Race and Technology: African American Women in the Bell System, 1945—1980

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Telephone operators in America's largest cities experienced a dramatic technological transformation of their work process during the mid-1960s when the Bell System (AT&T and its associated companies) replaced cord switchboards with Traffic Service Positions—computerized equipment[1] (see fig. 1). Martia Goodson, a former operator who worked on both types of equipment, described how astonishing the change was for her:

> [Cord board operators] get calls [at a] switchboard [which] is full of holes and over every hole there is a light. When the light lights up [it] shows that someone is calling. You stick the plug in that hole; but how fast you get the cord up there is up to you. . . . Every three or four positions the switchboard repeats itself . . . so you might start to go for a light and somebody else picks it up, . . . the light goes out.
>
> How fast you pick it up . . . how fast you handle the call depends. ... If no one puts their hand up there to pick up the light, the call would never get answered. . . . That's different from having [a call] come in your ear . . . and the customer is there, you see what I'm saying, that's why TSP blew my mind so bad because all of a sudden the customer was there . . . where

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[1] After further computerization, Traffic Service Positions (TSP) became known as Traffic Service Position Systems (TSPS). This equipment automatically measured the length of time an operator spent on a call and the number of calls handled per hour. The machines also calculated charges and determined call routing without any operator input. This equipment will be described more fully in the next section.

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Fig. 1.—The old and the new: Traffic Service Position Systems replaced cord swithchboards (far right) in Morristown, New Jersey, 1969. (Courtesy AT&T Archives.)

we used to go in, see how it sounded, if it didn't sound right. . . we'd come out . . . [with TSP] the customer was in your ear.[2]

Goodson's testimony is rich for interpretation by those who study labor, women, and technology. Scholars who examine questions of skill, deskilling, the degradation of work, and job loss or gain due to new technology would be alarmed at the elimination of the physical and mental tasks associated with TSPS.[3] They would argue over

[2] Martia Goodson made this statement in an interview conducted with Lessie Sanders in September 1975. I am indebted to her for the tape.

[3] Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York, 1974); and the essays in Andrew Zimbalist, ed., *Case Studies on the Labor Process* (New York, 1979) advanced the idea that scientific management in conjunction with the introduction of new technologies deskilled and degraded work by separating conception from execution. In effect, technology, they argued, was a means whereby managers maintained control over the workplace. This thesis was challenged and modified by writers who expanded definitions of skill, elevated governmental/political influences on technological development, and viewed workers as more active agents who themselves may choose to accept managerial control. Among this group are Kenneth Kusterer, *Know-How on the Job: The Important Working Knowledge of "Unskilled" Workers* (Boulder, Colo., 1975); Charles Sabel, *Work and Politics: The Division of Labor in Industry* (New York, 1982); Larry Hirschhorn, *Beyond Mechanization* (Cambridge, Mass., 1984); and Michael Burawoy, *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism* (Chicago, 1979).

whether TSPS divides skilled labor into smaller tasks that require less skill, less knowledge, and less initiative or whether this new technology augments, broadens, and upgrades older skills in a new work environment. The loss of the operators' limited ability to decide when to insert the plug is a concern for historians who analyze issues of workers' control.[4] Has TSPS taken away the operator's ability to use his or her own initiative and judgment in completing tasks, or has it helped to organize the work process to enhance the operator's decision-making possibilities? Goodson's gender and employment in a job that had been feminized for well over a century certainly make her comments of interest to historians who study wage discrimination, work segregation, career possibilities, union representation, male/female solidarity, women's work culture, and women's responses and resistance to the introduction of new technologies.[5] Methods of analy-

[4] A fundamental component of the deskilling and work degradation debate is the issue of workers' control. Few labor historians after Harry Braverman have failed to consider these questions. Consequently, there are dozens of books that refine various points of interpretation regarding the interconnections of skill, work degradation, and workers' control. This brief list includes the writers who laid the theoretical foundations for studying these interconnections. David Montgomery, *Worker's Control in America: Studies in the History of Work, Technology, and Labor Struggles* (Cambridge, 1979), challenged the idea that managers have unlimited power and argued that, when workers resist, managerial aims are transformed. In *The Fall of the House of Labor: The Workplace, the State, and American Labor Activism, 1865—1925* (New York, 1987), Montgomery examines not only the actions of skilled workers but the actions of common laborers and factory operatives in their struggle for control of work and the workplace. In his *Contested Terrain: The Transformation of the Workplace in the Twentieth Century* (New York, 1979), Richard Edwards portrayed the workplace as a scene of continuous conflict in which various managerial methods of control (simple, technical, and bureaucratic) evolved. David Noble weighed the importance of profitability, efficiency, deskilling, and the need for control over the workplace as influences on managerial decisions to design and implement new technologies. In his study of numerically controlled machine tools, he concluded that managers' desire for control over the workplace was paramount. See David Noble, *Forces of Production: A Social History of Industrial Automation* (New York, 1984). In a later study of the same industry, Harley Shaiken, *Work Transformed: Automation and Labor in the Computer Age* (Lexington, Mass., 1986), arrived at a similar conclusion. David Gordon, Richard Edwards, and Michael Reich, *Segmented Work, Divided Workers: The Historical Transformation of Labor in the United States* (Princeton, N.J., 1987), refined Edwards's (*Contested Terrain)* argument to include the notion that managers sought to control the workplace with a division of the working class based on varying levels of opportunity—market segmentation. Workers compete in either primary markets (which through strong unions offer job security, higher pay, health, and other benefits—mostly to white men) or secondary markets (where women, minorities, and the unskilled have few of the benefits of those in the primary unionized sector). Workers divided by sex, skill, and race are more easily controlled, they argue.

[5] Women's labor historians not only have had to make a point of including women in the study of labor, they have also had to create different analytical frameworks to

sis that utilize these issues are important for an understanding of the technology/labor/gender nexus, but alone they tend to elide race as a significant analytic category. Martia Goodson is an African American woman.

Although black women's limited presence or total exclusion from a specific workplace is duly noted, labor history paradigms in general,

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analyze women's experiences and simultaneously evaluate the models created for males. The post-1960s resurgence of feminist labor history is best represented by Barbara Mayer Wertheimer, *We Were There: The Study of Working Women in America* (New York, 1977), and Alice Kessler-Harris, *Out to Work: A History of Wage-Earning Women in the United States* (New York, 1982), who documented the general presence of women in the workplace and in militant labor struggles. Other writers sought to answer specific questions. Essays in Martha Blaxall and Barbara Reagan, eds., *Women and the Workplace: The Implications of Occupational Segregation* (Chicago, 1976); Donald J. Treiman and Heidi I. Hartman, eds., *Women, Work, and Wages: Equal Pay for Jobs of Equal Value* (Washington, D.C., 1981); and Barbara F. Reskin, *Sex Segregation in the Workplace: Trends, Explanations, Remedies* (Washington, D.C., 1984), sought the origins of work segregation and unequal pay. Explanations included the concept of women's work (work that flowed from women's domestic roles, required nimble fingers, or was monotonous/repetitive), capitalism (profitability of low wages), or patriarchy (male domination). Margery W. Davies, *Woman's Place Is at the Typewriter: Office Work and Office Workers, 1870-1930* (Philadelphia, 1982), suggests that the availability of young, common school-educated women who would work for low wages led to the feminization of clerical work. Ruth Milkman, *Gender at Work: The Dynamics of Job Segregation by Sex during World War II* (Urbana, Ill., 1987), looks at women workers in the manufacturing sector (auto and electrical) and criticizes other theories of sex segregation for paying insufficient attention to "the effect of industrial structures on the sexual division of labor and on the struggles that take place over 'woman's place' in the labor market" (p. 7). Milkman claims that, regardless of workers' efforts, managers insisted on a sex-segregated workplace. Women's union participation and resistance to shop-floor control through the development of their own work cultures are explored in such works as Meredith Tax, *The Rising of the Women* (New York, 1980); Ruth Milkman, ed., *Women, Work, and Protest: A Century of Women's Labor History* (Boston, 1985); Susan Porter Benson, *Counter Cultures: Saleswomen, Managers, and Customers in American Department Stores, 1890-1940* (Urbana, Ill., 1986); Mary Blewett, *Men, Women and Work: Class, Gender and Protest in the New England Shoe Industry, 1780-1910* (Urbana, Ill., 1988); Patricia Cooper, *Once a Cigar Maker: Men, Women, and Work Culture in American Cigar Factories, 1900-1919* (Urbana, Ill., 1987); Ava Baron, ed., *Work Engendered: Toward a New History of American Labor* (Ithaca, N.Y., 1991); and Nancy F. Gabin, *Feminism in the Labor Movement: Women and the United Auto Workers, 1935—1975* (Ithaca, N.Y., 1990). Leslie Woodcock Tender, *Wage-Earning Women: Industrial Work and Family Life in the United States, 1900-1930* (New York, 1979), in her examination of the impact of employment on women, argued that the workplace experience merely reinforced an ideology of women's subordination rather than offering an arena to change their position in society. Essays in Heidi I. Hartman, ed., *Computer Chips and Paper Clips: Technology and Women's Employment* (Washington, D.C., 1987); Barbara Wright et al., eds., *Women, Work, and Technology: Transformations* (Ann Arbor, Mich., 1987); and Bar-

including those that analyze the impact of technology on the workplace, have left the working lives of black women largely unexplored. Periodized before World War II, models based on male craft culture, union membership/militance, and large male-dominated industries have simply pointed to African American women workers' prewar concentration in agricultural and domestic work to fulfill any obligation for a more thorough investigation.* [6] Women's labor historians, anxious to construct models that include gender, often fail to acknowledge differences among women or they study occupations and issues that marginalize the experiences of African American women workers.[7] Scholars of black labor have also shown that race alone as a category is inadequate for the study of African American women workers.[8] And, finally, historians who examine issues related to technology and work rarely consider the question of race, even when they

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bara Garson, *The Electronic Sweatshop: How Computers Are Transforming the Office of the Future into the Factory of the Past* (New York, 1988), specifically address the impact of new technologies on office work. Although new technologies sometimes result in work opportunities for women, these authors generally agree that new technologies more frequently result in deskilled, degraded, and dead-end clerical work for women.

[6] See Ava Baron, "Gender and Labor History: Learning from the Past, Looking to the Future," in *Work Engendered: Toward a New History of American Labor*, ed. Ava Baron (Ithaca, N.Y., 1991), for a strong analysis of how male-defined models marginalize women's work experience and distort periodization.

[7] References to African American women can be found in all of the standard texts on working women (see, e.g., Wertheimer; Kessler-Harris; and Rosalyn Baxandall, Linda Gordon, and Susan Reverby, eds., *America's Working Women: A Documentary History, 1600 to the Present* [New York, 1976]), but most historians of women's work acknowledge that they have insufficiently investigated African American women. Case studies have concentrated on work dominated by white women and therefore note the exclusion or marginality of black women to the type of work under consideration. See the case studies cited in n. 5 above. A notable exception to this generalization is Dorothy Sue Cobble, *Dishing It Out: Waitresses and Their Unions in the Twentieth Century* (Urbana, Ill., 1991). She explains the rise of white women waitressing in the context of the decline of black male waiters and she also goes beyond mentioning that few African American women were among unionized waitresses to analyze the experiences of those few.

