generational, longitudinal research, the book's relevance extends much further than its particular substantive topic. The data will surely become even more valuable as the investigators continue to study the families and the children, some of whom have already become teenage parents, as they make the transition to early adulthood.

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A Partly Social Disorder

Fasting Girls. The Emergence of Anorexia Nervosa as a Modern Disease. JOAN JACOBS BRUMBERG. Harvard University Press, Cambridge, MA, 1988. x, 366 pp., illus. $25.

From the medieval period in European history to the contemporary United States, young women have regularly refused to eat. This fasting, which we call anorexia nervosa and which is perhaps the most common psychological ailment among young women in the United States today, has had a long and complex history. In *Fasting Girls*, Joan Brumberg traces this history. Her particular focus is on the 19th and 20th centuries, on the varying medical treatments employed during this time period, and on the social matrices behind the illness.

It was not until the 1870s that anorexia nervosa was identified as a specific illness and given its present name. Even then, Brumberg argues, the treatment employed was largely wrongheaded. Rather than attempting to assess patient motivation, doctors infantilized their youthful charges and focused on ending their physical symptoms. Confinement and forcefeeding were the first techniques employed; after the First World War glandular and then hormonal therapies were added. Even when psychological techniques were introduced in the 1930s, the treatment revolved around curing presumed physiological sexual malfunctionings. These varying treatments, Brumberg argues, drew from prevailing medical vogues. They focused on physical symptoms stemming from the fasting, and their originators failed to realize that these symptoms were in reality partly reflections of underlying psychological malfunctions, not only within the patient but also within her family and within the larger society.

Brumberg does not discount the possible importance of physiological and hereditary factors in causing anorexia. But her stress is on those social influences which she thinks doctors in earlier ages slighted. In the 19th century the particular culprit, in her view,

The "first published photo of an anorectic in an American medical journal" (*New England Journal of Medicine* 207, 5 Oct. 1932). "By the 1930s there were three essential techniques in the management of anorexia nervosa: change of environment, forced feeding, and psychotherapy. Severe cases were generally treated in private psychiatric hospitals." [From *Fasting Girls*; courtesy of the *New England Journal of Medicine*]

was the Victorian family. Within its narrow confines, young women were raised to conform to rigid gender requirements, and they were encouraged to regard themselves as spiritual, not physical, beings. This Victorian family type was structured around possessiveness, both of material objects and of its human members, and the giving or withholding of food was often used both to discipline and to praise children. Thus for young women food became an analogue of the self, and not eating became a way both of adhering to Victorian family expectations and of rebelling against them. In more recent times, Brumberg thinks that the vogue of dieting and the commercialized cult of thinness bear primary responsibility for what is in actuality a vast increase in the incidence of the illness.

Such arguments may seem to stress obvious cultural forces. But what is important about Brumberg's analysis is her demonstration that these differing forces produced differing symptomatologies. In particular, hyperactivity has become a regular new feature of the illness. This symptom was not present 75 or 100 years ago. For in present times the body for women is no longer considered to be an object that should express spirituality. Rather it has become an object of competition, a means for women to express that overwhelming urge to excel over others that lies at the heart of modern capitalism. One can never be, the adage goes, too rich or too thin.

That illness can function as a cultural metaphor and that cultural factors can dictate the nature of illness are realities long noted by social historians of medicine. In *Fasting Girls*, Brumberg has richly documented this truth in the case of anorexia nervosa. Social historians might quibble with some of her periodizations and wish that she had paid more attention to the literature on fashions in physical appearance. What responsibility modern families play in the etiology of the illness via-à-vis their Victorian counterparts ought to have been more fully explored. She might have profited by a closer reading of Hillel Schwartz's recent book on dieting (*Never Satisfied: A Cultural History of Diets, Fantasies, and Fat*, Macmillan, 1986), and especially by his argument that dieting in the United States was first voguish among men. Nonetheless, Blumberg's book is written with verve and grace, and it makes an important contribution to the literature on the history of medical treatment and on the nature of women and of the society in which they live.

