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 50. See Michael Hingson, "The Consumer Testing Project for the Kurzweil Reading Machine for the Blind," pp. 89–90, and Raymond Kurzweil, "The Development of the Kurzweil Reading Machine," pp. 94–96, in Virginia W. Stern and Martha Ross Redden, eds., *Technology for Independent Living: Proceedings of the 1980 Workshops on Science and Technology for the Handicapped* (Washington, DC: American Association for the Advancement of Science, 1982).
 51. For a number of additional examples, see Sclove, "The Nuts and Bolts of Democracy: Toward a Democratic Politics of Technological Design," or contact the Loka Institute, P.O. Box 355, Amherst, MA 01004; e-mail: Loka@amherst.edu.

12. Black Futurists in the Information Age

TIMOTHY L. JENKINS

The new technologies of the information age offer great promise to African Americans, according to Timothy L. Jenkins. They present the prospect of a more level playing field on which ideas can stand or fall on their own merits, regardless of the economic power of those who propose them, and out of which a freer and more egalitarian society can evolve. But such an outcome is not foreordained. In fact, there are many reasons to believe that information age technologies could bring new woes to already disadvantaged minorities. "Left to their own devices," says Jenkins, "minorities are most likely to be the major road kill of the Information Superhighway."

Black Futurists in the Information Age, from which this selection is taken, is intended as a wake-up call to black leadership in the United States. Jenkins and volume coauthor Khafra K. Om-Ra-Seti would have these leaders move from being gatekeepers — mediators of information from other areas of society — to gatecrashers — "opening up new lines of thinking and new avenues of public policy." They call for no less than a scientific and technological revolution in the African American world, advising its leaders to focus their attention on economic and technology progress.

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THE FAR SIDE OF THE MOUNTAIN

It has been a source of amazement and alarm that, in spite of the roar of public attention surrounding the advent of the Information Age as the explosive successor to the industrial era, the leadership of the African American community has yet to broadly interpret the Age's far reaching implications for the vital interests of their constituents. The delinquency of their silence has been all the more profound because of the palpable evidence that without major interventions, the utopian predictions of the Information Age for the society as a whole will paradoxically result in a doomsday scenario for the masses of black people. Alternatively, a clear understanding of the broad implications and susceptibilities of these tools of modern communications, coupled with information science, have the

clear potential to foster unheard-of strategies of liberation. The burden of [the book from which this essay was excerpted] has been to articulate a new vision for African Americans in the Information Age.

The benefit and the burden of being black in America arise from the ability and the necessity to view the same things the rest of society sees differently. This difference is born of bitter experience, that popular propaganda is seldom predicated on the best interests of black people in particular or humanity in general. Moreover, black people harbor a justifiable skepticism that the larger society is equipped to interpret or even understand the best interests of those elements of the population it has excluded from so many of its inner sanctums. Ironically, by the very reason of such exclusion, the social perceptions black leaders hold sometimes allow them insights that are clearer and more reliable reflections of reality for the larger society as well. Contributing factors in the black/white leadership divide come from the material differences in their resources and power. In almost every sphere of life, the historic status of Blacks increases their vulnerability. Statistics affirm these differences in economics, education, health, social mobility, and even in certain areas of historical and philosophical aspirations.

Because of these increased vulnerabilities, many stresses that the majority easily survives exceed the level of tolerance for blacks. In this sense, observing the effects of certain conditions on blacks may predict the later ramifications on the general public. Black people, suffering economically in the early stages of the Information Age, may be like the canary in a coal mine, forecasting climactic dangers before they become a general manifestation. Thus, as the euphoria sweeps the nation regarding the exciting expectations of the Information Age, African Americans must sound the alarm on the dangers of systematic exclusion.

On the surface, every reason exists to celebrate the proliferation of Information Age technologies. But it does not follow that information by itself can guarantee an improved quality of life or more secure democratic rights. Nor do the international migrations of information industries assure that the result will not be the lowest common denominator in wages and jobs. The propagandists insist that universally available information leads inexorably toward democracy, but they seldom acknowledge the mega-disparities that exist in the corporate versus citizens' ability to gather, manipulate, and interpret information in politically relevant ways.

