the attempts of management to appropriate the resource points toward a problematic trend in the labour process: in spite of an expressed commitment to ameliorate the position of waged workers, the restructuring initiative offers more stress and less control for garment workers. The social construction of garment workers as "unskilled" is but one instance in which inequality in its many guises is reproduced in the micro-setting of the shopfloor.
Acker, Joan

Acker, Joan
1990 Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations. Gender and Society. 4:139-158

Acker, Joan

Adler, Paul

Agar, Michael

Aglietta, Michel

Amott, Teresa and Julie Matthaei

Appelbaum, Richard and Gary Gereffi

Arai, Bruce

Argyris, Chris
Armstrong, Pat and Hugh Armstrong  
1984  *The Double Ghetto: Canadian Women and their Segregated Work*. Toronto: McClelland and Stewart

Armstrong, Pat and Hugh Armstrong  
1990  *Theorizing Women's Work*. Toronto: Garamond Press

Armstrong, Peter  

Armstrong, Peter  

Atkinson, John  
1985  *Flexibility: Planning for an Uncertain Future*.  
*Manpower, Policy and Practice*, 1:26-29

Atkinson, John and Denis Gregory  
*Marxism Today* 30(4):12-17

Attewell, Paul  
1987  *The deskilling controversy*.  

Babbage, Charles  

Bassett, Raewyn, Sue Cox and Ulrich Rauch  
1995  *The Emperor's New Clothes: Is There More to NUD.IST Than Meets the Eye?*  
*Society/Société* 19(2):18-23

Becker, Gary S.  

Beechey, Veronica  

232
Bell, Daniel

Bell, Daniel

Belussi, Fiorenza

Berger, Peter and Thomas Luckmann

Berger, Peter L.

Berger, Suzanne and Michael Piore
1980  Dualism and Discontinuity in Industrial Societies. Cambridge: Cambridge University Press

Berggren, Christian

Bernstein, Basil
1975  Class, Codes and Control: Theoretical Studies towards a Sociology of Language. New York: Schocken Books

Blalock, Hubert

Blau, Peter
1963  The Dynamics of Bureaucracy. Chicago: University of Chicago Press
Blauner, Robert

Bowman, Sarah

Boyd, Monica

Boyd, Monica, Mary Ann Mulvihill and John Myles

Braverman, Harry

Briskin, Linda and Patricia McDermott

Bruegel, Irene
1989 Sex and Race in the Labour Market. Feminist Review 32:47-68

Buck-Morss, Susan

Burawoy, Michael

Burawoy, M.
Burawoy, Michael et al. 

Chodorow, Nancy 

Chodorow, Nancy 

Cicourel, Aaron 

Cockburn, Cynthia 

Cockburn, Cynthia 

Collard, Ron 

Collins, Patricia H. 

Coyle, Angela 

Creese, Gillian 
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Year</th>
<th>Title and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creese, Gillian</td>
<td>1995</td>
<td>Gender Equity or Masculine Privilege? Union Strategies and Economic Restructuring in a White Collar Union. Canadian Journal of Sociology 20(2)</td>
</tr>
</tbody>
</table>

236
Endo, K.

England, P. and Dunn, D.

Feyerabend, Paul

Folbre, Nancy

Form, William

Form, William & David Byron McMillen

Form, William

Fucini, Joseph and Fucini, Suzy

Gannage, Charlene

Gannage, Charlene
<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Title</th>
<th>Publisher/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilligan, Carol</td>
<td>1982</td>
<td>In a Different Voice: Psychological Theory and Women's Development. Cambridge: Harvard University Press</td>
<td></td>
</tr>
</tbody>
</table>
Hall, Stuart

Hamilton, Gillian

Harding, Sandra

Harper, Douglas

Hartmann, Heidi

Hartsock, Nancy

Henry, Frances and Effie Ginzberg

Henry, Frances and Effie Ginzberg
1985  No Discrimination Here? Toronto Employers and the Multiracial Workforce. Toronto: The Urban Alliance on Race Relations and the Social Planning Council of Metropolitan Toronto

Herzog, Marianne
1980  From Hand to Mouth. Women and Piecework. Penguin: Markham
Hiebert, Daniel

Hochschild, Arlie R.