[8] Although they may have sections on laundry, textile, agricultural, or domestic workers, the few general works devoted exclusively to black workers are mostly concerned with black male issues. For example, see Sterling D. Spero and Abram L. Harris, *The Black Worker* (New York, 1931); Philip S. Foner, *Organized Labor and the Black Worker, 1619-1973* (New York, 1974); and William H. Harris, *The Harder We Run* (New York, 1982). Case studies, even when concerned with the whole community, study the work of men, i.e., August Meier and Elliott Rudwick, *Black Detroit and the Rise of the UAW* (New York, 1979); Joe William Trotter, *Coal, Class, and Color: Blacks in Southern West Virginia, 1915-1932* (Urbana, Ill., 1990); and Herbert Hill, *Black Labor and the American Legal System: Race, Work, and the Law* (Madison, Wis., 1985).

include an analysis based on gender.[9]

Black and white workers of both genders are affected differently by managerial decisions to introduce new workplace technologies.[10] For this reason, the impact of technology on African American women's work experience demands specific attention within the analytic frameworks of the skill/deskilling, worker control, work segmentation/segregation, and union/management paradigms. This article makes no attempt to retheorize these paradigms or to replace them

[9] When race is included it is simply added as an issue that must be noted but not analyzed or explained. The few exceptions include Evelyn Nakano Glenn and Charles M. Tolbert II, "Technology and Emerging Patterns of Stratification for Women of Color: Race and Gender Segregation in Computer Occupations," in Wright et al., eds. (n. 5 above), whose findings about "racial ethnic" women in computer work are similar to mine about operators—that the jobs opened to black women in computer work are rapidly declining (i.e., keypunching) and that opportunities that will become available to them will be "deskilled clerical work" (p. 328); Thierry J. Noyelle, "The New Technology and the New Economy: Some Implications for Equal Opportunity," in Hartman, ed. (n. 5 above), who suggests that the Equal Employment Opportunity Commission (EEOC) redefine its "scope of activities . . . through new legislation" that would provide educational/training opportunities for those who are disadvantaged in the technologically transformed labor market (pp. 374, 390-93); and Delores Janiewski, *Sisterhood Denied: Race, Gender, and Class in a New South Community* (Philadelphia, 1985), who does not focus on technological change but does integrate a discussion of how managers introduced new machines with an analysis of skill/job hierarchy and race/class and gender divisions in the tobacco and textile industries.

[10] For a history of the decision-making process in the evolution of telephone switchboards and other equipment combined with an analysis of the effects on black and white workers, see Venus Green, "The Impact of Technology upon Women's Work in the Telephone Industry, 1880-1989" (Ph.D. diss., Columbia University, 1990), and forthcoming untitled book from Duke University Press. Other studies of telephone operators include a pioneer in the study of telephone operators, Maurine Weiner Greenwald, *Women, War, and Work: The Impact of World War I on Women Workers in the United States* (Westport, Conn., 1980), who analyzes questions of female segregation and substitution in traditional male jobs in the context of the war; Stephen H. Norwood, *Labor's Flaming Youth: Telephone Operators and Worker Militancy, 1878—1923* (Urbana, Ill., 1990), who traces the rise and decline of unionism among operators; and Michèle Martin, *"Hello, Central?" Gender, Technology, and Culture in the Formation of Telephone Systems* (Montreal, 1991), who explores, in her history of early Canadian operators, how women changed the intended uses of the telephone. Although Martin examines changes in work organization, her focus is on the larger society. The Greenwald and Norwood studies are limited to World War I and the immediate postwar era. Each acknowledges the impact of technology on operating, but they are not in-depth investigations. Histories of telephone unionism (Jack Barbash, *Unions and Telephones: The Story of the Communications Workers of America* [New York, 1952]; Thomas Brooks, *The Communications Workers of America: The Story of a Union* [New York, 1977]; and John Schacht, *The Making of Telephone Unionism, 1920—1947* [New Brunswick, N. J., 1985]) focus on the rise of the Communications Workers of America. The brief discussions about automation (dial equipment) address issues of job loss.

with one based solely on race. Rather, it posits that an analysis of the unique race/sex ideology expressed toward African American women in the workplace is crucial to the history of all workers, whether black women were present or not.[11] From this point of view, the discussion goes beyond a mere victimization story or the "compensatory" inclusion of black women to demonstrate how a racialized concept of gender can increase our understanding of all workers' history. For instance, the technological fragmentation of white male telephone craft work is better understood when we know why managers selected not just women, but mostly African American women, to perform the deskilled work caused by that fragmentation.[12] An essential component of the managerial ideology that guided the employee selection process is a distinct combination of concepts about race and gender.

The salience of gender in this ideology is indisputable, but gender must be racialized to capture African American women workers' unique history.[13] Racializing gender avoids creating a false dichotomy between race and sex.[14] Black women's history as workers in the

[11] Here, I am influenced by Ava Baron's argument for the "engendering" of labor history. For example, she asserts that the "sexual division of labor is an integral part of the analysis of the labor process *even when* the occupation being examined is and has been considered male." See Baron, "Gender and Labor History" (n. 6 above), pp. 1-46, and "Contested Terrain Revisited: Technology and Gender Definitions of Work in the Printing Industry, 1850-1920," in Wright et al., eds. (n. 5 above), pp. 58-83. While I concur with her general thesis, I believe that her analysis, even when it examines questions about difference, stops short of weighing the racial construction of gender.

[12] The Bell System occupational groups fall within the following hierarchical categories: white-collar: (1) officials and managers, (2) administrative staff, (3) sales workers, (4) clerical staff, and (5) operators; blue-collar: (1) inside crafts, (2) outside crafts, and (3) service workers. Traditionally female-dominated, operators and clerical staff were the majority of telephone workers up to the early 1980s when the Bell System was split into regional operating companies. Inside crafts (frame attendants, switching-equipment technicians, deskmen, and others who installed, maintained, and repaired equipment inside telephone buildings) and outside crafts (repair service technicians, installers, cable splicers, and others who installed, repaired, and maintained outside equipment and subscriber lines) were historically male jobs. Switching-equipment technicians, deskmen, special-equipment installers, and cable splicers were among the upper-craft and higher-paying jobs. Frame attendants and regular installers were the lower-craft workers.

[13] Gender *is* racialized, of course, when studies of women omit or marginalize African American women. For the purpose of this article, however, I am using the racialization of gender to refer to the specific history of African American women.

[14] African American feminist writers have objected to the imposition of dichotomous models (public/private, community/family, male/female, and especially race/sex) on the history of African American women. These writers also reject a construction of gender that blurs differences by assertion of a false "sisterhood" among all women.

United States precludes such a separation. From the moment black women were subjected to special tithes, relegated to fieldwork on plantations, and finally designated as slaves, they experienced racism, sexism, and the lowest-class status simultaneously.[15] This 17th-century slaveholders' construction of the African American woman as an inferior being (at the bottom of a hierarchy based on social and economic domination) has permeated American social ideology and is reflected in the attitudes and actions of many corporate managers, union leaders, and white workers today.[16]

These attitudes are not simply notions about biological inferiority; they include rationalizations for discrimination based on racial identity and they entail antiblack sentiments and practices that define black people as "outsiders"/"others" who should not enjoy the privileges and "rights" of institutions supposedly won and built by

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Excellent examples of this scholarship can be found in Sharon Harley and Rosalyn Terborg-Penn, eds., *The Afro-American Woman: Struggles and Images* (New York, 1978); Cherrie Moraga and Gloria Anzaldua, eds., *The Bridge Called My Back: Writings by Radical Women of Color* (Watertown, Mass., 1981); Gloria T. Hull, Patricia Bell Scott, and Barbara Smith, eds., *But Some of Us Are Brave* (New York, 1982); bell hooks, *Ain't I a Woman: Black Women and Feminism* (Boston, 1981), and *Feminist Theory: From Margin to Center* (Boston, 1984); Hazel V. Carby, *Reconstructing Womanhood: The Emergence of the Afro-American Woman Novelist* (New York, 1987); Elsa Barkley Brown, "Womanist Consciousness: Maggie Lena Walker and the Independent Order of Saint Luke," Diane K. Lewis, "A Response to Inequality: Black Women, Racism, and Sexism," Deborah K. King, "Multiple Jeopardy, Multiple Consciousness: The Context of a Black Feminist Ideology," Bonnie Thornton Dill, "The Dialectics of Black Womanhood," and other essays collected from *Signs*, in *Black Women in America: Social Science Perspectives*, ed. Micheline R. Malson, Elisabeth Mudimbe-Boyi, Jean F. O'Barr, and Mary Wyer (Chicago, 1988); Patricia Hill Collins, *Black Feminist Thought* (New York, 1991); and Evelyn Brooks Higginbotham, "African-American Women's History and the Metalanguage of Race," *Signs* 21 (1992): 251-74.

[15] See A. Leon Higginbotham, Jr., *In the Matter of Color: Race and the American Legal Process* (New York, 1978); Winthrop D. Jordan, *White over Black: American Attitudes toward the Negro, 1550—1812* (1968; reprint, New York, 1977); and Deborah Gray White, *Ar'n't I a Woman: Female Slaves in the Plantation South* (New York, 1985), for the legal, economic, social, and political development of the American racial ideology about African American women.

[16] The impact of these ideas on African American women's lives and their responses can be investigated in Paula Giddings, *When and Where I Enter: The Impact of Black Women on Race and Sex in America* (New York, 1984); Jacqueline Jones, *Labor of Love, Labor of Sorrow: Black Women, Work and the Family, from Slavery to the Present* (New York, 1985); Darlene Clark Hine, ed., *Black Women in American History: The Twentieth Century*, 4 vols. (New York, 1990); Gerda Lerner, ed., *Black Women in White America: A Documentary History* (New York, 1972); Janiewski (n. 9 above); and economist Phyllis A. Wallace, *Black Women in the Labor Force* (Cambridge, Mass., 1980).

whites.[17] Consequently, African American women, who share the sexism of job segregation with white women, are further segregated into the lowest-level "women's" jobs that subordinate them to white women in wages and status even when education and training levels are similar. The same racial ideology guides the employment of African American women in the lowest occupational positions and determines how new technologies will affect their experience in these positions.

For telephone operators, this ideology was most vividly illustrated when computerization caused a severe reduction in their numbers and led to conditions which facilitated the transformation of the operating force from white to black. In less than ten years, black operators in the larger cities replaced white operators as a result of a hiring policy that deliberately segregated most of the African American women into one job—telephone operating. At the same time, the push to automate all local, long-distance, and even international calls received an electronic boost. In effect, as soon as the job opportunity opened for large numbers of African American women, the introduction of high-speed computerized equipment closed it.[18] Traffic Ser-

[17] I am indebted to Daryl Scott for suggestions that helped me to expand my definition of racism beyond "biological inferiority." For the purposes of this article, I have chosen to keep the definition focused on workplace discrimination. Spatial limitations make it impossible to examine fully how racism and racial ideologies are expressed differently along class, ethnic, regional, and gender lines.

[18] Black women hired into the Bell System as operators between 1964 and 1969 temporarily reversed a post-Korean War decline in operators due to the introduction of dial or automatic call connecting. Although white women experienced this particular displacement, they had long been the operating force, and they had not been deliberately chosen after the company decided to automate. I argue elsewhere that the Bell System's dependence on women's personalized service actually helped to delay the introduction of dial. Below are the total number of Bell System operators for selected years.

Year	*Operators*	*Year*	*Operators*	*Year*	*Operators*
1940	108,375	1965	148,046	1974	141,923
1946	223,824	1966	154,585	1975	128,500
1950	208,139	1967	153,133	1976	109,368
1956	203,285	1969	163,506	1977	102,001
1960	159,954	1970	165,628	1978	100,333
1961	146,069	1971	157,498	1979	97,723
1962	140,194	1972	149,179	1980	92,740
1963	139,347	1973	148,043	1981	88,599
1964	142,205				

These numbers are taken from American Telephone and Telegraph Company, *Bell System Statistical Manual, 1920—1964* (New York, 1965), p. 708, and *Bell System Statistical Manual, 1950-1981* (New York, 1982), p. 705.

vice Positions Systems and Electronic Switching Systems (ESS) are the computer-driven machines most responsible for the changes in women's work that coincided with African American women's entrance into the Bell System as operators.

This article analyzes how technology specifically affected African American women's employment possibilities in the post-World War II telephone industry.[19] As it acknowledges the significance of demographic, political, labor market, and other economic forces, it explores the hypothesis that when technology converges with gender- and race-related dynamics in the workplace, race becomes the overriding variable in determining policy.[20] The discussion centers around the ways in which technology shaped Bell System hiring and promotion practices within the context of the Civil Rights movement, AT&T/EEOC Consent Decrees, and union responses to affirmative action. The impact of technology on skills, health, worker control, working conditions, and job loss in relation to gender and race is examined along with the operators' responses to these issues.