Confronted by these pressing issues, black leaders must now move forward in a new role with specific agendas, promoting the development and advocacy of reform policies and programs that can wisely pick and choose among the probable social effects of the Information Age. The result could be an early wake-up call for our nation, hopefully before the negative effects of tele-cybernetics become irreversible. By fulfilling their role, black leaders can move from being gatekeepers to gatecrashers, opening up new lines of thinking and new avenues of public policy. The beneficiaries of their interventions will not only be blacks, but workers of all races, ages, and their institutions. By the same token, if, at the end of the day, technology will only provide an economic haven for the brightest and the best of us — regardless of race — then we will have cold and shallow comfort in the toll that this direction will have on our society. If those of us who care exercise influence

sufficient to force the agenda of our interest on the application of technology, then we should have our fortunes rise with the whole of mankind.

It is still too early to know which will be the predominant result. In the meantime, we must do all in our power to assure that we are technically aware of technology's positives and negatives, as each public decision is made in response to the rapidly changing world of *The Age of Light*. And woe be unto us if Marshall McLuhan was right when he said "the medium is the message," for most of us are likely to be left out of understanding or enjoying a vital economic connection with either.

In the final analysis, the essence of technology ought to be service. Judged from that perspective, it remains to be seen whether the interests of the black community are served or sacrificed. Absent purposeful leadership involvement, either could be true. The deciding factor will be the extent to which those who both understand and influence the direction of technology take into account the peculiar interests of the black community, as they may well harbingers society's interests in general. If its prime effect is to reduce the labor force to an absolute minimum in order to maximize profits or to allow jobs to follow tax breaks and the lowest wages wherever they might lead, then technology, while benefiting some, will have failed us all!

DEDICATED TO THE FUTURE

This [chapter] is, therefore, dedicated to the future — not an inevitable future — but rather the future that we can design. Never before has there been a time when so much could be achieved in leveling the playing field of life through pluralistic imagination and commercial creativity, as modern, computer-driven technological genius has now made possible. But we will first have to be open to a personal as well as an institutional *need to change*, before we can use technology to counteract social, economic, and intellectual inertia on the matters of race and ethnicity in America. Indeed, the refusal to open our minds to the discomfort of change may be the largest obstacle yet to our ultimate empowerment through technology.

In spite of its many positive potentials, the unfolding of the decade that closes the twentieth century and opens the twenty-first is at best neutral. With equal facility, this epoch can irrevocably alter for good or ill the intellectual and economic disparities born of race, as well as spatial and social realities. The exercise of values in our allocation of relevant technological resources will be the critical challenge.

The factor that makes these next ten years [1997–2007] so critical are both the unprecedented pace of emergent telecommunications and computer innovations, as well as the recognition that, unlike the agricultural and industrial revolutions, those who are left behind this time may never be able to catch up again. Moreover, the Information Age promises to impact monumentally on every area of human life, especially our social and commercial organizations, where the impact will be far-reaching and pervasive. Emergent technologies will be the keys

for determining economic and employment opportunity, freedom of expression, educational attainment and meaningful political participation; all of which are tantamount to deciding who will exercise predominant power for the next hundred years. As such, we stand on the threshold of the invention of what may well become a new worldwide class distinction, or technological caste system.

While the coming of this New Age is a matter of prolific study and investigation in all of these areas, ironically it has been left to the fringe elements of the nation's counterculture to examine its revolutionary implications for America's black, red, and brown minorities. Indeed, if one were to judge by mainstream portrayals of high-tech beneficiaries, it would be easy to conclude that cultural "homogeneity" is to be the uniform requirement of the next century, rather than an increase in diversity implicit in the national demographic shifts in which the minorities of today will become the population majority of tomorrow. Overwhelmingly, the computer icons, advertisements, spokespersons and media campaigns are standardized to look, feel and act like their industrial creators, resulting in their not being user-friendly to minorities or their unique cultural interests. We have not only seen the creation of the Information Age invisible man, but also the invisible interests and concerns of racial and ethnic diversity excluded from high-tech images. As a result, *Star Treks I and II* notwithstanding, we might be led subliminally to conclude that the future belongs to only the information industry's chosen few rather than the whole population.