Hoffman Kurt and Howard Rush

Hohn, Walter

Horrell, Sara, Jill Rubery and Brendan Burchell

Huberman, A. Michael and & Matthew B. Miles.

Hunter, Alfred

Jenson, Jane

Jenson, Jane
1991 All the World's a Stage: Ideas, Spaces and Times in Canadian Political Economy. Studies in Political Economy 36:43-72

240
Johnson, Laura C. and Robert Johnson
1982 The Seam Allowance. Toronto: Women's Press

Kant, Immanuel

Kanter, Rosabeth and Marcia Millman
1975 Another Voice: Feminist Perspectives on Social Life and Social Science. Garden City, N.Y.: Anchor Press Doubleday

Kanter, Rosabeth

Kelly, J.

Kirby, Sandra and Kate McKenna
1989 Experience, Research, Social Change: Methods From the Margins. Toronto Garamond Press

Koestler, Arthur

Krause, Kurt

Kristeva, Julia

Kuhn, Thomas
Kumar, Pradeep

Kusterer, Ken C.

Labour Canada
1991 Canadian Attitudes Toward Women: Thirty Years of Change. Prepared by Monica Boyd for the Women's Bureau, Ministry of Labour: Ottawa

Lamphere, Louise

Lamphere, Louise

Langton, Nancy & Jeffrey Pfeffer
1994 Paying the Professor: Sources of Salary Variation in Academic Labour Markets. American Sociological Review. 59(2):236-256

Laslett, John and Tyler, Mary

Leah, Ronnie

Leborgne, D. and Lipietz Alain

Leplat, Jacques
Lever-Tracy, Constance
1984 The Paradigm Crisis of Dualism: Decay or Regeneration? 
Politics and Society 13(1):59-89

Li, Peter
1992 Race and Gender as Bases of Class Fractions and their 
Effects on Earnings. The Canadian Review of Sociology 
and Anthropology 29(4):488-510

Littler, Craig
1982 The Development of the Labour Process in Capitalist 
Societies: A Comparative Analysis of Work Organization 
in Britain the USA and Japan. London: Heinemann

Manwaring, Tony and Stephen Wood

Manwaring, Tony and Stephen Wood
Knights, H. Williams and D. Collinson (eds.) Job 
Redesign: Organization and Control of the Labour 
Process. Aldershot: Gower

Marchington, Mick
Pp. 149-184 in R. Sturdy, D. Knights and H. Willmott 
(eds.) Skill and Consent. London: Routledge

Marglin, Stephen, A.
1982 What do the Bosses do? The Origins and Functions of 
Giddens and D. Held (eds.) Classes, Power, and 

Marx, Karl

Matthaei, Julie
1982 An Economic History of Women in America: Women's Work, 
the Sexual Division of Labour, and the Development of 
Capitalism. Brighton: Harvester

Mayo, Elton
1933 The Human Problems of an Industrial Civilization. 
Cambridge: MacMillan

243
<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Year</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ng, Roxanna</td>
<td>The Politics of Community Services: Women, Class and the State</td>
<td>1988</td>
<td>Toronto: Garamond Press</td>
</tr>
<tr>
<td>O'Donnell, Carol</td>
<td>The Basis of the Bargain: Gender, Schooling and Jobs.</td>
<td>1984</td>
<td>Sidney: Allen &amp; Unwin</td>
</tr>
<tr>
<td>Ocran, Amanda</td>
<td>Homeworkers' Guide.</td>
<td>1995</td>
<td>Industrial Homework Project. Vancouver: Worlds Communication</td>
</tr>
</tbody>
</table>

244
Penn, Roger, Ann Gasteen, Hilda Scattergood and John Sewel  

Phillips, Anne and Barbara Taylor  

Phizacklea, Annie  

Phizacklea, Annie  

Phizacklea Annie and Carol Wolkowitz  

Piaget, Jean  

Piore, Michael J. and Charles F. Sabel  

Polachek, S.  