What, then, of the machines that put the customer "in your ear" and "blew" Martia Goodson's mind "so bad"?

Computerization: Traffic Service Position Systems Replace Switchboards

Although the installation of machines designed to connect local calls automatically began in the World War I era, the most significant change in operators' tasks involved a totally new concept in their work and equipment. As part of the continuous Bell System quest to develop equipment that would minimize labor costs and at the same time provide quick and reliable service, telephone technology evolved gradually and culminated with the introduction of new machines to replace switchboards. Referred to as TSP, these new machines completely eliminated the need for operators to make connections. *Bell Telephone Magazine* described the new concept in telephone operators' work as follows:

> The switching or connecting of telephones is done in the dial equipment. Calls do not go through the TSP as they go through

[19] The Bell System is an excellent setting for this type of case study because of its high concentration of women in gender-specific jobs and because of its pioneering history in technology.

[20] This thesis has been implied but not analyzed in studies of the computerization of clerical work. Without investigating the employment policies that confirm their postulations, these studies simply assert that African American women will be more adversely affected by new office technologies because black women work in the low-level jobs that are most subject to computerization.

> a switchboard. With the TSP, the calls go through the dial equipment. The only time the TSP is connected is when it is necessary for the operator to assist the customer or to exercise control over the call. It is for this reason that the TSP is cordless.
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> Also, the TSP utilizes the call distributing principle which has been in use on information and intercept desks for some years. Calls which come into a TSP-equipped office are automatically directed to any position in the office where there is an operator who is not handling a call at the moment. Should all operators be occupied, the incoming calls are stored briefly and then distributed to the operators in proper sequence as they become available.[21]

The first TSP office opened in New York City in October 1963. The TSP equipment automatically displayed to the operator the telephone numbers of called and calling parties. It also computed time and charges and disconnected completed calls without an operator. Despite Bell System managers' attestations to the contrary, TSP reduced local and long-distance operating to a matter of selecting the correct buttons to push. "Some 39 separate work steps" formerly required to complete an operator-dialed call, according to one Bell System publication, were simply replaced by "a matter of moments, a few words, [and] a few movements of her fingers."[22] Renamed "service specialist," the TSP operator really functioned as an adjunct to a machine rather than as a controller of machinery. Consciously, managers perpetuated the idea that the freshly deskilled "service specialists" required a more office-like atmosphere, and, since the new consoles resembled desks, this appeal to modernity and class was reinforced.[23]

With the operators marginalized, it became necessary, from the managers' point of view, to increase the rate at which the operators could work and at which calls could be processed through the equipment. Engineering efforts materialized in the No. 1 Electronic Switching Systems (No. 1 ESS), a new computerized switching system that operated in time factors of milliseconds, easily replacing the electromechanical systems (crossbar and panel). The Bell System applied

[21] Leonard C. Briggs, "TSP—as New As Tomorrow's Telephone Service!" *Bell Telephone Magazine* 1 (1962): 48.

[22] "Operators: Their Wide New World," *Telephone Review* 6 (1963): 4.

[23] Evelyn Holton, former New York Telephone Company operator interviewed for this study, liked the TSP because it was something new, prettier, desklike, and spacious compared to the "elbow room only" at the old cord switchboards. Although many operators liked these aspects, they did not like the speed-up facilitated by this new equipment.

electronic switching technology to TSP and to long-distance switching systems. In 1965, TSPs were transformed into TSPSs, which provided the same services as the regular TSP but surpassed it in speed, economy, and flexibility. Eleven years later, AT&T installed in Chicago its first electronic switching system designed for long distance, No. 4 ESS (4E). This machine processed 550,000 long-distance calls per hour, four times as many as the 4A crossbar system.

Computerization completely transferred connecting responsibilities from the telephone operator to the subscriber and the new machines. The advent of 4E and other more sophisticated electronic switching systems made possible the closing of many toll centers and the routing of the calls to much larger regional or national centers which utilized fewer operators to cover wider areas. During the mid-1970s, New York Telephone and other operating companies introduced the practice of charging for Directory Assistance, thereby decreasing the number of requests and further reducing the need for operators. By 1980, the Bell System had successfully established customer direct dialing to most places in the world, and it had also made successful inroads into the reduction of the remaining information, intercept, and overseas operating forces. Between 1960 and 1981, women operators in the Bell System had been reduced by one-half, and the total number of operators by close to 40 percent.[24] It was into this rapidly changing technological environment that the Bell System began to hire significant numbers of African American operators.

African American Women Enter the Bell System

Ironically, the decision to hire African American women as telephone operators reflected neither a long-lasting and genuine corrective to past unfair practices nor the opening of new opportunities

[24] There were a total of 159,954 Bell System operators (eight males and 159,946 females) in 1960 and in 1981 a total of 88,599 (9,776 males and 78,823 females). See American Telephone and Telegraph Company, *Bell System Statistical Manual, 1950-1981,* p. 705. According to census information, there were 15,370 male telephone operators and 338,830 female in 1960. These census figures are higher because they include workers in the independent non-Bell telephone companies and they include switchboard operators in private corporations. I am using the Bell System statistics because these are the numbers Bell reported to the census and because more than 80 percent of American telephone service was provided by the Bell System. The study is also limited to employees of AT&T and its associated companies. See U.S. Bureau of the Census, *Eighteenth Decennial Census of the United States, Census of Population: 1960: Occupation by Industry,* Final Reports, vol. 2, "Table 2.—Detailed Occupation of Employed Persons, by Detailed Industry and Sex, for the United States; 1960" (Washington, D.C., 1963).

offered by rapid technological change. Despite the 1960s' rhetoric and publicity stating otherwise, Bell System hiring policies and practices had long been guided by a racial ideology that viewed African American women as inferior and unintelligent "outsiders" who should only be employed in jobs designated as undesirable for white workers. While the attractiveness of jobs for whites changes depending on economic and social factors, the idea that black women should be at the bottom of the hierarchy, preferably in subservient roles, remains relatively constant over time. Consequently, the same racial ideology that had excluded black women from the Bell System operating forces also led to their inclusion and the continuation of race/sex discrimination in a different form. Evidence of this ideology can be found in company publications, public statements made by managers, and a statistical analysis of the Bell System workforce.

Images of African Americans, particularly women, found in advertisements and other literature depict historically familiar stereotypes. These images were so unquestionably common that the New York *Telephone Review* had two covers in 1911 portraying African American females in subservient roles.[25] The April cover shows a black girl who has delivered the wrong hat to a white woman. It is unclear whether the girl has misunderstood the written instructions or simply could not read them. The October—November issue portrayed the stereotypical "Aunt Jemima" serving dinner to a white family. She, of course, is amazed by both the telephone and a young white boy's ability to use it.

Belittling portrayals of African Americans were not restricted to simple cartoons and drawings in Bell literature. Throughout the 1920s, 1930s, and 1940s, Bell publications contained pictures of whites in "blackface" providing entertainment for company functions. Most common are pictures of blackfaced white women dressed in male and female costumes acting out skits that ridiculed African American intelligence, speech, and other behavior.[26] In 1939, the *Telephone Review* reported that the "old south," complete with plantation, Aunt Jemima, and "Lazybones," was a "principal feature" of the annual Christmas party held for operators in Buffalo, New York.[27] Ten years later, the April 1949 issue of the same magazine disclosed

[25] The *Telephone Review* 4 (April 1911): cover; and *Telephone Review* 10-11 (1911): cover.

[26] See "The Minstrelettes at the Richmond Hill, Virginia and Cleveland Central Office Party," *Telephone Review* 3 (1928): 97; and "Sorry, Wrong Number," *Telephone Review* 11 (1949): 20-21.

[27] '"Would Be Minstrels' Amuse Buffalo Toll Party-Goers," *Telephone Review* 1 (1939): 21.

that thirty-three women from the Commercial Department performed "a real 'ol' time' minstrel show, featuring the familiar Dixieland songs and dances to the accompaniment of a fast banjo and a hot piano" for 1,300 persons at the Walton High School in the Bronx.[28] As late as September 1955, the "Sodus Minstrels" were staging "minstrel shows for Pioneer parties, the Business and Professional Women's Club and the Grange."[29]

The *Bell Laboratories Record* also printed pictures of entertainment offered by its male employees. The July 1949 issue, for example, revealed that educated and professional Bell Laboratories men celebrated the end of a colloquium season by performing skits at a restaurant for their colleagues. One of these skits was an imitation of "Amos 'n' Andy" discussing "in their inimitable manner, the development of micro wave system."[30] The writers at Bell Laboratories thought that "this skit was one of the many which made the evening a memorable one."[31] Demeaning images of African Americans can also be found in the *Western Electric News* and other Bell System journals.[32] Print and dramatic caricatures of African American people were merely a graphic representation of an ideology Bell System managers frequently expressed in other more subtle but effective ways.

Managers used language to obfuscate their own opinions and behavior and to shift responsibility away from themselves. Before the World War II era, Bell managers' explanations for the exclusion of African American women from the operating forces ranged from vague references to tradition and custom to statements that blamed either white women telephone workers or black women applicants. In 1920, when the telephone industry suffered a tremendous labor shortage and advertised for 1,000 operators, New York Telephone Company refused an offer to supply it with "neat and intelligent. . . colored girls," free of charge, made by Eugene McIntosh, proprietor

[28] '"Gentlemen ... Be Seated!'" *Telephone Review* 4 (1949): 4-5.

[29] "Sodus Minstrels," *Telephone Review* 9 (1955): 17.

[30] "Deal-Holmdel Party," *Bell Laboratories Record* 7 (1949): 280.

[31] Ibid.

[32] See "We Ask to Know," *Western Electric News* 11 (1925): 1. Although I am citing evidence before the 1960s, I can well remember protests against a New York Telephone internal magazine in the mid-1970s that depicted a black boy snatching a woman's purse. Readers should also recall the 1993 protests over a long-distance advertisement in an AT&T company magazine that placed a monkey on the map of Africa while other parts of the world were represented by people. See American Telephone and Telegraph Company, "Fun 'n' Games: AT&T International Quiz," *Focus*, September 1993.

of the Harlem Employment Agency.[33] To this offer of '100 per cent American" girls who would "prove competent and loyal," E. J. Anderson, the employment manager, blandly replied that while the company had "given consideration to employing colored girls as telephone operators," it was "not in a position to do so at the present time."[34] Anderson gave no further explanation, but a Mr. Schultz, assistant to the vice president, responded to a similar offer made by the League for Democracy by disclaiming any personal objection to black workers, asserting that the white operators would quit if they had to work next to black women and further claiming that white women would not train black women.[35]

New York Telephone's position seemed to harden over time. In 1927, when George S. Schuyler of the *Messenger* inquired about the number of blacks employed by the company, Vice President T. P. Sylvan replied that there were some blacks on the payroll "assisting ... in the conduct of. . . restaurant and lounge facilities."[36] To Schuyler's follow-up letter asking why there were no black operators, Sylvan answered that he had already discussed this matter with other "distinguished" blacks and that he believed he had "satisfied them that the position which we have taken with reference to their employment has been a proper and necessary one."[37] According to a New York City Mayor's Commission Study in 1935, "Mr. R. H. Boggs, Vice-president in charge of personnel of the New York Telephone Company did not regard the exclusion of Negroes . . . , as discrimination but only as a customary practice."[38]

Even after New York State passed a law in 1933 that forbade public utilities to "refuse to employ any person in any capacity, in the operation or maintenance of a public service on account of the race, color or religion of such person," the exclusion of black women from the

[33] "Phone Co. Won't Hire Negroes to Meet Shortage," *New York Call,* March 1920, p. 2.

[34] Quoted in ibid.

[35] Ibid.

[36] George S. Schuyler, "Negro Labor and Public Utilities," *Messenger,* January 1927, p. 4.

[37] Ibid. Sylvan goes on to say that he trusts that Schuyler will come to the same conclusion and "arrive at the place where you will feel any considerable attention given by you in the way of agitation or publication will result in still further increasing any heartburning or disappointment now extant."