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Responses to Automation

Workers, Managers, and Technological Change. Emerging Patterns of Labor Relations. DANIEL B. CORNFIELD, Ed. Plenum, New York, 1987. xxii, 362 pp. $37.50. Plenum Studies in Work and Industry.

For over a decade social scientists have been debating the assertion made by Harry Braverman in his classic study *Labor and Monopoly Capital* (Monthly Review Press, 1974) that new technologies simultaneously increase managers' control of workers and reduce the latter's skills. For a far longer period labor unions have been debating whether, to put it baldly, they should accept or resist new technologies. The essays published in this volume, which consider the relationship of technological change and labor relations across 14 industries in the United States, offer a useful collective vantage point from which to view and review both debates. What conclusions emerge?

Most striking is the finding that unions, with some exceptions, have decided not just to accept new technologies but in fact to encourage them. In his introductory chapter Daniel Cornfield examines the labor movement's shift from its traditional policy of

"willing acceptance" of technological innovation to its post-World War II "policy of encouragement." He notes that this shift reflects the increased dependence of local unions on individual employers—a factor associated with the rise of industrial unionism in the United States—and the concern of these unions that employers be sufficiently competitive to remain in business. Particularly in industries challenged by foreign competitors, as is evident from the chapters on the coal, automobile, and steel industries, union leaders have vigorously endorsed technological advancement as a strategy for maintaining American competitiveness and therefore American jobs.

In industries where foreign competition is not an issue, a group that includes industries such as agriculture, longshoring, newspapers (printing), air traffic control, and sanitation service, the situation is more complicated. Gordon Betcherman and Douglas Rebne's chapter on West Coast longshoring and David Lewin's chapter on sanitation service both deal with industries where unions and employers have engaged in what Lewin has termed "integrative bargaining," that is, have accepted new technologies and have sought to employ them to the benefit of both management and labor. On the other hand, the deployment of new technologies in southwestern agriculture (tomato harvesting), newspaper production, and air traffic control has caused conflict between labor and management. What explains the different outcomes?

The answer seems to lie in the differing secondary purposes which the technologies were intended to serve in addition to their primary purpose of improving productivity. In longshoring and sanitation service, employers gained union support by presenting automation as a means to make the work safer, cleaner, and better-paying. Automation was linked to an upward mobility of the occupation as a whole, which offset the loss of jobs and traditional skills resulting from it. (Losing jobs is sometimes a less serious concern for union members than it might appear, because the process may be local rather than general. For example, over the past ten years there has been a 15% decline in the total number of longshoremen working in West Coast ports, but the longshore workforce of the ports of southern California has increased by about 20%.) In newspaper production and air traffic control, however, the secondary goal of automation was to wrest control of production from those who were craftsmen (printers) or to thwart control of production by those who thought of themselves as craftsmen (air traffic controllers). Not surprisingly, neither of these groups viewed automation favorably. Automation can also be used to curb or even break a union. Robert Thomas argues that tomato growers introduced electro-optic sorting of tomatoes in response to the effective organizing campaigns of the United Farm Workers union. Arthur Shostak argues that the failure of the air traffic controllers' strike of 1980 was largely due to the Federal Aviation Administration's success in developing a computer-based flow control plan.

Another reason cited by Cornfield for the labor movement's encouragement of automation—with the above exceptions—is its assumption that on balance automation would replace low-skilled jobs with high-skilled jobs. This assumption was of course firmly rejected by Braverman. The chapters in this book tend to come down on labor's side of the argument since in many of the industries automation has either created or expanded high-skilled occupations: crane operators in longshoring; actuaries, underwriters, and claim approvers in insurance; skilled maintenance workers in the auto factories; computer programmers and technicians in the commercial aircraft industry and in telecommunications. It is only in newspaper production and in the postal service that the reverse has happened: high-skilled workers and occupations have been replaced by less skilled ones.