Polanyi, Michael  

Polanyi, Michael  

Popper, Karl R.  
1979 *Objective Knowledge: An Evolutionary Approach*. Oxford: Clarendon
Quaid, Mauve
1993  Job Evaluation. Toronto: University of Toronto Press

Reskin, Barbara

Richards, Thomas J. and Lyn Richards

Rinehart, James, W.

Robertson, D., J. Rinehart and C. Huxley

Roethlisberger, Fritz and William J. Dickinson
1939  Management and the Worker. Cambridge: Harvard University Press

Rosen, Ellen
1993  More Pain, More Gain. Dollars & Sense 189:19-21

Rosen, Ellen

Roy, Donald

Rubery, Jill

Sandberg, Ake
Schatzman, Leonard and Anselm Strauss

Smith, Adam

Smith, Dorothy
1987 The Everyday World as Problematic: A Feminist Sociology. Boston: Northeastern University Press,

Smith, Dorothy

Smith, Vicki

Smith, Vicki

Smith, Vicki
1994(b) Braverman’s Legacy. Work and Occupations 21(4):403-421

Spencer, Kenneth I.

Spencer, Kenneth I.

Steinberg, Ronnie

247
Steinberg, Ronnie  

Stoddart, Ken  

Strauss, Anselm L.  
1987  Qualitative Analysis for Social Scientists. Cambridge University Press

Sturdy Andrew, Knights D., Willmott H.,  

Taylor, Frederick W.  

Thompson, Paul  

Tomaskovic-Devey, Donald  
1993  Gender and Racial Inequality at Work: The Sources and Consequences of Employment Segregation. Ithaca: ILR

United States Department of Labour  

United States Department of Labour  
Vallas, Steven P.
1990 The Concept of Skill. Work and Occupations 17(4):379-398

Wajcman, Judy

Wajcman, Judy

Walby, Sylvia

Walby, Sylvia

Warskett, Rosemary

Weiler, Sue

Weiner, Elizabeth and Green, Hardy

White, Julie
1993(a) Sisters and Solidarity. Toronto: Thompson

White, Julie
Wittgenstein, Ludwig

Wokutch, Richard

Womack, James P., David T. Jones and Daniel Roos
1990 The Machine that Changed the World New York: MacMillan

Wood, Stephen

Wood, Stephen

Wood, Stephen

Wood, Stephen

Wood, Stephen

Wood, Stephen

Yalnizyan, Armine

Zuboff, S.
PRIMARY SOURCES

Field Journal 1  February 1994 - April 1994
Field Journal 2  May 1994 - September 1994

International Garment Workers Union (ILGWU)
1990  The Complete Agreement between Local 287 of the ILGWU and AquaSuit, Canada Inc. Vancouver

AquaSuit, Canada
1994  The Way We Seam. Vancouver: Company Newsletter
      June 1994; October 1994

Vancouver Sun
AquaSuit Canada Inc.

Tentative Skill Categories List

The skills of operators slotted in this list were done in a very limited time frame between the Production Supervisors and the Engineer. Years of Service used throughout the list were counted from the employee start date to October, 31, 1994.
1. Five or more years of service, 3 skills

The skills of the operators in this list are based on their past performance and their ability in operating different types of machines. It is a tentative list done in a very limited time between the Production Supervisors and Engineer. In order to assess skills more accurately, individual operators will meet with Supervisor, Teamleader (or representative) and Engineer to determine their skill level. Tests for skill qualification will be conducted, if necessary, to determine the skills of an operator.