Article 17 of the Universal Declaration of Human Rights asserts that access to technology is a fundamental entitlement, yet nowhere is such an "entitlement" given universal access. Accordingly, those of us who have been to a different mountain and seen a different promised land must now declare a different vision. Ours is a vision in which American society as well as world culture, through the marvels of technology, open themselves up to beneficial change based on a deeper and more intimate understanding of the creative differences of which they are comprised. With an appreciation for the enormity of the coming change in information access, this decade represents the last, best hope to challenge the patterns of social exclusion from the past being extended and reinforced by technology into the future. The information and telecommunications revolution promises brand new games, which require that *we invent new rules* by which they can be played for life quality improvements rather than mere quantitative accelerations. Only then can the inherent power for change — implicit in high-technology communications — yield results that alleviate rather than further degrade our communities. In essence, we as black people must shape and mold the emergent Information Age revolution into our own image, and establish values and morals that are consistent with our historical traditions, to ultimately benefit the world. For example, it will not be appropriate to follow the pattern of mindlessly creating video games on CD-ROM that simply entertain people in the sport of killing the enemy. We need to rethink the possibilities of such tools, so they can help to produce a generation of enlightened people!

Alas, any hope of playing by a set of new rules, demands intellectual as well as behavioral modifications of today's leadership, not only on explicit matters of race and ethnicity in America, but the ingenuous ways in which seemingly neutral

trends can help to perpetuate inequalities. In spite of the loudest protests to the contrary, minority group leaders and majority group power holders have both grown used to slow dancing with each other, while they are increasingly distanced from the growing economic and social insecurities that plague their constituents. Although it tends to be less frequently noted, educated white elites often display as little real appreciation for the material and emotional needs lying below them as certain miseducated elite black escapees from the ghetto. Hence, the expressions of political and editorial surprise at the electoral revolts that have occurred throughout the nation in recent years, when blue collar constituencies have rejected predicted group behavior and voted with the opposition, or when opinion polls fly in the face of predictions from would-be pundits and opinion makers.

The establishment just doesn't get it; the majority of people feel betrayed by both their leaders and institutions. Almost nowhere, except in dark alleys, poorly lit parking lots or celebrated talk shows, does the world of most black leaders and white power holders come together with the alienated underclass and its seething social rebellion. These social and economic distances are seriously exacerbated by mainstream communication barriers that provide little or no ongoing dialogue. The heated debates regarding black rap lyrics, as well as the librettos of white heavy metal ballads, vividly illustrate the symptoms of such class warfare.

For the first time, however, walking in another class's shoes is becoming feasible. On-line computer networks can offer a new town hall. Desktop publishing promises a new public forum. Civic teleconferencing can become a new vehicle for group dialogue. Distance learning will allow a classroom to be worldwide. No longer must music, art, and theater suffer an unnatural fence. The libraries and museums of the world can be available to the most remote comers of the earth for the first time in history. Diagnostic health care can now be distributed without regard to distance between patients and national hospital specialists. Soon, with everyone able to be his or her own publisher, the means for truth-telling as an everyday Internet exchange, rather than the occasional moment, can be at hand. While the uncensored picture that emanates from down under may not always be exactly pretty, it at least promises to be far more honest and realistic than the polished products of editorial middlemen with their own hidden agendas.

Few will deny that the instant presence of television has made a tremendous difference politically during the past thirty years, whether evidenced in the civil rights marches or the fall of the Berlin Wall. By way of parallel, the problem will now be assuring that unrestrained market forces alone are not the only forces left to determine individual and group access to knowledge or set the speed limits of the Information Superhighway. This calls for the development of enlightened public policies that balance the bargaining power among the players and provide a level playing field. On such a playing field the merits of an idea will be able to withstand the onslaught of superior economic power, and this can lead to a freer and more egalitarian society than the cash register alone is likely to foster.