[38] The Mayor's Commission on Conditions in Harlem, *The Negro in Harlem: A Report on Social and Economic Conditions Responsible for the Outbreak of March 19, 1935* (New York, 1936), p. 24.

operating forces continued.[39] Indeed, during the 1930s, in testimony given before government investigators, New York managers insisted that the absence of African American women from operating and clerical work was an indication of black women's incompetence.[40] Consider the testimony of Walter D. Williams, New York Telephone general traffic manager in New York City before the New York State Temporary Commission on the Condition of the Urban Colored Population in 1937:

> Q. What explanation have you for the failure of any Negro telephone operator to be employed out of those 4500? A. That in the opinion of the interviewers, they are not qualified to fill the position of telephone operator. . . .
> Q. Have you ever had a Negro Telephone Operator who has been qualified, in your experience? A. Not in my experience.
> Q. What prevents them from being qualified, in your opinion? A. Our job, of course, in the Central Offices, is to give telephone service; that is done by a group of girls and we work together. They are white girls, and in our judgment it would not be possible to give a proper grade of telephone service if we put the Negro girls in with the white girls.
> Q. Upon what is your judgment based, Mr. Williams, what fact, if any, have you in your possession upon which you base your judgment? A. Business judgment over a number of years.
> Q. I ask you if you are in possession of any facts? A. I am not.[41]

Throughout his testimony, Williams asserted the right of the company to exclude black people and that the company was not in violation of the law to do so.[42] Furthermore, he stated that his judgment was in no way affected by the knowledge that black and white women worked side by side in civil service and other government jobs.[43] He even acknowledged the justice of hiring African Americans but concluded that "it is a matter of a practical condition that we have before us, and unfortunately all the things in this world are not decided on

[39] New York State Temporary Commission on the Condition of the Urban Colored Population, *Report to the Legislature of the State of New York* (New York, 1937), p. 64.

[40] New York State Temporary Commission on the Condition of the Urban Colored Population, *Public Hearings*, 1937. See, e.g., the testimonies of Walter D. Williams, general traffic manager, New York Telephone Company, New York City, and Peter D. Lowrie, auditor of the Bronx-Westchester area, New York Telephone Company, Bronx, New York.

[41] Ibid., pp. 1512-13.

[42] Ibid., p. 1514.

[43] Ibid., p. 1513.

straight questions of justice."[44] Williams's views are clearly based on the notion that custom and tradition dictate that African American women remain in subordinate social and economic positions.

The evidence presented here applies specifically to New York Telephone Company, but there is ample evidence that these notions were prevalent throughout the Bell System, despite AT&T claims that the associated companies enjoyed total independence in the selection of personnel. What may not have been explicit in company rules was certainly implicit in AT&T's own policy of excluding black women. Indeed, a study of forty-four cities conducted by the Urban League concluded that "available information is sufficient to substantiate the fact that Negro workers have been systematically excluded from employment in this industry in many cities."[45] Consequently, the report continued, "prior to 1940, no Negro switchboard operators were employed in any of the exchanges" investigated. And, "in fact, there is no record of the employment of Negro operators in any city in the country before that date."[46] Since the Bell System trained all of its newly hired employees, neither special training nor work experience weighed more heavily than race as a prerequisite to employment. A statistical analysis of African American employment in the Bell System further evidences this requirement and the ideas that supported it.

African Americans had worked for different Bell operating companies before the large-scale hirings of the 1960s but in 1940, when blacks numbered 10 percent of the American population, they comprised only .7 percent of telephone workers and were segregated into the most menial jobs.[47] Prior to World War II, the Bell System virtually ignored challenges to its policy against hiring any but white women as operators.[48] In the war period, the Fair Employment Prac-

[44] Ibid., p. 1522.

[45] National Urban League, Department of Industrial Relations, *Number Please? Employment of Negro Workers in the Telephone Industry in 44 Cities* (New York, 1946), pp. 1-2. The cities covered the entire United States and included Boston, Atlanta, Detroit, Chicago, Little Rock, Memphis, Minneapolis, Newark, New Orleans, New York City, Philadelphia, Omaha, Portland (Oregon), and Seattle.

[46] Ibid., p. 5.

[47] David Copus, Lawrence Gartner, Randall Speck, William Wallace, Marjanette Feagan, and Katherine Mazzaferri, '"A Unique Competence': A Study of Equal Employment Opportunity in the Bell System," paper written in 1971 by the lawyers who participated in the EEOC investigation into the employment practices of the Bell System operating companies. Submitted as "EEOC Prehearing Analysis and Summary of Evidence" before the Federal Communications Commission, pp. 179—81.

[48] African Americans had challenged Bell System discrimination since World War I. Between 1937 and 1939, activists intensified their campaign for the employment of

tices Committee (FEPC), pressured by African American complaints, filed several suits against the various operating companies in an effort to break down this institutional racism. A sprinkling of African American women gained entry into AT&T Long Lines (the long-distance company) and some of the operating companies, but it is not clear whether this resulted from FEPC actions or the scarcity of labor during and immediately following the war.[49] It is likely that the alternative opportunities offered to white women, extraordinarily high turnover, and the general expansion of telephone usage in the war period all combined to create an economic motivation for the introduction of African American women into Bell System operating.[50]

Bell System economic conditions, rather than a desire to eradicate racist practices, moved the operating companies to increase the number of black women to 1 percent of all women workers in the telephone industry by 1950.[51] The demand for operators in large urban areas led to another small percentage increase in black women operators between 1950 and 1960. In this period 2.5 percent of the telephone workforce consisted of black workers, concentrated in New York City, Philadelphia, Detroit, Chicago, and Los Angeles.[52] Southern operating companies hired no black women and actually reduced the number of black men.[53] The trend toward hiring black women only as operators and mostly in northern industrial centers had clearly emerged by 1960. Up to this time black males had outnumbered black females.[54]

At the height of the Civil Rights era (1960—70), the Bell System hired significant numbers of African Americans without changing its pattern of occupational and geographical segregation. The percentages increased rapidly: 4.0 percent of the workforce in 1963, 4.6 percent in 1966, and 9.8 percent in 1970. As operating companies in other areas of the country reluctantly hired blacks, Southern Bell and

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black women as operators in several large cities. Boycotts and other protests raised the issue but had no results.

[49] African American women also pressured the Bell System to hire them. In New York, Baltimore, Chicago, and other cities they held twenty-four-hour picket lines around buildings and mass bill pay-ins and phone-ins to tie up Bell equipment. These struggles to work will be more thoroughly explored in my forthcoming book (n. 10 above).

[50] Copus et al., pp. 183-84.

[51] Ibid., pp. 182-83.

[52] Ibid., pp. 184-85.

[53] Ibid., p. 185.

[54] Bernard E. Anderson, "Equal Opportunity and Black Employment in the Telephone Industry," in *Equal Employment Opportunity and the AT&T Case*, ed. Phyllis A. Wallace (Cambridge, Mass., 1976), p. 183.

Southwestern Bell continued to exclude blacks from all except the most menial jobs. A look at their record during the 1960s is illustrative:

> In the entire state of Mississippi, Southern Bell employed no blacks in any entry-level job above service worker or laborer until June, 1965. In New Orleans, Southern Bell hired its first black above service worker or laborer in November, 1963, and its first black Operator one year later. The Company hired its first black Operator in Florida in March, 1964; and in South Carolina in July, 1964. Southwestern Bell hired its first black Operator anywhere in Kansas in 1963. The first black Installer employed in Kansas was hired in June, 1969. No black above service worker or laborer was hired in Arkansas until 1964. The first black Operator in Oklahoma was hired in March, 1964.[55]

General employment trends and the Civil Rights Act (1964) hardly affected southern employment policies before 1970. Of course, when they did hire blacks, they duplicated the segregated work patterns practiced in the North.

New York operators, interviewed for a larger study, stated that the transformation to a black operating force happened in no more than the last four or five years of the 1960s. According to Bernard E. Anderson, an expert on black telephone industry employment, the Bell System hired 53,903 black employees between 1965 and 1971 while the entire industry had hired only 54,000 between 1950 and I960.[56] [57] Furthermore, an EEOC investigation demonstrated that in nonsouthern urban areas, women composed between 72 and 92 percent of black telephone workers in 1967 whereas white women made up only 48 to 61 percent of the white workforce. In New York, for example, while 92 percent of black employees of the New York Telephone Company were women, only 50 percent of its white employees were women.[57]

The Bell System deliberately hired African American women into an occupation that not only paid low wages but was becoming technologically obsolete. Managers, infused with a racist ideology, implemented new technologies in an urban setting in order to exploit

[55] Copus et al., p. 195.
[56] Anderson, pp. 189—90.
[57] Copus et al., p. 200.

changing urban demographics.[58] Between 1960 and 1970 the number of young black city dwellers increased by 78 percent while young whites increased by only 22.8 percent.[59] The nation's largest urban areas presented the Bell System with an untapped labor pool. In October 1969, AT&T vice president Walter Straley delivered a report to a conference of Bell operating company presidents in which he stated:

> Population and labor force projections are not at all encouraging. The kind of people we need are going to be in very short supply. . . . Most of our new hires go into entry level jobs which means we must have access to an ample supply of people who will work at comparatively low rates of pay. That means city people more so than suburbanites. That means lots of black people.
>
> There are not enough white, middle class, success-oriented men and women in the labor force—or at least that portion of the labor force available to the telephone companies—to supply our requirements for craft and occupational people. And from now on, the number of such people who are available will grow smaller even as our need becomes greater. It is therefore perfectly plain that we need nonwhite employees. Not because we are good citizens. Or because it is the law as well as national goal to give them employment. We need them because we have so many jobs to fill and they will take them.[60]

Faced with unusually high turnover and white flight from operating, managers in their sexist thinking had to find another group of women

[58] The Bell System consciously installed its switching systems in cities to tap the black labor pool. In 1977 81.1 percent of its workforce was concentrated in large cities or close to them (written response by James A. Sheridan, manager, Human Resources, to government inquiry into employment in the central cities, quoted in Subcommittee on the City of the Committee on Banking, Finance and Urban Affairs, House of Representatives, *Large Corporations and Urban Employment* [Washington, D.C., 1978], pp. 655-56).

[59] Anderson (n. 54 above), p. 196.

[60] Walter Straley, vice president AT&T, "Report on Force Loss and the Urban Labor Market," paper delivered at the Bell System Presidents' Conference, October 9, 1969, p. 50, in the Records of the Equal Employment Opportunity Commission, Numeric Subject Files Relating to the Litigation against American Telephone and Telegraph Company, 1965-73, Classified Files, 1971-73, Record Group 403, box 99, National Archives, Washington, D.C. (hereafter cited as EEOC, NA).

to keep their system replenished.[61] The racial ideology of these managers impelled them to hire the women who were deemed socially inferior and who could be paid the least.

Vice President Straley questioned who would be "available for work paying as little as $4,000 to $5,000 a year." Noting that two-thirds of the people in urban areas available for such low rates would be black, he answered, "It is therefore just a plain fact that in today's world, telephone company wages are more in line with black expectations—and the tighter the labor market the more this is true,"[62] These "expectations," limited by what a labor market controlled by white managers actually offered, created a tidal wave of black applications for telephone operating. African American women, many of them recent emigrants from the South searching for an escape from agricultural and domestic labor, were unwitting but willing victims of a Bell System hiring policy that consciously chose them for exploitation.[63]

Instead of raising wages and creating less stressful work environments to attract people of all races, the Bell System segregated black women into departmental ghettos (operators and low-level clerks) where there was little opportunity for advancement. The insidiousness of this racism is that the higher-paying, less stressful, and more varied job opportunities that did become available for telephone women opened mostly for white women. White men and white women who lived in the suburbs gladly commuted to the cities to earn the higher salaries offered in craft and upper-level jobs. It was not the lack of white workers but the lack of white workers who would work for low wages that motivated the Bell System to hire black urban dwellers.