Definition of 3 skills: Expectation of
- Excellent quality work.
- Skill in most difficult operations, operates two types of machines with 100% or greater efficiency, and the third machine with 85% or greater efficiency.
- Willing to change jobs and learn new skills.

<table>
<thead>
<tr>
<th>DEPT.</th>
<th>NO.</th>
<th>YR</th>
<th>MO</th>
<th>DY</th>
<th>START DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>130</td>
<td>73</td>
<td>8</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>112</td>
<td>75</td>
<td>6</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>390</td>
<td>79</td>
<td>12</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>356</td>
<td>61</td>
<td>7</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>131</td>
<td>84</td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>245</td>
<td>63</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>240</td>
<td>88</td>
<td>10</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>209</td>
<td>69</td>
<td>8</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>392</td>
<td>74</td>
<td>12</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>211</td>
<td>75</td>
<td>8</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>232</td>
<td>80</td>
<td>10</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>223</td>
<td>84</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>405</td>
<td>70</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>455</td>
<td>73</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>406</td>
<td>74</td>
<td>8</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>410</td>
<td>75</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>420</td>
<td>75</td>
<td>7</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>
2. Five or more years of service, 2 skills

The skills of the operators in this list are based on their past performance and their ability in operating different types of machines. It is a tentative list done in a very limited time between the Production Supervisors and Engineer. In order to assess skills more accurately, individual operators will meet with Supervisor, Teamleader (or representative) and Engineer to determine their skill level. Tests for skill qualification will be conducted, if necessary, to determine the skills of an operator.

Definition of 2 skills: Expectation of
- Excellent quality work
- Operates one machine with 100% or greater efficiency and the second machine with 85% or greater efficiency.
- Willing to change jobs and learn new skills.

<table>
<thead>
<tr>
<th>DEPT.</th>
<th>NO.</th>
<th>NAME</th>
<th>START DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>147</td>
<td></td>
<td>76 7 5</td>
</tr>
<tr>
<td>5</td>
<td>162</td>
<td></td>
<td>77 1 17</td>
</tr>
<tr>
<td>5</td>
<td>108</td>
<td></td>
<td>76 8 16</td>
</tr>
<tr>
<td>5</td>
<td>352</td>
<td></td>
<td>79 6 10</td>
</tr>
<tr>
<td>5</td>
<td>366</td>
<td></td>
<td>88 10 11</td>
</tr>
<tr>
<td>6</td>
<td>137</td>
<td></td>
<td>76 3 31</td>
</tr>
<tr>
<td>6</td>
<td>230</td>
<td></td>
<td>88 1 19</td>
</tr>
<tr>
<td>7</td>
<td>244</td>
<td></td>
<td>84 3 6</td>
</tr>
<tr>
<td>7</td>
<td>155</td>
<td></td>
<td>84 10 3</td>
</tr>
<tr>
<td>7</td>
<td>225</td>
<td></td>
<td>88 9 16</td>
</tr>
<tr>
<td>7</td>
<td>236</td>
<td></td>
<td>88 1 21</td>
</tr>
<tr>
<td>7</td>
<td>231</td>
<td></td>
<td>88 9 28</td>
</tr>
<tr>
<td>7</td>
<td>222</td>
<td></td>
<td>88 10 17</td>
</tr>
<tr>
<td>7</td>
<td>369</td>
<td></td>
<td>89 2 13</td>
</tr>
<tr>
<td>7</td>
<td>361</td>
<td></td>
<td>88 9 17</td>
</tr>
<tr>
<td>11</td>
<td>436</td>
<td></td>
<td>59 1 6</td>
</tr>
<tr>
<td>11</td>
<td>441</td>
<td></td>
<td>76 4 20</td>
</tr>
</tbody>
</table>
The skills of the operators in this list are based on their past performance and their ability to operate different types of machines. It is a tentative list done in a very limited time between the Production Supervisors and Engineer. In order to assess skills more accurately, individual operators will meet with Supervisor, Teamleader (or representative) and Engineer to determine their skill level. Tests for skill qualification will be conducted, if necessary, to determine the skills of an operator.