But before we get euphoric over these grand *possibilities*, we need the sobering recognition that such progress is not a self-evident truth nor a historical imperative. On the contrary, if the old rules of means tests, class advantage, ethnicity and geographical preferences are applied to these new technologies, the result

will not only be the perpetuation of existing disparities, but their indelible reinforcement. And based on emerging patterns to date, the perpetuation of the old rules is clearly at work. Low income children are half as likely to have access to computers at home or in school. Students at historically black colleges and universities are substantially less likely to have high-tech facilities, equipment, and technological programs of equal quality. Minority workers are disproportionately relegated to the tedious, low end of automated systems, if they have any access at all. The geographical areas slated to enjoy entree to these marvelous new and costly communications systems are those least likely to include minority or low income households. In this regard, it is useful to be reminded that the majority of the world's population has yet to be able to place its first telephone call. In the United States population pockets exist that have actually lost ground in their access to telephones in the ears from 1985 to 1995, and many of these are in the very cities that boast the most advanced forms of progress in telecommunications.

All of this suggests that this new information and communications revolution could easily bypass the minority communities of America just like the infamous interstate highways of old, providing few or no meaningful access ramps unless they are carefully designed into the plans taking shape now. Indeed it has been graphically suggested that, left to their own devices, minorities are most likely to be the major *road kill* of the Information Superhighway, with jobs flowing abroad, while those remaining in the country have unreachable high-tech entry requirements or offer a new form of house-bound peonage without hard-won worker fringe benefits or long-term job security. All of this makes the coming decade of pivotal importance, for the next ten years will determine who goes up and who goes down on the technology seesaw. Because we share a stake in the design of the future, we must exercise the option to modify these outcomes based on direct participation in the decision-making processes that are bringing about the construction of the new Information Superhighway. But to do this we must first reinvent our leaders.

One of the most astonishing discoveries we encountered [in the research for the book from which this article was excerpted] was the private sector indifference shown by the various Fortune 500 computer hardware, software, and telecommunications companies; there is essentially a lack of concern not only toward the underserved information needs of black people in general, but also toward the \$450 billion appeal of the African American market. Having participated in or been aware of efforts to induce such companies to expand their high-tech marketing outreach into minority consumer niches, with only three exceptions, we have witnessed a response that has been uniformly negative. When approached, such companies retort that either blacks aren't interested in high-tech telecommunication devices and computers, or those that are so inclined can be readily reached through a generalized mainstream outreach.

This behavior flies in the face of the great weight of professional marketing in other areas, which shows the importance of special niche market identification and promotion. Such indifference also underestimates the extent to which upper income black consumers not only exceed the general population in brand name loyalties, but also in the mainstream consumption of sophisticated electronic

equipment. The consumer areas in question include CDs, hi-fi and stereo equipment buying, as well as VCRs and video cameras; all of which aggregated to a \$6 billion electronic market among minorities in 1994, well above the comparable per capita expenditure of the general U. S population. Indeed, the black market penetration of VCRs is greater than that for the household population as a whole. Consider what this might imply for CD-ROM products and other software capable of appealing to this same audience.

In a larger sense, this backward corporate attitude poses an additional threat to the long-term economic and social health of the nation based on technology diffusion. Corporate negativity toward the high-tech minority market suggests the specter of an ever increasing racial and ethnic divide in technology usage, due to ineffective promotion among minorities, leading to a permanently uneven computer and telecommunication diffusion throughout the population to the [detriment of the nation through] a less competitive workforce and less just society. All of this is to underscore the fact that, left to the traditional market forces of today, those *who know* and those *who know-not* will translate to a schism of those employable or unemployable along racial and ethnic lines comparable to a distinction of class or caste. One would have hoped for a more forward looking response from that very segment of the economy that prides itself most on its creative alliance with the future. But alas, even the industrial gatekeepers who stand to collect the tolls to the Information Superhighway have shown themselves unwilling to attract additional road traffic from the minority community. This only reinforces the urgency for the black community's internal mobilization to assure its access to the Information Superhighway and the policies that shape its path, as Malcolm X once said, "by any means necessary."