African American women and men, in addition to large groups of

[61] Anderson (n. 54 above), p. 196: "The resignation rates of telephone operators in seventeen Bell operating companies ranged from 8.6 per 100 employees in Indiana to 31.7 per 100 in New York in 1971." Copus et al. (n. 47 above), p. 17: "A 1969 AT&T report indicated that in 19 major metropolitan areas, turnover among Operators with less than six months' service had increased from 80% in 1964 to 120% in 1968. In fact, in many districts turnover among short-term Operators had reached 200% in 1968."

[62] Straley, pp. 20-22, 32.

[63] In interviews conducted by the author, ten black women (New York Telephone and AT&T employees included) hired between 1946 and 1971 stated that when they were hired they thought their starting salaries were good. They all said that the company had only offered them the operating job. They did not know of other jobs. A few women did begin as clerks, but this was extremely rare. It should also be mentioned that operators were not the lowest-paid workers in the Bell System. There were low-grade clerks who received a few dollars less than operators. Not surprisingly, however, black women who were not operators held these jobs.

Spanish-surnamed and other nonwhite people in various parts of the country, were systematically excluded from craft and upper-management positions. Arbitrary testing procedures and irrelevant academic credentials barred most nonwhites from the higher-paying and more desirable jobs in the telephone industry. Craft jobs—the highest-paying nonmanagement jobs and the almost exclusive domain of white men—opened to a few non white men, but black operators, like white operators, did not have a real chance at these jobs before the 1970s. And the few black men who did achieve craft status remained in the lower crafts. Even in companies like New York Telephone, where a significant number of blacks had worked since the 1940s, they were underepresented in management jobs. At the end of 1969, only 4.4 percent of New York Telephone's black employees had achieved management titles, while 27.2 percent of the white employees worked as managers.[64] In the South, .6-.9 percent of the blacks held management titles.[65] Regardless of location, the Bell System's racial ideology trapped black women both as women, who would only obtain the lower-paying operating or clerical jobs available to women, and as blacks, who would only obtain the lowest-paying jobs available to blacks. Government policies and union activities, also affected by this ideology, hardly improved African American women's position in the telephone industry.

AT&T and the EEOC

Despite AT&T's highly publicized equal opportunity programs, an EEOC investigation completed in 1971 concluded that AT&T and its associated companies had in fact systematically discriminated against women and "minorities." Without admitting to any unfair practices, AT&T signed a Consent Decree with the government in 1973.[66] The decree awarded workers a $38 million wage compensation and called for complete reorganization of personnel procedures to reduce the racial and sexual job segregation so long practiced in the telephone industry.[67] Subsequently, two more Consent Decrees became necessary when the Bell System failed to fully implement the intent of the original agreement.[68]

The Consent Decree granted AT&T and its operating companies six years to hire, transfer, and promote a "targeted" number of

[64] Copus et al. (n. 47 above), p. 207.

[65] Ibid., p. 208.

[66] Wallace, ed. (n. 54 above), "Introduction," p. 1.

[67] Ibid.; $15 million of the $38 million was allocated as back wages to workers who had suffered discrimination, and $23 million was set aside for other compensations.

[68] Signed on May 30, 1974, and May 13, 1975.

women and minorities into higher-paying management and craft jobs and also to place men in some of the female-dominated jobs. The Bell System constructed an Upgrade and Transfer Program, and it utilized government-approved seniority "overrides" to obtain the targets. General economic conditions, union legal interferences, local managers' pertinacity, and technological displacement make it difficult to assess the decrees' impact on the employment and promotion of women and minorities. Nevertheless, evidence does indicate some improvement in opportunities for both groups.

White women, regardless of their educational levels, moved more rapidly and in larger numbers into the higher-level and expanding occupations than "minority" women. As the more educated white women moved into upper management and sales positions, inexperienced and unskilled white women advanced into craft jobs.[69] After a detailed statistical analysis by region and occupational group, Herbert R. Northrup and John A. Larson concluded that when these women were hired, promoted, or transferred into craft jobs, the percentage of white male applicants entering these jobs decreased from 83 percent in 1973 to 56.3 percent in 1979.[70] They also noted that some less educated white women may have lost clerical and administrative

[69] Herbert R. Northrup and John A. Larson, *The Impact of the AT&T-EEO Consent Decree* (Philadelphia, 1979), pp. 45—47, 49—50, 53, 55, 59, 60-61, 64-66, and tables III-4, 6, 7, 8, 9, 10, 12, and 13. Of the total number of women employed in the Bell System, those in upper management categories such as officials and managers increased from 9.7 percent in 1973 to 13.4 percent in 1979. (Men increased from 31.5 percent to 34.2 percent.) Women held 24.5 percent of the jobs in this group in 1973 and 29.1 percent in 1979. Of this distribution, white women constituted 22.5 percent (37,054) in 1973 and 24.9 percent (47,713) in 1979. African American women comprised 1.5 percent (2,390) in 1973 and 2.9 percent (5,627) in 1979. Hispanic and other minority women increased from 0.6 percent (902) in 1973 to 1.3 percent (2,370) in 1979. These numbers should be viewed with some skepticism because secretaries and other administrators were counted as officials and managers when they really had no decision-making powers. They were simply not in the unions. In the outside crafts occupational group, the percentage of the total number of Bell System women increased from 0.2 percent to 1.5 percent in 1973 and 1979, respectively. Their distribution increased from 0.7 percent to 4.7 percent. The change for white women was from 0.6 percent (879) to 3.8 percent (5,138). African American women moved from less than a tenth of one percent (57) to 0.5 percent (742). Hispanic and other minority women also comprised less than a tenth of one percent (36) but increased to 0.4 percent (433). In 1973, 2.5 percent of the total number of women worked in the inside crafts, increasing to 4.3 percent in 1979. In those same years, their distribution jumped from 10.7 percent to 17.9 percent. Of this distribution white women comprised 9.2 percent (8,957) and 14.3 percent (14,015). African American women constituted 1.2 percent (1,140) and 2.5 percent (2,419). Hispanic and other minority women's part changed from 0.4 percent (354) in 1973 to 1.1 percent (1,072) in 1979.

[70] Ibid., pp. 45, 64, and table III-12.

opportunities to men since the percentage of white males in introductory clerical jobs increased from 17 percent in 1973 to 43.7 percent in 1979.[71] Affirmative action had favorable results for both white men and white women, even though some occupational shifting did occur.

Despite severe losses in several occupational groups, African American and other minority women also experienced some occupational advancement during the years of the Consent Decrees. Like white women, the more educated nonwhites made significant gains in both numbers and percentages in the higher job categories.[72] Improvements in craft jobs were remarkable in that nonwhite women who totaled ninety-three outside craft workers in 1973 increased to 1,175 in 1979.[73] The occupational shifting of white women away from low-level clerical work is illustrated in the increase in nonwhite women who numbered 39,818 in 1973 and 53,158 in 1979.[74] Despite these improvements, the occupational groups in which African American and other minority women were concentrated suffered enormous losses. Between 1973 and 1979, the number of operators decreased by 28.7 percent and service workers by 53.8 percent.[75]

Interpretations of the decline in telephone women's work vary according to the variables analysts weigh. Economists Northrup and Larson, for example, applauded the results of the Consent Decree since the results had been obtained in a period of employment stagnation (total Bell System employment increased by less than 2,000 employees) and at a time when the total percentage of telephone women declined by .6 percent (from 51.5 to 50.9 percent).[76] Unlike these analysts, who viewed technology as a basically benign progression (an independent variable), sociologist Sally L. Hacker identified "technology as an intervening variable" in her examination of sex stratification in the telephone industry. Her research "discovered [that] planned technological change would eliminate more jobs for women than affirmative action would provide."[77] While computerized systems eliminated operating and many lower-level clerical jobs, lower-level managers, mostly women, who supervised these women also lost their

[71] Ibid.

[72] Ibid. African American and other minority women increased from 4,645 in 1973 to 8,901 of the officials, managers, and sales workers categories in 1979.

[73] Ibid. Nonwhite inside crafts women increased from 1,494 in 1973 to 3,491 in 1979.

[74] Ibid.

[75] Ibid., p. 26. In 1975, the company introduced directory assistance charging, which further accelerated the technological decline of operators.

[76] Ibid., pp. 40, 45.

[77] Sally Hacker, "Sex Stratification, Technology, and Organizational Change: A Longitudinal Case Study of AT&T," *Social Problems* 5 (1979): 539.

jobs. Thus, states Hacker, technological change displaced both management and nonmanagement women.[78]

Affirmative action protected only middle-management women, while it opened entry-level, traditionally female, jobs to men. Indeed, according to Hacker, nonmanagement women suffered excessively since "affirmative action placed thousands more men in traditionally women's work than it placed women in traditionally men's work."[79] Many women felt that not only were men moving into traditional female jobs, men were also moving up and out of these very jobs at a faster rate than women had. Dead-end jobs for women became stepping-stones for men.[80] Sex discrimination decreased, but mostly because men replaced women in their work, not the reverse. Race discrimination, even in the context of equal opportunity, continued.

Locally, many lower-level managers found ways to subvert the spirit of affirmative action. Frequently, local managers left African American women's Upgrade and Transfer applications unprocessed. A completed application would be rejected at a later stage in the bureaucracy either because a manager intentionally failed to fill it out properly or because he simply did not care enough to follow it through. In many cases, by the time all of the paper shuffling was finished, someone who had completed the application later had filled the job. African Americans also complained that even after their applications had been successfully recorded, unfair testing procedures often eliminated them.[81] These local practices stunted even the limited advances planned by Bell System executives.

For different reasons, white and black women telephone workers decreased in numbers during this period. African American women replaced white women in the lowest and most populated levels of telephone work. Hacker's findings indicated that jobs in which large numbers and proportions of minority women worked best predicted "slow growth or decline."[82] Minority women were concentrated in operating and clerical jobs—jobs most dramatically affected by technological change. Hence, she concluded that "displacement struck

[78] Ibid., p. 545.

[79] Ibid.

[80] Ibid.

[81] Complaints against the tests are not limited to biases in the actual tests. Unfair testing procedures include such practices as giving too little time to complete an examination, giving more time to whites than blacks, giving inadequate and/or inaccurate instructions to blacks, and giving pretests and study questions only to whites. I know from personal experience that African Americans have been completely left out of the network of stolen answers circulated among white craft workers.

[82] Hacker, pp. 549-50.

most sharply where minority women worked."[83] Although sexist managers continued to place white women in jobs that were already segregated by sex or in low-level craft work that would later be negatively affected by technology, these jobs were better-paying, with more opportunities for advancement, than those for which African American women were selected. Racial ideology severely eroded any opportunities based on sex for African American women.

Managers' racial attitudes also determined how the Bell System used affirmative action targets to maneuver women into rapidly changing male craft jobs. Under the guise of upgrades and promotions, managers placed both white and black women in jobs that new technologies changed. Personnel departments across the country hired women as pole climbers, installers, and frame technicians at the very time that the Bell System planned to eliminate this work by the introduction of new technologies and by changes in customer services.[84] As the Bell System encouraged women, mostly white, to utilize the Upgrade and Transfer Programs to enter these higher-paying craft jobs, they also encouraged minority women to accept targeted upgrades and transfers into clerical jobs created by the fragmentation and deskilling of male craft work.

Dave Newman, a switching equipment technician at New York Telephone Company, described this process in the case of deskmen or testers who had been responsible for locating trouble on customer lines:

> This has been one of the most highly skilled craft jobs. It is being virtually eliminated by MLTs (Mechanized Loop Testers), which are operated by clerks earning significantly lower wages. But money is not the only loss incurred by the workers involved. Testers utilize their knowledge and experience to interpret meter readings and to work with other craftspeople, while a clerk simply dials a line into the machine, cross-references the response against a chart without knowing what it means, and dispatches the trouble to the appropriate craftsperson without knowing what that person's job involves or understanding how it is related to the trouble. Also, testers are overwhelmingly white and male; the maintenance administrators who operate the MLTs tend to be black and female.[85]

Similar fragmentation and deskilling of switching technician's work

[83] Ibid.