Definition of 1 skill:
- Expectation of Excellent quality work.
- Operates one machine with 85% or greater efficiency.
- Willing to change jobs and learn new skills.

<table>
<thead>
<tr>
<th>DEPT</th>
<th>NO.</th>
<th>NAME</th>
<th>YR</th>
<th>MO</th>
<th>DY</th>
<th>START DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>105</td>
<td></td>
<td>84</td>
<td>12</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>372</td>
<td></td>
<td>67</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>150</td>
<td></td>
<td>87</td>
<td>5</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>105</td>
<td></td>
<td>68</td>
<td>6</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>384</td>
<td></td>
<td>70</td>
<td>9</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>358</td>
<td></td>
<td>71</td>
<td>1</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>374</td>
<td></td>
<td>71</td>
<td>6</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>104</td>
<td></td>
<td>72</td>
<td>1</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>167</td>
<td></td>
<td>72</td>
<td>11</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>136</td>
<td></td>
<td>73</td>
<td>2</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>350</td>
<td></td>
<td>74</td>
<td>4</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>101</td>
<td></td>
<td>74</td>
<td>11</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>371</td>
<td></td>
<td>75</td>
<td>2</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>132</td>
<td></td>
<td>76</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>157</td>
<td></td>
<td>76</td>
<td>5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>390</td>
<td></td>
<td>76</td>
<td>8</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>340</td>
<td></td>
<td>77</td>
<td>8</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>207</td>
<td></td>
<td>52</td>
<td>10</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>347</td>
<td></td>
<td>81</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>250</td>
<td></td>
<td>87</td>
<td>8</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>224</td>
<td></td>
<td>88</td>
<td>2</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>210</td>
<td></td>
<td>89</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>373</td>
<td></td>
<td>64</td>
<td>2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>210</td>
<td></td>
<td>71</td>
<td>11</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>234</td>
<td></td>
<td>75</td>
<td>7</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>235</td>
<td></td>
<td>75</td>
<td>9</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>220</td>
<td></td>
<td>77</td>
<td>7</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>133</td>
<td></td>
<td>79</td>
<td>5</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>353</td>
<td></td>
<td>81</td>
<td>1</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>208</td>
<td></td>
<td>81</td>
<td>8</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>205</td>
<td></td>
<td>84</td>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>212</td>
<td></td>
<td>88</td>
<td>2</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>215</td>
<td></td>
<td>88</td>
<td>8</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>227</td>
<td></td>
<td>88</td>
<td>10</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>440</td>
<td></td>
<td>64</td>
<td>1</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>435</td>
<td></td>
<td>73</td>
<td>11</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>450</td>
<td></td>
<td>81</td>
<td>1</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>447</td>
<td></td>
<td>84</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>418</td>
<td></td>
<td>80</td>
<td>1</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
SUMMARY:

The operators listed in this report are all piece work sewing and final operators:

1. Five or more years of service and 3 skills, estimated 17 operators.
2. Two or more years of service with 2 skills and two to five years of service with 3 skills, estimated 40 operators.
3. One or more years of service with 1 skill attained or to be attained, and one to two years of service with two and three skills, estimated 92 operators.
4. Operators with less than one year of service, estimated 29 operators.
5. Total number of operators estimated = 178.

Operators not included in the report are:

1. Time workers - estimated 30 operators.
2. Sweater and Fabric cutter - estimated 5 operators.
AquaSuit Canada Inc.
Team Sewing

1. A Team Leader will be elected (picked) by each team (Sew Line)

2. Some of the qualifications necessary for Team Leaders are machine skills, communication skills, garment structure knowledge and quality identification.