There is another side to skill, though, and that concerns the actual performance of tasks—does automation give workers greater opportunity to exercise creativity and responsibility, to pace their work, and to make decisions? On this question the chapters have less to say, because they mostly lack the kind of detail about production processes that would be needed to address it. The data that are provided are suggestive but inconclusive. For example, we learn that for all the advances in the technology of air traffic control, and despite the efforts of the Federal Aviation Authority to minimize the role of the human agent, flight safety still depends to a considerable degree on the individual controller's skill and judgment. On the other hand, computer technology gives employers of teachers and telecommunications and insurance workers the capability to monitor their performance, although we are not told to what extent this is actually done. On the whole, readers interested in the nitty-gritty of the shop floor or the office will be disappointed—I, for one, found myself eager to know more about the daily work of automobile assembly teams, longshore crane operators, construction-equipment machinists, and sanitation-equipment operators, to mention only a small number of the other positions upon which technological change has had an impact.

The lack of ethnographic detail is not a concern of itself, but it affects the interpretation of the industry studies. The chapters in the book are organized around the two directions in which modern labor-management relations are heading, according to Cornfield—"unilateral managerial control," as exemplified by agriculture, newspaper production, longshoring, the postal service, insurance, education, and air traffic control, and "formal labor-management cooperation," as exemplified by coal mining, steel production, auto production, construction equipment production, commercial aircraft production, sanitation service, and telecommunications. Cornfield argues that in the industries in which managerial control predominates, new technologies have reduced labor's involvement in decision-making and have enhanced the ability of management to monitor and control workers. In contrast, in industries where cooperation flourishes, management has included labor in decision-making. The problem is that the control-cooperation division is based on insufficient evidence; to substantiate it would require a far more fine-grained analysis of the organization of production than is presented here.

In an interesting final chapter Cornfield discusses the factors that seem conducive to formal labor-management cooperation. He finds that industries in which employees have lengthy job tenure, in which the rate of unionization is high, and in which there are external threats to profits and jobs are more likely to have cooperative relations than industries that have some or none of these characteristics. External threats create an incentive for labor and management to cooperate, and the combination of lengthy tenure and unionization establishes a collective-bargaining framework in which adversarial relations can be transformed into cooperative relations. But cooperation is not a stable state of labor-management relations, Cornfield emphasizes. In fact, to the degree that cooperation is successful it may hasten its own demise—if prosperity returns to the industries, the incentive to cooperate will be reduced. In addition, unions may be weakened by engaging in cooperation; they may lose members, for instance.

This volume effectively captures the flavor of labor relations in a period of transition, even if some questions regarding the impact of technological change remain unresolved. It has fulfilled at least two important purposes. First, it has offered an innovative approach for analyzing the relation between technology and labor-management relations. It will provoke further scholarship. Second, it has amassed a substantial body of information on a variety of different indus-

tries that should be of interest to anyone concerned with industrial relations, technological change, or public policy.

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Women's Positions

Women, Work, and Technology. Transformations. BARBARA DRYGULSKI WRIGHT and six others, Eds. University of Michigan Press, Ann Arbor, MI, 1987. viii, 387 pp. $29; paper, $13.50. Women and Culture Series. Based on a conference, Storrs, CT, Oct. 1984.

The product of a seven-person editorial committee and 16 paper-writers (the senior editor also wrote one, making 17 in all), this collection aspires to an interdisciplinary feminist analysis of technology. Wright, in the introduction, announces its focus: "technological development and its relationship to women workers." Wright considers several critiques of technology, concluding that feminists share with others the view that technology is problematic in its ideal of objectivity, in its reductionist methodology, and in its "will to dominate and control." Feminists go further, however, in linking these problems to "Western gender ideology" and proposing a "provocative alternative," a more human, less masculine technology. Wright then anthropomorphizes the concept: "Instead of imposing a given solution, technology must learn to proceed with empathy and affection—not only toward the natural and physical environment but *also* toward the people and institutions that comprise the social context" (p. 19), leaving the reader a little puzzled over *who* rather than what is the subject of that sentence.

After this exalted prescription, the papers seem prosaic; they are of mixed quality and character. They are arranged in three big sections: Historical Perspectives; Transformations of the Labor Process; and Access and Action.