[84] Ibid., p. 550.

[85] David M. Newman, "New Technology and the Changing Labor Process in the Telephone Industry: The Union's Response" (1982, typescript), pp. 4-5.

and other crafts have led to the creation of whole departments at New York Telephone Company in which only black women work. More than 75 percent of these jobs require women to remain seated at video terminals where they key in data at company-established productivity rates. White men (who had been skilled craftsmen) and frequently white women supervise these departments. Computerized work measurements and strict supervision combine frequently with racism and sexism to form a virtual hell for most of these women.[86]

Objectively these women work in degraded, deskilled, and dehumanized jobs, but subjective conditions compel some caution in presenting this point of view. African American and other minority women who had worked in the low-paying operator and clerical jobs jumped at the opportunity to work in the deskilled craft jobs, just as they had when the opportunity to work as operators first became available. Higher wages and in some cases more routine hours made these jobs highly attractive to women who in many instances were single mothers. They earned less than skilled craftsmen, but their wages were higher than most other clerical workers. And significantly, they had not been the ones to see their jobs deskilled. The difference between a tester and a maintenance administrator had little meaning to women who had worked in highly segregated environments where there was little knowledge about work in "male" departments. These new jobs represented an upgrade into higher-paying craft work long unobtainable for minority women.

Regardless of the women's own subjective perceptions and conditions, the new jobs amounted to nothing more than another set of positions from which there was little upward mobility. There is no question that Bell managers used racial and sexual divisions to achieve their aims or that they diverted and manipulated equal-opportunity goals to insure that African American and other minority women remained at the bottom of the Bell System hierarchy in jobs adversely affected by new technologies. Managers not only decided which new technologies would be introduced, they also decided who would work in which occupations. Upgrades and targets merely placed a numerical goal on positions planned and designed by Bell engineers. The government did not concern itself with whether or not these jobs were slated for technological displacement or whether they offered few possibilities for promotion. Telephone company

[86] These statements are based on my own experience as a switching equipment technician at New York Telephone Company for over fifteen years. As a steward I have been involved in countless discussions, grievances, and other battles with and on behalf of many of these women.

strategies succeeded to a large degree because unions chose to fight the government over affirmative action rather than to fight management over technological displacement.

Communications Workers of America Oppose the Consent Decrees

Unions, particularly the Communications Workers of America (CWA), which had already failed to protect operators from technological displacement, openly challenged affirmative action. The CWA refused to attend the EEOC negotiations although it, along with the International Brotherhood of Electrical Workers (IBEW), had been asked to participate in the formulation of the Consent Decrees.[87] Instead, the CWA sought "to block the implementation of the decrees on the grounds that: (1) it infringed upon their bargaining rights and (2) [CWA] was not consulted on areas in which it had a vital interest such as issues affecting wages, hours, and conditions of employment."[88] Unsuccessful in this strategy, the CWA initiated a lawsuit in 1973 against AT&T to reverse the Consent Decrees, especially the "override," which it charged violated contractual seniority clauses and permitted the company to engage in unlawful discrimination based upon race and sex, that is, "reverse discrimination."

After five years and numerous appeals up to the Supreme Court, the CWA lost, and the override remained in place along with the other provisions of the Consent Decree. Why had the CWA spent, at least partially, the dues of African Americans, other minorities, and women to finance an attack on the rights of these very members? Why did the CWA choose not to participate in the construction of an agreement that would protect all of its workers and insure fair treatment to those who had been most disadvantaged?[89]

The answers to these questions lie in the composition of the CWA

[87] Phyllis A. Wallace, "The Consent Decrees," in Wallace, ed. (n. 54 above), p. 276. The IBEW did participate.

[88] Ibid., p. 275.

[89] African Americans and white women filed hundreds of complaints and charges of discrimination against the CWA and other unions. In many cases both the union and the company involved were charged. Barbara S. Gray of Memphis, Tennessee, e.g., filed a charge against South Central Bell and CWA Local 3806 in which she claimed that the union "(a) Fails to represent Negroes properly, (b) Fails to give Negroes equal opportunity to be union representatives, (c) Union has taken no action to see that Negroes get the training or advancements they are entitled to," March 19, 1969, Case File 9-0220, box 109, EEOC, NA (n. 60 above). Sex discrimination charges included failure to represent, unequal pay schedules, unequal job classifications based on sex, and the union upholding state female hour laws in states where such laws applied. Hundreds of the charges are dispersed throughout these records, but boxes 82—84 and 107-111 contain most of them.

leadership and the priorities they chose to pursue. Like most high-level company executives, the CWA national leadership has been mostly white and male. Many of these leaders shared management's racial ideology. Not only were they antiblack but they were also pro-white, in the sense that they believed that the union was theirs and therefore meant to serve their interests exclusively. Bell System manipulation of women and nonwhites into jobs adversely affected by technological change caused no union uproar because this policy adhered to union policy of protecting white male jobs. Automation, in its initial stages (when it only affected women), was welcomed by the national leadership. In 1965, CWA president Joseph A. Beirne expressed only slight concern over the loss of 80,000 jobs because he believed "frankly, most of the losses had been handled by attrition since technological innovations affected telephone operators and clerical operations where turnover was high."[90] Beirne admitted that "what most disturbed us [CWA] in 1963 was that we saw where future innovations might affect the more highly skilled occupations where turnover was much slower."[91] In 1963, white men dominated the "highly skilled occupations."

On the local level, white male and female union leaders, protective of their power bases, discouraged nonwhite union participation. Union leadership feared the voting power of nonwhites, especially women, so much that they left many nonwhite employees unorganized well into the 1970s. This was especially true in those places where the membership had rapidly changed from white to black and where the leadership still consisted of long-entrenched white union bosses. In Atlanta, for example, where the traffic department had been better organized than the plant twenty years earlier, most of the black operators remained nonunion in 1970 because local leaders would not ask them into the union.[92]

In northern cities, white female leaders who had historically headed the operators' locals fought against nonwhite leadership and participation while they also failed to represent the nonwhites fairly.[93]

[90] Joseph A. Beirne, "Foreword," in *Automation: Impact and Implications, Focus on Developments in the Communications Industry*, by The Diebold Group, Inc. (Washington, D.C.: Communications Workers of America, AFL-CIO, 1965), p. 7.

[91] Ibid.

[92] Martha Moudy, CWA Representative in District 3, interviewed by John Schacht at District 3 Headquarters, Atlanta, Georgia, February 17, 1970, Oral History Project, CWA Archives, Washington, D.C., p. 16.

[93] Eugene Mays, assistant to vice president in District 1, interviewed by John Schacht at Mays's office at District 1 headquarters, New York, New York, May 15, 1970, Oral History Project, CWA Archives, Washington, D.C., p. 10. CWA's large traffic local in Newark, New Jersey, experienced near destruction in 1970 when its white female

Union membership, however, did not always help. New York Telephone operators (approximately 75 percent of whom were black), belonged to the Telephone Traffic Union (TTU) whose white leadership, according to former operator Lessie Sanders, never sent the operators out on strike.* [94] The TTU membership resorted to wildcat strikes at the end of their contracts because their leadership did not fight for black operators' demands. The actions of the TTU's white women leaders demonstrate that America's racial ideology crosses gender lines.

Indeed, the desire to exclude African American women from the better-paying jobs crossed gender and union lines. Not only did union leaders and individuals challenge black female promotions with the cry of "reverse discrimination," in many shops whites unified so that white women could be used to block the promotion of non whites. Often, with union acquiescence, white male managers promoted white females to the disadvantage of nonwhites. Of course, this tended to destroy any unity based on gender and class solidarity.

Although there may have been exceptions among individuals and local leaders, telephone unions in general throughout the 1960s and most of the 1970s never pursued strong equal opportunity goals. Without concerning themselves with unfair racist and sexist hiring and promotion practices, most union leaders insisted that African Americans and other minorities received the same union protections and benefits won through national contractual provisions for all workers. Indeed, the CWA gained a public reputation for bargaining contracts that included high wages, above-average benefits, and, in the 1980s, significant protections against technological change.

The CWA Bargains Technology Clauses

The CWA, mostly concerned about the impact of technology on its craft workers, bargained several new contract provisions in 1977 and 1980. These clauses included such income protections as the Supplemental Income Protection Plan (SIPP) to workers "declared" surplus (technologically displaced), Reassignment Pay Protection Plan (RPPP) to workers downgraded, and Technological Displacement allowances to workers who chose termination rather than transfers or downgrading. Other provisions upgraded the service representatives

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leadership resisted a black majority membership effort to achieve representation in the leadership.

[94] Lessie Sanders, interviewed by Venus Green (telephone) on October 14, 1989, in New York City. Sanders, an engineering studies clerk, is a former telephone operator who has worked for New York Telephone Company since 1969.

in 1977 and the operators in 1980 (both jobs dominated primarily by black women at that time and increasingly besieged by technology), eliminated certain types of remote monitoring, and prohibited outside contractors from telephone work.

The 1980 contract contained letters of agreement that established joint Technology Change Committees in the Bell operating companies, Western Electric Company, and AT&T Long Lines, a national CWA/AT&T Working Conditions and Service Quality Improvement Committee, and a national CWA/AT&T Occupational Job Evaluation Committee.[95] Another provision of the contract obligated the company to give the union six months advance notice of any technological change that might affect its members.[96] These committees and the other contractual provisions have been applauded by many in the labor movement as a real advance in the technological struggle.

Dave Newman, a CWA steward, critic, and activist, also acknowledged that the CWA had "pioneered in winning contract language which [sought] to minimize the harmful impact of technological changes."[97] Still, he voiced several objections:

> While virtually the entire membership supports such protections as RPPP, SIPP, layoff procedures by inverse seniority, etc., there is increasing concern and understanding that the amelioration of negative company actions is not the same thing as fighting the actions. These programs and procedures do not constitute job security, nor do they protect job content or skills. The three committees . . . are seen as impotent (having advisory power only), and the high union officials on these committees are viewed with skepticism, since they are the same officials who are seen as having done nothing previously to combat technological change and its negative effects.[98]

Ideally, the new but inadequate technology clauses should have protected any group of workers experiencing technological change. But frequently, managers unfairly manipulated these clauses against

[95] Technology Change Committees discussed retraining and employment opportunities for Bell employees whose jobs were affected by technology. They also discussed the appropriate administration of SIPP, RPPP, and transfers in the event of technological displacement.

[96] The Working Conditions and Service Quality Improvement Committee sought employee participation in what the name implies. And the Occupational Job Evaluation Committee had the responsibility of evaluating and creating new job titles and classifications in light of technological change.

[97] Newman (n. 85 above), p. 21.

[98] Ibid., pp. 23-24.

the interests of women and nonwhites, just as they had done with the EEOC targets. During the 1980s, well after nonwhites and women had not only become union members but together represented the majority of its members, union neglect and apathy created conditions conducive for the continuation of company racism and sexism. The closing of the AT&T New York City International Operating Center (IOC) (a workplace with a majority of black women) in 1983 and the continued technological displacement of low-level clerical workers in the operating companies provide examples that demonstrate how even these objective clauses can be administered in a subjective and racist manner.

Management Administers the Clauses: The Closing of the New York IOC

Long-distance, particularly overseas, operators were the last large group of operators to experience technological displacement. International Direct Distance Dialing (IDDD) and International Service Position Systems eliminated overseas operators in the 1970s and 1980s just as dial, direct distance dialing, and TSPS had eliminated local and long-distance operators in earlier periods. These technologies allowed operators anywhere in the country to place overseas calls and led to the shifting of work from one part of the country to another. Nationally, the company operated at least a half dozen International Operating Centers to process calls from different parts of the country to various overseas points."

Gradually, AT&T began to phase out these centers for reasons that indicated priorities other than an excess of equipment or a surplus of workers.[99] [100] When AT&T decided to close its New York IOC and move the work to other regions, Pat Meckle, who was an operator and also secretary treasurer of CWA Local 1150 during this period, attributed the move to the company's desire to pay lower operating costs and the desire to close before the upcoming divestiture of the Bell operating companies.[101] Equally as important, Meckle stated,

[99] New York City; White Plains, New York; Denver; Oakland; Pittsburgh; Springfield, Massachusetts; and Jacksonville. Not all of these operated at the same time.