3. The responsibilities of a Team Leader will be implemented in four (4) phases:
   - Phase one January/95 - September/95 see p.1
   - Phase two - to follow

4. The Team Leader should be selected by January 9 1995

**PHASE 1:**

**RESPONSIBILITIES OF TEAM LEADER**

**ASSIST TO:**

1. Write hourly work completion on visual control board.
2. Get reference garment from engineering.
3. Get specification sheet(s) - make suggestions for improvement.
4. Attendance check.

**TRAIN/LEARN**

1. Recognize poor/good quality and determine best method to make repairs.
6. Team meetings on improvements - make suggestions for improvement.
7. Set goals, i.e. for team efficiency.
8. Observe and report safety hazards.
GROUP RESPONSIBILITIES

1. Check own work for quality - Check others' work for quality
2. Clean work area
5. Safety in work place and reporting.
6. Individual goals
7. Read/Understand specifications for own sewing operations
8. Request help.
**PHASE 2:**

**ASSIST TO:**

1. Assist to balance work flow in production line.
2. Assist to plan style changeovers.
3. Calculate group pay.
4. Involved, and assists to determine team operator requirements.

**TRAIN/LEARN**

5. Learn & know who to contact for specific problems - Mechanic Supervisor - Engineers - Operators.
6. Help/Assist in training/cross-training of team operators and determine best method(s).

**PHASE 3 - 4:**

**ASSIST TO:**

1. Organize work flow - balance line - Monitor work output - Decide who does what.
2. Move own work
3. Get next production order organized for team
4. Get sundries
5. Move own machines for layout changes - Determine machinery requirements.
6. Recuts

**TRAIN/LEARN**

7. Read/understand specification sheets.
8. Learn basic machine adjustments.
December 30, 1994

AquaSuit Canada Inc.
Team Sewing

Objective - To develop small self-managed sewing work teams to manufacture high quality swimwear at moderate cost. The teams will sew swims on a short cycle time from the receiving of the cut goods to the manifest of the finished garment.

Reasons for the team sewing system:

1. The market requires customer service in terms of (a) Quality (b) Meeting delivery promises - fast delivery.

2. Manufacturing costs are lower by reducing swimsuit inventory in the warehouse.

3. AquaSuit Canada must compete with other domestic and foreign manufacturers as they are also improving methods.

4. Quality is improved by resolving the problems earlier, and by team involvement in problem solving.

The Team Sewing System will be accomplished by making the following changes:

1. Purchase of equipment to permit quick line changes, cross training of operators, and balancing of the line work load.

2. Operator training -- Method and teamwork training -- Multi-skill training.

3. Factory sewing line organization and work layout aids on the sewing machine.

4. Work flow organization by swimsuit construction type.

5. Group incentive plan.

6. Improved plant facilities -- lighting, power rail, compressed air system, plant cleanliness, facilities.

7. Employment involvement/ownership/team sewing leader.

8. Improvements to the Quality Audit process.
To: All AquaSuit Operators

Please be advised: Some operators are holding back tickets.

Any piecework tickets and/or the following tickets which have been held back:-

Wait
Split Bundle
Indirect General
Standard Excess
Sample/Size Tryout
Reoperation
Standard Add-On

should be turned in immediately to their supervisor.

Hold back of tickets, or receiving extra unearned time, is against AquaSuit policy.

THE MANAGEMENT
Well here it is, the first newsletter published by the front office grid group. In keeping with our motto to keep the lines of communication open, we thought it would be a great idea to let you all know what's happening up front and behind the scenes.

**DECISIONS DECISIONS**

At long last (and after lots of grumbling) the Canon NP 6650 II copier is back by popular demand and a decision has been made to keep it. Thanks for being so patient through all the trials and tribulations. Also, thanks to Ray - you made our day!!!!!!