LOOKING BACK TO MOVE FORWARD

The Adinkra peoples of West Africa have a symbol called Sankofa, of a bird in full flight with its head turned backward. Sankofa signifies the truth that no people can know where it is going if it cannot look backward from whence it came. This may be the classic recognition of all culture. Visionary black leadership will be of critical importance in how we chart our future course. Therefore, we need to be reminded of some of the historic leadership strengths and weaknesses in our community to be able to discern the one from the other in the future. Because of the peculiar ways in which our traditions of leadership have been fashioned, such hegemony may itself represent a temporary impasse to the free flow of benefits from the info-revolution. Such an examination may also identify patterns and practices that are no longer affordable in the face of current requirements. At the same time, it can highlight unique strengths to which we must hold and carry forward for future progress.

From Colonial days to the present, black leadership has primarily been a matter of damage control or the juggling of crises. Limited to operating with inadequate resources against superior material odds, faced with an ever present

urgency that defied long-term planning and originally surrounded by a constituency with limited understanding, black leaders developed peculiar leadership styles. For most, day-to-day survival was the highest common denominator. Their coping with leadership responsibilities without any management tutelage was like having to learn to read without either a dictionary or the formal rules of grammar. Trial and error mixed with innate talent and personal fortitude often led to highly subjective, if not dogmatic, management styles.

Understandably, not only did the cult of personality sometimes become a problem, but also the requirement for self-reliance was frequently at war with democratic procedures. Moreover, the role of leadership carried with it the conflicting need to project one set of characteristics to black constituents and another to the hostile white world outside the community. Accordingly, it remained for black leaders historically to adapt to special balancing acts for survival.

The traditional procession of leaders has been first preachers, then teachers, and lastly doctors and lawyers. Each succeeding wave of such leaders has had to master the means of walking in two directions at once and the ability to "hit straight licks with crooked sticks" in order to meet the approval of two racially antagonistic audiences for their every act. Preachers were the first to be mutually acceptable in both worlds because they could disguise their temporal leadership as otherworldly guidance. Teachers became acceptable because they were usually controllable public employees. Lawyers and doctors were safe agents of change in the eyes of a dominant majority because of the constraints of their essentially conservative professional guilds. Along the way sprinkles of more radical writers, entrepreneurs or labor leaders have come to the fore, but for the most part, the traditional professions historically comprised the dominant leadership profiles within the black community. This is not to deny that sports, theater, and screen celebrities were briefly elevated to leadership roles, rather it is to recognize that the principal flow of direction associated with large scale membership and affinity groups with mass self-help agendas has come from the same basic professional core, which for the most part had the credentials of higher education as the prerequisite for its status. Through the accident of such education passed on to their children, an almost hereditary leadership class developed, which has benignly perpetuated itself from the employment differentiations of old until now, with the ever present potential for gradual estrangement from its constituency.

Such leadership has accordingly mastered those messianic arts and crafts required of [it]. Typically some measure of entrepreneurship and personal economic success, along with a mastery of oratory and audience appeal, were their principal instruments of influence. They exercised persuasion as charismatic spokespersons or grievance-brokers with power centers. Serving as middlemen and -women between two worlds, the perpetuation of their own leadership roles was sometimes as subtle a goal as the objective improvement of their followers. This irony has been aptly described in such works as Carter G. Woodson's *The Mis-education of the Negro*, W. E. B. DuBois's early treatise, *The Philadelphia Negro*, E. Franklin Frazier's *Black Bourgeoisie*, and other analytic works that followed these pioneering publications.

Historically, this duality was maintained easily when the discriminations faced were palpable and universal both in law as well as in fact, as so vividly described in Gunnar Myrdal's *American Dilemma*. But with the incremental and sometimes sweeping changes brought about by a steady march of victories over *de jure* segregation and discrimination born of civil rights protests, litigation and legislation, a new set of inequality challenges, not easily addressed by the traditional leadership styles, arose; the creation of a veritable "*Underclass*," the name first given the phenomena by Douglas Glasgow in his seminal book of the same name. This signaled the demarcation of a new substrata of characteristics reinforcing the factor of race as a barrier to advancement such as welfare dependence, unemployment, and the alienation from middle class ideals, values, and aspirations.

With this metamorphosis has come a kind of leadership dislocation, whereby the alternate traditions of managed protest and accommodation (which had been the black leadership's hallmarks from precolonial days) are less certain or marginally applicable strategies. Now the issues are not petitioning for or even obtaining equality before the law, but obtaining equality *in fact*. With this bold reality has come the need for greater empowerment from within the black community, based on the mechanisms of self-reliance and self-improvement.