[100] Pat Meckle, interviewed by Venus Green on July 27, 1989, in New York City, second interview. Meckle is the only white operator interviewed for this study. Local 1150 included AT&T operators and craftsmen working in New York City. According to Meckle, the Oakland IOC "did not stay open too long" because the company took "a beating" from the militant operators out there.

[101] Ibid. On January 1, 1984, as a result of an antitrust settlement with the federal government, AT&T divested itself of its twenty-two operating companies. These companies reorganized into seven regional companies while AT&T kept its long-distance business, and Western Electric and Bell Labs, their manufacturing and research units.

"they also felt they didn't have such militant people in some of the other locations."[102] Ron Tyree, vice president of Local 1150, one of the first male operators and a steward at that time, also suspected that the company especially wanted to get rid of the black operators because of their resistance to company policies.[103]

His suspicions were borne out by the way AT&T manipulated the contract to create confusion, fear, and frustration among the operators. Anne H. Walden, CWA Local 1150 Section vice president of traffic in 1983, recalled that when the company first notified the union of the closing on August 30, 1982, management indicated that it would "make an attempt to place the employees in other jobs including a few thousand downgraded . . . clerical jobs in New York Telephone without the benefit of the Reassignment Pay Protection Plan."[104] The company gave no explanation for why the operators would not have received RPPP benefits (a contract violation). By February 1983, the company announced that these jobs would not be available since New York Telephone company also had a surplus.

Other possible opportunities proved equally elusive. Few women received upgrades to service representative or craft jobs. Eventually AT&T pressured some operators into entry-level clerical jobs that were often great distances from their homes or former jobs. In many cases the company induced others to quit with a "Separation Payment." Since many of these women had already achieved an operator's top salary, moving into entry-level clerical positions entailed a reduction in salary. The RPPP protected the pay of those with fewer than fifteen years of service for only one year. Many black women did not have that level of seniority. Others, hired in the late 1960s and early 1970s, did not have enough seniority to take advantage of the retirement benefits under SIPP. The closing of the IOC caused over 1,200 women to be transferred to new locations, downgraded, or forced to resign. The company eventually laid off as many as 300 of these women. Pat Meckle stated that none of the IOCs before or after New York had been closed in the same manner. Somehow all of the people in the other IOCs received other jobs.

Union behavior in this tragedy requires scrutiny. Meckle defended the union, which had been criticized for the layoffs, scattered transfers, and the lack of demonstrations and other forms of protest. Acknowledging that many of the union officers had been craftsmen who

[102] Ibid.

[103] Ron Tyree, interviewed by Venus Green on July 27, 1989, in New York City.

[104] Anne H. Walden, "Anne Walden on the I.O.C. Closing," *Local Spirit*, Newsletter of Local 1150, Communications Workers of America (April 1983), p. 1.

were not immediately affected by the closing, she still argued that the criticisms had been misdirected since "so many did get jobs because [the union] persisted and persisted and argued and fought."[105]

Tyree voiced a considerably different assessment of how the union handled the closing. He did not think anyone actually had investigated how to stop the closing or to save as many jobs as possible. Neither the national nor local leadership made any plans or took any aggressive action on behalf of these black operators. He did not believe that they "could have completely changed what happened," but he thought that the union "could have made it easier . . . could have prepared people a lot better."[106]

According to Tyree, union officers Anne Walden and Pat Meckle were the only operators who voted for a strike at a Local 1150 meeting held in May 1983. He attributed this disaster to the actions of Chester (Chet) L. Macey, the local president at the time, who told the operators that if they voted for a strike the company would simply close the IOC earlier. Angry but afraid, operators defeated the strike vote. A local president, either through a lack of concern, ineptitude, or perhaps ambition for a position in the company, asserted his authority to suppress dissent instead of rallying and directing the workers toward resistance.

Chet Macey, a white male who had never been an operator and who after leaving union office went directly into management, had failed to protect black women workers. As a result, the company, as Walden demonstrated, was allowed to abuse contract provisions by simply ignoring them (RPPP) or using them (Separation Payments) to force the operators to quit. And more important, the provisions themselves had been conceptualized with seniority prerequisites when black women with lower seniority worked in the very jobs slated for technological displacement—supposedly the type of jobs intended for protection.

Contrast this AT&T closing with the introduction of MLTs, which displaced test desk technicians, a largely white male group. According to Newman, some of these men retired under SIPP, and others accepted downgrades under RPPP or transferred to test bureaus in areas yet unaffected. Significantly, Newman observed "that whatever the inadequacies of the union's response, no testers lost their jobs as Bell System employees."[107] Other major work organization changes due to technological changes also did not lead to craftsmen losing

[105] Pat Meckle, interviewed by Venus Green.
[106] Ron Tyree, interviewed by Venus Green.
[107] Newman (n. 85 above), p. 25.

their jobs. Crossbar switchmen, for example, have been retrained for the latest digital switching systems. The majority of white men have suffered few pay reductions and no loss of individual jobs. On the other hand, white men's jobs have suffered massive deskilling as centralization and computerization have increasingly diminished their control over their work. Computerization has made it possible for management to encroach on more and more of the craftsperson's work under the guise of "supervision" and "analysis." These same processes have also made it possible to get the jobs done with fewer people. In the long run, craft jobs will experience the same technological displacement operating has. For the moment, however, the protections (although small and inadequate) of the union's technological provisions have been greater for white male craft workers than for women and non whites.

Union performance was not uniformly poor. On an individual basis and in some regions, the CWA provided strong representation for nonwhites and women. In the case of the MLTs, the women who replaced the men achieved higher salaries (though significantly less than testers) than they would have as regular clerks. Even operators' salaries increased as their numbers decreased. One study stated that in 1985, the CWA-represented operators earned "wages that equalled those of the average male worker in the labor force as a whole" and "significantly more than the average woman earns in the U.S."[108]

The CWA has also sought to improve the wages and working conditions of women by its participation in special committees, conferences, and community coalitions.[109] A more diverse membership agitated for policies that would relieve the effects of both management's and the union's race/sex policies. As a result, in the early 1980s the CWA began to adjust its outlook to reflect an awareness of the special problems presented by its female and nonwhite membership. Working with AT&T in the Occupational Job Evaluation Committee and the Quality of Worklife Committees established in 1980, it sought to es-

[108] National Organization for Women, "Women's Wages: A Key to Preserving Middle Income Jobs" (Washington, D.C., August 1986), updated November 1986 by Judith Gregory, George Kohl, Leslie Loble, Louise Novotny, and Karen Sacks, pp. 18, 23. This study does not mention the weekend and out-of-hours premiums that may be included in the figures given. An interesting point, but another story, is that by this time the operating job has begun to attract white women again. Divestiture and the rise of competition created new opportunities.

[109] Alone and in conjunction with the Coalition of Labor Union Women, the CWA has sponsored several National Women's Conferences to discuss such issues as pay equity and new technology.

tablish principles of "comparable worth" and to address other problems in the workplace. The national CWA leadership also expanded its previously established Women's Committees and Committees on Equity.

Despite union cooperation and the signing of new EEOC Consent Decrees in 1982, statistics released by New York Telephone Company demonstrate that women and minorities, albeit to a lesser extent, continued to be segregated in the lower-paying, powerless positions. Just as in the early 1970s, women's percentage and numbers in the female-dominated occupations decreased at a faster rate than their growth in male-dominated crafts. Overall, unionism and affirmative action helped to increase the percentages of women and nonwhite people in jobs from which they had been historically excluded. Yet new technologies continuously erode future employment possibilities while they create even more stressful work environments.

New Technology: The Cost to Bell System Women

Although job loss is a major concern in any discussion of the technological transformation of work, health and job satisfaction are equally important considerations. Most Bell System women work in closed environments at some type of video display terminal (VDT) where their mobility is severely limited. As a result, significant health hazards are encountered, including miscarriage, eye strain, backaches and strain, headaches, stress, burning and itching eyes, and environmental problems such as extremes in temperature, exposure to hazardous and toxic chemicals used in photocopiers, printers, duplicators, and other office machines, inadequate illumination, insufficient fresh air ventilation, and poorly designed work spaces.[110] Worse still is the pervasiveness of carpal tunnel syndrome among VDT workers. The *CWA News* described the symptoms as "tingling and numbness in the hands and fingers, sharp pain in the hands and wrists while performing tasks, and throbbing, sleep robbing pain at night from the shoulder on down."[111]

Usually "associated" with work such as "meatcutting, assembly line work, and sorting mail," carpal tunnel syndrome among telephone women is believed to be caused by "a constant motion of fingers and wrists while working at improperly designed VDT stations, combined

[110] See Jane Fleishman, "The Health Hazards of Office Work," Mary Sue Henifin, "The Particular Problems of Video Display Terminals," and Wendy Chavkin, "Closed Office-Building Syndrome," all in *Double Exposure: Women's Health Hazards on the Job and at Home*, ed. Wendy Chavkin (New York, 1984), pp. 57-86.

[111] "Carpal Tunnel Syndrome," *CWA News* 4 (1989): 6.

with the elements of high job stress and lack of rest breaks." The result is a "swelling of muscle tendons running through the wrist bones—the 'carpal tunnel'—which produces pressure on, and eventually damage to, the median nerve."[112] Tendinitis, ganglionitis, bursitis, painful disorders of the neck and back, and other musculoskeletal illnesses also occur as a result of VDT work.[113] Directory Assistance operators, confined to one position up to 2 1/2 hours without a break and who work at a constant repetitive pace under extreme surveillance, have been especially susceptible to VDT illnesses.

Mental health has also become an important concern. Whether working as operators, clerks, or skilled craftspeople, few women receive the job satisfaction they thought would come with transfers or promotions. As a result of management's continuous separation of knowledge from execution, most women work all day in front of VDTs performing jobs fragmented to the extent that the women know relatively little about how their work fits into the total picture. When they do know, they are powerless to correct system design problems created by their "superiors." One National Institute for Occupational Safety and Health (NIOSH) study "found that people who work on VDTs face higher stress than any other occupational group, including air traffic controllers."[114] Other NIOSH research concluded that VDT workers suffered from "anxiety, depression, irritability, monotony, fatigue, and lack of inner security."[115]

The operators' job, always stressful, became nearly intolerable with the new Traffic Service Position Systems. The TSPS operators automatically receive calls sent to them by an Automatic Call Distributor. They have no control over when to take the next call because the machine recognizes the microsecond the prior call is finished and sends another one to the position immediately. Unlike the flashing-light signals on the cord boards, TSPS operators know they have another call when they hear a "beep" in their earphones. Keep in mind that these operators are still working according to the pre-World War I standard under which they are expected to answer the "electronic beep" within three seconds and no later than ten seconds.

The TSPS stole even the few seconds of peace that cord board operators had been able to pilfer in between the physical operations

[112] Ibid.; and U.S. Department of Labor, Occupational Safety and Health Administrator, *Working Safely with Video Display Terminals*, rev. ed. (Washington, D.C., 1991), pp. 2-3.

[113] Henifin, p. 71.

[114] Cited in Fleishman, pp. 65, 69.

[115] Cited in Henifin, p. 73.

of plugging and unplugging cords. Even worse, computers made it possible to measure automatically the amount of time spent on each call. Operators' average work times (AWT) could be measured every fifteen minutes, and AWTs above thirty seconds per call could result in disciplinary actions. Computerization, of course, only enhanced Bell System methods for secretly monitoring operators to insure courteous behavior at all times.