**ADVENTURES IN DECORATING**

The front office is happy to announce that we have been given a budget for a much needed and long overdue face lift. We're in the process of selecting new desks and carpeting and hopefully some air conditioning, but we are finding the process somewhat of a challenge as prices are higher than we expected. We are working very hard on trying to obtain quality as well as quantity and still manage to keep within the budget.

All of us are looking forward to working in an environment that we can be proud of and can hardly wait for the changes to take place. Hopefully we will be seeing a new front office in the not too distant future.

**PAYROLL**

Testing is currently underway on a computerized piecework payroll system. The bar codes on the piecework payroll tickets will be scanned in to the computer which will then automatically calculate the piecework payroll.

We are also looking at a P.C. based payroll system to replace the manual C.I.B.C. system.

Vacation time is nearing once again and we would all like to wish you a safe and fun filled holiday. Don't forget the sunscreen!!!!!
APPENDIX 5 Tools for Data Management and Analysis

A software tool, HyperResearch, designed for the management of qualitative data and allowing for coding and retrieving of text passages, the development of coding schemes and hypothesis testing, assisted me in ordering and understanding my research data. The program, HyperResearch not only eases the labour intensive "cut and paste" method qualitative text analysis is usually associated with but is tailored to theory and hypothesis testing in qualitative data analysis (QDA). As the use of QDA programs is not yet a common occurrence in the social sciences I will proceed to explain how I used this particular program in my research and what assumptions are built into the processual logic of the program. To begin with I should mention that I used the software mainly for purposes of data management but over time began to be more familiar with its use and actually experimented with aspects of theory building.

As a first step I entered my field-notes, interviews and other documentation into a word-processor. I invoked HyperResearch to index the multiple sources (the interviews with

148 Providing the researcher with a flexible search and retrieve process, code and retrieve programs automate what has traditionally been done with paper, scissors and paste. By allowing the researcher to divide text into "chunks" and then attach codes to these chunks. Chunks connected to a particular code or a combination of codes can be rapidly retrieved and displayed. In addition to performing all the functions of code and retrieve programs, code-based theory-builders permit the researcher to develop higher order classifications which are based on patterned relationships between various chunks of coded text. Such programs can therefore help to facilitate the development of theory as well as specific hypotheses which can be tested and modified (Bassett et al. 1995:28)

149 HyperResearch is a product of ResearchWare, Inc., Randolph, MA.
workers, fieldnotes, reflections, etc.) as "cases" associated with my study. Then I began to search and identify (coding) relevant segments of text across all cases. Bearing in mind the research question, my initial coding focused on the relationship between of gender, ethnicity and "skill". From the initial coding process and my immersion in the subject matter I developed some propositions that I wanted to explore.

- operators use a tacit working knowledge to control the labour process
- racialized notions of skill and vertical mobility in the firm are interrelated
- restructuring of work organization undermines skill of garment workers.
- individual piecework allows a limited control over tasks
- team-work harnesses the tacit skills of workers without remunerating them.

Below I illustrate how I used HyperResearch to manage my data.

Figure 2: Generating Codes

<table>
<thead>
<tr>
<th>CASE NAME: AQUASUIT.HRS</th>
<th>Operator Kamala</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Type</td>
<td>Reference</td>
</tr>
<tr>
<td>TEXT</td>
<td>char 79 to 142 of page 1 of #KAMALA.</td>
</tr>
<tr>
<td>✓ TEXT</td>
<td>char 212 to 330 of page 1 of #KAMALA.</td>
</tr>
<tr>
<td>TEXT</td>
<td>char 399 to 507 of page 1 of #KAMALA.</td>
</tr>
<tr>
<td>TEXT</td>
<td>char 636 to 731 of page 1 of #KAMALA.</td>
</tr>
</tbody>
</table>

Operator Kamala
Very friendly women, has been working for Jantzen 21 years.
Complains about working conditions, back ache, chairs, headache, but figures she is too lazy to look for new job, tongue in cheek.
She is fairly self-confident, and when asked about skill she plays it down. Says its the years of training, not skill [EXPLORE WHAT DO OPERATORS THEMSELVES UNDERSTAND UNDER SKILL?]