In spite of this need for a shift in emphasis, too often the traditional leadership in the black community has continued to emphasize *pro forma* legal remedies, which leave factual inequities beyond their reach. The cynical suggested that this resistance to change was more the result of conflicting interests between traditional leaders and those outside their social and economic class. But a more charitable view is that established leaders may have inadvertently either lost touch with the full weight of the social and economic forces newly confronting their constituents, or be at an intellectual loss for better strategies. The leadership's personal misperceptions may be further influenced by their own relatively stable economic circumstances, which are at stark variance with the increasing numbers of those for whom they would speak. These are problems easily addressed by honest dialogue and the reconsideration of the facts, but first they must be jointly acknowledged.

Because of the many bad experiences of hostile "divide and conquer" strategies as well as leadership assassinations (both real and figurative), a general reluctance to criticize or even challenge leadership figures from within the community has arisen. Those with the temerity to challenge such blind silence frequently have become objects of criticism themselves, branded as disloyalists or worse, agents provocateur for sinister as well as invisible racist forces. Such conspiracy theories are all the more easily promoted when partisan, regional, and monetary considerations are part of the mix. The resulting differences have led to additional strains when both sides have resorted to name calling, and mutual castigation of one another's motives, rather than addressing relevant issues objectively or collaboratively. This caused even further confusion, with the suggestion that many of the traditional civil rights remedies disproportionately benefit the traditional reformers rather than their down-and-out constituencies. Hence, we witness the pro and con affirmative action arguments addressed by Tony Brown in his book, *Black Lies White Lies*, as part of this ongoing dialogue. In addition,

demagogues aplenty have practiced patterns of factual denial that have made race and racial inequality the sole culprit for every conceivable social ill in the black community, whether substance abuse, the high rates of crime, school dropout rates, low reading scores, teenage pregnancies, job unreadiness, [or] other social pathologies. These often radical voices have promoted a fatalistic generic excuse for failures, rather than their being attributed to personal inadequacies capable of reform and correction.

As if this were not sufficiently confusing, now comes a new breed of minstrel-like propagandists and politicians from the right, whose profession it is to heap self-blame on blacks for each and every one of their social pathologies. For these neo-apologists, the *holocaust* of slavery either never existed, or if it did, it was primarily the fratricidal African's fault. Equally unfortunate, these distorted voices have been adopted by major political conservatives as their favorite Negroes and given talk shows, widespread media access, highly visible political appointments and the like. Throughout this process, the practice is to rely on the time-honored tools of hyperbolic rhetoric, *ad hominem*, and emotionalism, at the cost of clarity, precision, and objective debate on racial matters. Although thoughtful analysts, thinkers, and writers have existed in the black community throughout, these more measured voices have seldom had a platform off-campus or beyond the pages of scholarly journals and outside the covers of thick volumes in fine print.

Sadly, not enough of the existing cadre of brand-name leadership in the black community are describable in terms of the future analytic needs. Too often they are content with their select roles as middlemen and -women within the power centers. Some are seduced with personal benefits or benefits for those who mirror themselves, without comparable attention to those below them economically and socially with different needs. They are too preoccupied with an assured leadership status throughout their lifetime to be concerned with development of a leadership transition system within their institutions, which prepares younger and equally capable leaders to take on leadership roles after their timely retirement.

Many among this current black leadership generation, like their role models before them, have little or no appreciation for the discipline of managing information in the work they pursue. To many, personal [and] institutional decisions are indistinguishable. Few of them consult quantitative data as a required tool for strategy development. Their preference is for speculation, intuition, subjective past experience, and anecdotal information. They are content to employ statistical data only for rhetorical effect, without ever documenting the factual basis for their citations. Take for example the frequently mouthed shibboleth that, "there are more black men in prisons than there are enrolled in higher education." To the contrary there are far more blacks in colleges and universities and only a minority in confinement, but it is more dramatic to use shock rhetoric over the truth. An information-based, scientific approach to leadership would prevent such excess.