The historical papers range from a derivative overview by Carol J. Haddad of "Technology, industrialization, and the economic status of women" to an expertly crafted case study by Ava Baron of men and women in the American printing trades (mostly newspaper publishing), 1850–1920. Baron describes how male printers' gendered definition of their jobs was transformed with the introduction of the Linotype machine in the 1890s; male dominance prevailed in the workplace through a redefinition that maintained the identification of work and masculinity and an implicit agreement with publishers in which the printers accepted the new technology but excluded women. Patricia Vawter Klein shows that early protective legislation for women workers in industries with high risks of lead poisoning was only reluctantly accepted by industry. In contrast, today it is industry itself that is establishing or maintaining selectively exclusive policies against women workers even though men are subject to reproductive risks as well. Klein does not speculate about the causes of the different behavior of present-day industry, but surely the current climate of liability law must be involved. In a lively essay in "contribution history" (women's contribution to . . .), Autumn Stanley reports on her review of a sample of the U.S. Patent Office's 1890 list of women inventors who received patents. About 25% are missing, and these women were largely inventors of non-domestic, non-traditional machines. Stanley makes an interesting case for assigning women a broader role in the recent history of technology than they have had heretofore.

The section on work process opens with two historical studies: one, by Timm Triplett, reflects on Hebridean women's perception of the great improvements in their everyday life the 20th century has brought; the other, by Christine Kleinegger, discusses the lightening of the work load of American farm women. Both authors discuss losses as well as gains, dashed aspirations as well as achievements. Eileen Appelbaum's review of the reorganization of work in the American insurance industry emphasizes unanticipated consequences of the intensified use of information technology in the 1970s and '80s. She finds that with advanced office automation, unlike factory automation with its rationalization and fragmentation, "functional specialization of tasks is reduced" and "control, communication, and decision making are decentralized" (p. 188). Appelbaum's comparison of present-day office automation with earlier factory changes leads her to this conclusion; if she compared changes in the insurance industry with present industrial manufacturing reorganization, she would find more similarity. The effect in insurance has been to eliminate middle-level jobs and produce an upper tier of "super clerks" and a lower tier of skilled clerks with high entry-level qualifications. The new system both truncates earlier internal career ladders and eliminates low-level jobs formerly held by minority women.

The essays in the third section primarily consider access to computer technology and jobs in that sector. A realistic reminder is offered here by Evelyn Nakano Glenn and Charles M. Tolbert II: although computer occupations are expected to be the most rapidly growing sector in the economy of the '90s, small numbers are involved because of the small base. "Slower growing but currently large occupations are expected to provide the lion's share of new jobs; these occupations are for the most part low-status, low-wage service jobs, such as building custodians, waiters and waitresses, and clerical positions" (p. 328). Glenn and Tolbert show (on the basis of a subsample from the *Current Population Survey* of March 1983) that racial-ethnic females are at present concentrated in the lowest-ranking computer job (data entry keyer), where they earn inferior wages. Gender and racial-ethnic integration would involve shifting these women to higher-ranking computer jobs with concomitantly higher educational qualifications. Minority access to better education, then, is a social issue intimately tied to how widely distributed jobs based on new computer technologies will be.

Two essays return to the issue of female values raised in Wright's introduction. Linda H. Lewis discusses ways to foster the involvement of females and computers. She builds on her understanding of Carol Gilligan's work a notion of distinctive female and male contributions: the first cooperative and personalized, the second competitive and controlling. Sandy Weinberg writes in the same vein about "Computer equity for women." He also perceives computer science (whether practiced by males or females) as based on "traditional male values" and proposes a different computer training strategy that emphasizes cooperation and an "androgynization" (in which, however, only men can become androgynous; women are women) of language and style. Lewis, Weinberg, and Wright underestimate the diversity among women that other contributors emphasize and come perilously close to an essentialist notion of women's character and values. Their approach represents but one strand of feminism, which, like women, is more diverse than they conceive it.

Maria-Luz Daza Samper's comparison of "Responses to office technology in the United States and Western Europe" is a useful—and sobering—review. She shows that in Western Europe there are legislatively mandated guidelines for the introduction of technology, worker participation in decision-making on this matter, and worker access to research and training. In the United States, there are no such guidelines or laws. The American level of unionization is only 18%, compared to rates twice that and more in Europe. Samper's recommendations focus primarily on increased unionization in this country, especially in the service sector, a prescription that has not met with much success in recent years.

Wright's closing essay on the problems