I know by now that Kamala knows how to operate at least 5 machines (hemming, tacking, button stitching, ...) and likes to change from one job to another. However she complains things have been getting worse within the last few years, one cannot make any money anymore, times given to produce a seam are very short, pay is bad.
Figure 3: Analyzing Codes

operators experienced AND hard to make minutes AND (ind. piecewk allows control OR team work is unfair)

Clear
Build Expression

Clear
Select Cases

Operator Hsin
Operator Jana
Operator Josepha
Operator Lai
Reflection on Teamwk
Supervisor Kate

Clear
All
Select Codes...

Include In Report

Case Name
Code Name
Code Frequency
Source Type
Source Reference
Source Material

Sort Report  @ By Case Name  @ By Code Name

Figure 4: Report on Codes

The actual report follows:
Case, Code, Type, Reference,
Supervisor Kate, hard to make minutes, TEXT, char 1439 to 1562 of page 1 of IKATE.,
Source Material: Times are given from Portland, very tight times, almost impossible to achieve from the average worker who performs well.

Supervisor Kate, ind. piecewk allows control, TEXT, char 424 to 592 of page 1 of IKATE.,
Source Material: in the old system the operator is almost an independent business men, but in the new system they have to work much closer together. Their earnings are interdependent!

Supervisor Kate, operators experienced, TEXT, char 135 to 231 of page 1 of IKATE.,
Source Material: All operators are skilled (but let no one know that I said that, neither management nor workers)
The Logic Embedded in HyperResearch

The instructions given by the researcher allow the program to collect instances of a code in source documents. Concept building depends on the efforts of the researcher to formulate a sequence of steps (or inferences) that are represented by codes, leading from an assumption to the verification of that assumption.

I used the program as technical tool, a device that allows easy cutting and pasting of relevant text segments, and assists in reducing data from multiple pages to the representation of these pages by codes. In effect, the analysis of qualitative texts is all about the reduction of a large data base to a manageable number of codes (representing the various incidents and symbolizing the researcher's aspiration to impose conceptual structure on the data). I believe it to be important to make transparent how qualitative data are managed and interpreted. This not for the sake of legitimating interpretation of research data but because large sets of qualitative data require a systematic treatment to explore them sufficiently.

The criticism of a fundamental incompatibility between qualitative methodology as knowledge gained through fieldwork, participant observation and intuitive understanding, and excessive rationalism expressed in the managerial act of calling up all the sentences with a certain phrase or word is to be taken seriously. Admittedly, by translating feelings and experiences into language, and language into a textual representation which can be coded, retrieved and analyzed, the loss of fleeting insights and untypeable impressions is probable. On the other
hand, when exploring and testing a new relationship between previously unconnected items with the ease of a QDA program, then there is no reason why some of the new software for QDA cannot be of assistance. After all, even with the potential of a wide array of data links at hand, it is still the researcher who must decide what is meaningful and how it is meaningful. To adopt a pragmatic perspective: data management can be defined in terms of "the operations needed for a systematic, coherent process of data collection, storage, and retrieval" (Huberman and Miles, 1994:428). And certainly, management activities are different from but not without implications, for the methods and activities associated with data analysis. But "the linked subprocesses of data reduction, data display, and conclusion drawing/verification" (ibid.) are always elements of some system of data management - whether manual or computer-assisted.

In summary, systems of data management are resources which enable the researcher to focus on the analytical aspect of qualitative data processing. Moreover, a programme like HyperResearch provides the researcher with the possibility to inspect how data and theoretical models connect, and ease of testing a variety of propositions. Bassett et al (1995:29) observe correctly that "these analytically oriented aspects of the new software for QDA are not yet widely appreciated within the qualitative research community".