A rigorous review of the institutions and organizations of the black community reveals a consistent absence of other systems controls common to modern institutional management. Typically this improvised approach has left key leadership figures open to willful charges of graft or financial irregularities, even when there

can be no showing of criminal intent. From Marcus Garvey to the latest sensation of *laid-back* approaches to financial accountability, these problems seem to be endemic to black institutions.

One finds similar disregard in personnel matters and staff planning. The functions of recruitment, hiring, evaluation, compensation, promotion, and dismissal in staff procedures cannot be assumed as a matter of formal routine. Typically, whatever exists the way of written policies are rife with exceptions. All too frequently, nepotism, sexism, conflicts of interest, technical incompetence, and marginal productivity are shown a blind eye in favor of personal loyalties, congenial personalities and all absolving "good intentions," reminiscent of Sterling Brown's indulgent encomium, "he mean good, even if he do so doggone po!" Because of the absence of planned maintenance, human resources and capital equipment are frequently consumed prematurely, rather than refurbished and scheduled for upgrading or timely replacement to maximize their useful lives. As a result, age-old crisis management is constantly required to meet what could be routine occurrences, leading to uncertainty, program disruptions, and recurring episodes of organizational disruption.

Similarly, local public agencies controlled by people who profess a commitment to high-minded service objectives sometimes reflect the same shortcomings. These occasionally destabilized institutions include housing authorities, welfare agencies, churches, colleges and universities, labor unions, civic and social organizations, health centers, public school systems, business enterprises, professional organizations and a myriad of charitable activities. The ultimate price of this approach to management and operations is less effective organizations and institutions. It comes as no small wonder then that most of our leadership has been taken unawares by the revolutionary sweep of information systems and the managerial implications they generate. In large part, the crux of the problem is a lack of awareness of the necessary connection between valid information management and desired outcomes. While not universally applicable, having participated in all these activities for many years, we are embarrassed by the truth of this as well as the inveterate resistance to improvement by the very leaders who would benefit most from reform. Unless reformed from within, such leadership itself will be a principal impediment to community development and advancement. And unless reformed, such leadership will be unable to lead the black community into the Information Age.

Criticism of such practices should not be taken as personal attacks or forbidden in the name of aiding and abetting our enemies. Investigative journalism or oversight of leadership is just as indispensable within the black community as society at large. Writers must not be expected to play the ancient role of the African "praise singers," highlighting or magnifying accomplishments and following a code of silence on anything negative. The results will only be continued widespread organizational dysfunction in a community trapped in the denial of its procedural problems, given to a collective avoidance of the responsibility for internal reform, and prone to attributing any and all shortcomings on the single external cause of racism. Most importantly, denial will serve to stifle the diffusion of information systems throughout our institutions.

With the coming of program analysis, better communications, and information systems to the black community, many of these historic proclivities will be objectively challenged. Simple computer generated spreadsheets of comparative daily, weekly, monthly, quarterly, annual and biannual financial and performance results, correlated to particular organizational units or individuals, will be able to objectify mission accomplishments alongside particularized costs. Structured reporting relationships and formal report dissemination, as well as documented peer reviews and quantitative evaluations as standard management procedures based on objective criteria and accountabilities, will go a long way to overcome subjective indulgences that cost productivity. The customary distribution of routine information to all appropriately interested parties will further enhance checks and balances on personal excesses and lead to greater confidence in the operations of the institutions we own and care about.

All of these management and information tools, while routine throughout the broader society, are still in their infancy in too many organizations and institutions within the black community. When these are newly introduced, they should not just come on the heels of a major scandal or after protracted litigation or bureaucratic guerrilla warfare. Instead, they should be routine assurances of willingly adopted group accountability consistent with modern management. In all of this, the tools of personal computers and telecommunications offer important improvements. . . .

Furthermore, with the coming of the Information Age's instant media blend of news as entertainment, a heightened mischief will result from having community spokespersons and organizations that easily lend themselves to sit-com caricatures for managerial incompetence. Therefore, an urgent need exists to identify and promote a new paradigm in community leadership of those who can master the newly available information tools and the management capacities they offer. Moreover, given the increasing complexities of the economic, social, and political issues facing the community, we are compelled to seek and promote new voices which speak in factual, managerial, and quantitative terms as additional spokespersons. Existing leaders need to attract these new voices as valuable assets for their effectiveness.