Bell System monitoring and production standards have created such highly stressful work environments that drug abuse and alcoholism among workers have become problematic. Robert Howard, in a 1981 article entitled "How AT&T's Workers Are Drugged, Bugged and Coming Unplugged," gave the following example of telephone workers' pervasive use of drugs: "A survey conducted by Connecticut Union of Telephone Workers of more than 200 service representatives at Southern New England Telephone found that 37.2 percent were taking tranquilizers or other nerve medicine, 39.3 percent had increased their consumption of alcohol since starting on the job and 12.3 percent were using both—a potentially lethal combination."[116] In recognition of workers' stress but also to get them back on the job, company medical offices, perhaps illegally, dispensed "greenies" (aspirin and caffeine packaged under the Bell logo), Valium, Darvon, Lomotil, codeine, and other drugs. Nervous breakdowns and disorders have been frequent occurrences among service representatives and operators who have computer-monitored preset time limits in which to answer and service calls.[117] The Bell System, of course, did not publicize these problems.[118]

For several reasons, African American women are especially susceptible to both the physical and mental health problems associated with telephone work. Racist ideology significantly increases mental stress for African American women in a variety of ways. They are concentrated in VDT-intensive jobs where unfair treatment based on race usually results in delayed and postponed relief periods, which can exacerbate physical problems.[119] Second, black women experi-

[116] Robert Howard, "Strung Out at the Phone Company: How AT&T's Workers Are Drugged, Bugged and Coming Unplugged," *Mother Jones* 7 (1981): 39.

[117] Ibid., p. 44.

[118] Nevertheless, I can assure the reader that there are numerous psychiatric, alcohol, and drug treatment centers with which the company has agreements. In the past, I have witnessed dozens of coworkers go in and out of these treatment programs. The problem is immense.

[119] Operators, e.g., could not rise from their positions to relieve themselves without the supervisors' permission. All of the women I interviewed complained about this practice. African American women felt that supervisors took longer to grant them breaks and that their breaks were closely monitored. These women offer countless

ence the effects of racist ideas held by many of their fellow workers and management. African American women suffer abusive attitudes and remarks when they are in the lower positions, and they experience hostility, rejection, and sabotage when they hold positions formerly believed to be exclusively for whites. Both groups of women feel that they are watched more closely by management, that they are more likely to be "ratted on" by their coworkers, and that they are punished more swiftly, more frequently, and more severely for their mistakes.[120]

Women Cope and Resist

All telephone workers, of course, did not succumb to drugs or to the pressures of technological change. They exhibited a wide range of responses to the introduction of new technologies and the restructuring of their occupations. Despite the working conditions, some welcomed the new opportunities. Many African American women felt that they now had a long overdue chance at better-paying jobs. Others believed that the new machines represented "progress," a force over which they had no control.

Whether they accepted the new technology or not, telephone workers worked under extremely stressful conditions, and they found methods of resisting and coping. Geneva Tucker, for example, who had worked in restaurants, dry cleaners, and factories before becom-

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stories about miscarriages and the aggravation of serious illnesses caused by the refusal of supervisors to grant relief breaks. AT&T operators believed that one such incident resulted in the death of a sister operator. Prompted by the incident and other job pressures, these New York (Varick Street) women engaged in a three-day wildcat strike during December 1979. See Green (n. 10 above), pp. 622—23. Also see the testimony of various women during the EEOC investigation. For example, Gabrielle Gemma, information operator, Times Square Directory Assistance, Manhattan, testified that it was only after she fainted from hemorrhaging that she was sent home—without taxi fare (box 4, vol. 35, p. 3611, EEOC, NA [n. 60 above]).

[120] Green (n. 10 above), chap. 11. During the EEOC investigation, Cathy Dennis, a black sales representative in New York, testified that management harassment included forcing sick women to work under the threat of punishment through the Absence Control Plan (box 4, vol. 35, p. 3640, EEOC, NA). Dennis Serrette, a black switchman and vice president of CWA Local 1101 who had handled hundreds of grievances, testified that he had knowledge of a case at a New York Telephone Company office (108th Street) in which a black operator requested time off for illness and family problems. She was denied permission but took off anyway. She was punished under the Absence Control Plan, while a white worker in the same location and "at that time was granted time off because of the sickness of her dog." He further asserted that, "for the most part, blacks and latins, as compared to whites, were not paid for their time of sickness, were openly chastised for it and in some cases fired for it, where, on most occasions, whites were not" (box 4, vol. 39, pp. 4571-73).

ing an operator and who thought the company had treated her fairly in the twenty years she was employed, expressed the desire to just get out and go back down South to live. Upgraded to a clerical position created by automation in the Repair Service Bureau, she does not expect to advance any further and she does not even have a request in for an upgrade to craft work. Her way of coping is to make plans for her escape. She typifies many of the women in the clerical force.[121]

While others sit out their time toward retirement, many workers "play" the Absence Control Plan.[122] The plan is a progression of five steps leading to termination. Every absence (of any duration) creates a step that has to be cleared by a three-month period of perfect attendance, otherwise the step progresses to the next one. To play the plan, employees take days off as sick days, get paid, and wait until their step clears before they are absent again. Obviously, the company has had to revise the plan as a means of deterring this type of resistance. But for those who use absence as a means of resistance, the plan merely controls the frequency, not the number, of their absences.

Another passive form of resistance is simply to do one's job and nothing more. With the new technology assigning tasks, instructions are frequently inaccurate due to last-minute changes, computer difficulties, and other reasons. Women have taken the attitude that they will just do what they are assigned, even when they know that it is wrong and will cause future problems with the system. Sometimes employees perform their tasks strictly according to the procedures described by the Bell System Practices (manuals that tell how to do everything from climbing stairs to using an oscilloscope), which results in a significant increase in the amount of time to complete a job. In effect, they are refusing to use shortcuts and other techniques they have learned as a result of experience on the job.

Rare, but more overt, resistance includes damaging the equipment, willfully performing the work incorrectly, and simply not performing assigned duties. In order to avoid punishment, workers must apply these methods strategically; and the high ratio of management to worker lessens their frequency. None of these tactics, however, pre-

[121] Geneva Tucker, interviewed by Venus Green on June 21, 1989, in New York City.

[122] Winifred King, interviewed by Venus Green. King stated "as long as they pay me my salary, I will stay here and do what I can, but I have no incentive to be outstanding ... or gung ho ... or motivated to do anything more than I have to do." She also looks forward to when she has "enough time [seniority] . . . where [she] can retire and relax."

vents the introduction of new machinery. Individual resistance, no matter how pervasive, has done little to counter the effects of technological change.

Union activities, on the other hand, have been equally ineffective. Strikes and other more militant acts have rarely been initiated. Job pressures and work satisfaction are important enough for the company and the union to form joint discussion committees, but these issues are not strike issues in the opinion of the union leadership. Even when stewards on the shop floor initiate grievances against work pressures, local and national leaders cannot give them the support needed to win the individual grievance. Crippled by their own sanction of the company's "right" to reorganize work according to "the needs of the business," union leaders often do not have any grounds on which to launch a fight against the continuous process of deskilling, fragmentation, and degradation of their work.

Trade unions, government investigators, and other reformers have not been able to pierce the Bell System's wall of power. Through its control over its research and development, the company has been able to keep the union ignorant of both its intentions and the true impact of new technologies. Clauses bargained to notify the union when new technology is about to be introduced are almost meaningless in light of the union's inability to stop the introduction of the new technology or to determine how it will be applied. Left out of the developmental stage, the best the union can do is to haggle over retraining or job transfers.

Conclusion

To conclude, let us return to the hypothesis that race is an overriding variable in determining policy when it converges with gender in the workplace. This article has argued that, despite the Civil Rights movement, EEOC Consent Decrees, and dilatory union cooperation, AT&T and its operating companies pursued policies that in the long term disproportionately subjected African American women to technological displacement and/or dead-end jobs even when these jobs represented opportunities formerly closed to non white women. And this article has argued that these personnel policies reflected a distinct race and sex ideology specifically applied to African American women.

How does race become the overriding variable? How were black women affected differently than any other women? The technology was not designed to eliminate only African American women. Bell System research and development goals were no different than any other company desirous of lower operating expenses. And white

women, after all, had suffered enormous technological displacement as operators before the computer era. What, then, distinguishes black women's experiences in the telephone industry?

First, the Bell System limited the employment of African American women. Telephone companies offered black women employment only as operators or low-level clerks at the very time that white women's opportunities expanded. Because of their sex and race, black women had been deliberately hired into low-paying occupations in which they would be rapidly displaced by technology. When technologically fragmented craft work became available, these jobs, at least in New York City, became black women's domain. Rarely, however, did African American women become supervisors in the newly created departments, whereas white men and frequently white women did supervise an all-black workforce.

Second, shop-floor implementation of policies adopted by company executives and government agencies often subverted the very intention of these policies. Throughout the tenure of the Consent Decrees, lower-level supervisors and foremen continued to delay the processing of African American women's Upgrade and Transfer requests, and test administrators continued to unfairly administer the tests required for upgrades. In effect, lower-level managerial practices narrowed even further the limited opportunities designed by corporate executives.

Third, many union leaders and individuals who viewed black women as others and outsiders not only failed to protect black women because they were women, but actually attacked them because they were black. Believing that the union should serve only white interests, union officials failed to adequately represent African American women who had grievances against the company. These officials, alleging reverse discrimination, also initiated grievances and court cases against black female promotions. In one of the most perverse convolutions of affirmative action goals, union officials and lower-level white male managers colluded to block the promotion of nonwhite women by promoting white women.

Finally, I would argue, at the risk of stating the obvious, that the real difference in women's experiences in the telephone industry is no more than a reflection of the attitudes and behavior of American society. Historically, African American women are the least defended population in this country. It should come as no surprise that their disempowerment would be mirrored in the microcosm of the Bell System. National racism motivated both the company's and the union's responses to equal opportunity. AT&T achieved its service

goals and increased its control over *all* of its workers by using black people, especially women, to intimidate the white workers.[123]

Race became the overriding variable when white people believed that any rights won by black people meant a loss of privilege for them. In this context, management versus nonmanagement has no meaning. When white workers believe that African American women belong on the bottom, they do not endorse equal rights. This lack of working-class unity creates an environment in which managers can apply technology in ways that adversely affect African American women's employment possibilities.

[123] Many white employees believed that black women satisfied two quotas and therefore were more likely to be promoted. These misconceptions created fears that made shop-floor unity almost impossible in many places.

A number of SHOT sessions at Madison explored general, theoretical territory, some of it familiar ground for historians of technology, some less so. Other sessions sought to open up areas that had been largely neglected, like the relations between race and technology. The session including Arthur McEvoy's paper was something of a hybrid of these two types, for the problem of "Technology and the Environment" was not a new or neglected one—geographers and agricultural historians, among others, had long staked out some of the ground. Nor was it a subject that was seen as largely of theoretical or philosophical interest. The relations of environmental history and the history of technology instead provided a forum for examining an area of interest that—it could be argued—was approaching, though had not yet achieved, a point at which basic issues and problems were understood and agreed on, while the ramifications of these issues were still unexplored.

The approaches of the three papers offered striking contrasts. Jeffrey Stine's "Engineering a Better Environment" was largely a general examination of potentially fruitful subjects for investigating the intersections of environment and technology. The context for these investigations, Stine suggested, might be provided by the phrase in his title, resonant as it was of the "persistent faith in technology" that seemed to govern choices about environmental action in the 20th century. Understanding that choices were indeed a central subject for the historian entering this area underlay the entire range of concerns outlined by Stine, from the history of pollution (and its recognition and control) to that of how environmental concerns have interacted with questions of social justice and equity.

Michael Smith's contribution, "Ratings First! Earth Later! Media Depictions of Environmental Issues," illustrated more precisely one of the directions in which this combination of environmental and technological history might go. Applying poststructuralist modes of analysis, Smith used the public furor over lumbering in old-growth California forests as a case study in exploring how the public discourse over environmental consequences of resource exploitation has been shaped by the different interests involved. Smith's work underscored the implications of Stine's focus on choices, particularly since it dealt with a case in which explicit political choices were sometimes obscured by the choices of the media, which sought to represent the environmental battle in terms defined by its own agendas of producing a good, visual, story.

The reader of McEvoy's paper on "Working Environments" will appreciate how it illustrates yet other, sometimes surprising, directions in which this sort of interdisciplinary history can go.