Our leaders need to be aware of the new high-tech avenues through which to talk sense with the masses and to enable these new players to assist in that mission. Equally important are the means to simplify and present complex data and concepts through desktop publishing so that the man in the street can understand, as Marvin Gaye would say, "what's going on." The support of black technologists must be mobilized to combat the distortions of the right-wing on complex social, economic, and political issues. We need a different type of black talk show participant than those most frequently called upon now. Fiery sound bites need to be replaced with sober analysis of the kind that only information analysts can provide. While either possibility might not have been feasible with the gatekeeper controls of traditional media (with its inherently high costs and exclusivity due to scarcity), it is now highly possible with the technological explosion of multimedia outlets.

Revolutionary multimedia systems and state-of-the-art telecommunications technologies include the low costs for the production and distribution of videos, upscale publications, color coded graphs, CD-ROM presentations, animation, E-mail, on-line networks, teleconferencing as well as the rapid transmission of personal computer data and text. Using, state-of-the-art Internet and World Wide Web electronic delivery techniques can mean less time and less censorship of these new voices. . . . these are the new means by which the *old gatekeepers can be turned into gatecrashers*. All of this means that traditional leadership talent must now be enhanced by additional technology training and exposure, to be able to understand and relate to different, more analytic, and more quantitatively verifiable requirements with which to influence public policy as well as manage community institutions. Also, they need to seek out and work with those holding such technological training and talents as a matter of routine.

While the community might well be content with an evolutionary approach to making the managerial and system reforms discussed in this book, national political realities foreclose that genteel option. With the coming of the 104th Congress of the United States on November 6, 1994, many of the public policy assumptions in favor of continued external support for African American interests were turned upside down. For example, a public monopoly for primary and secondary education, which had been the mainstay for upward mobility, is no longer a foregone conclusion. Unending welfare support can no longer be the economic staple for one third of the black community. The expectation of affirmative action to address past inequities through access to higher education, jobs, and public procurement contracts seems to be on its deathbed. The steady increase in elective political power through national, state, and local office holders may be in jeopardy of a Second Reconstruction era.

The steady erosion of economic viability in our high density urban centers sounds parallel alarms. The aggravated tendency toward one-party politics within and without our communities poses a long-term threat of our political isolation. The loss of employment opportunities for unskilled, or even skilled labor as it has been known traditionally, promises a worldwide shift in unemployment and employability likely to be catastrophic to certain segments of the black workforce, and threatens permanent *Depression-like* conditions. These are the external factors that give added impetus to the need to reexamine the ways in which leadership is exhibited and exercised within the black community. With such broad-sweeping changes in required perspectives, traditional leadership types will need to undergo a radical metamorphosis to understand the rules of management, systems analysis, computer literacy, multimedia, and telecommunications, as well as their importance to understanding the domestic connection to worldwide labor and capital markets.

Hopefully, this will also call attention to the necessity for a more dedicated effort to recycle the purchasing power and economic resources within the black community to replace the diminished resources artificially supplied from outside sources. Indeed, the lessening of support from public spending, external philanthropy, and remedial public policy ought to now lead to the resurgence of long

forgotten economic self-reliance, which fell dormant when the walls of segregation began to crumble. While much of our leadership's energy has routinely made the case for greater external public and private support, too little emphasis has been devoted to recycling our own \$450 billion in earnings and consumer power to provide the response to community self needs. Effecting this shift in emphasis away from external dependency to internal self-help will require a massive and deep reordering of leadership priorities.

Through C-Span, CNN and other twenty-four-hour vehicles of instant access to congressional and state and local legislative proceedings, the leadership role as information middlemen will naturally erode. As a result, only value-added interpreters who can build upon commonly known information with new and meaningful understandings and strategies will be able to justify attention or a popular following.

With this proliferation of media outlets, even in the face of more highly concentrated ownership patterns devolving to a handful of international mega-corporations, there will undoubtedly emerge more cost-effective means through which diverse voices can be heard. This will be the inevitable result of media channel supply exceeding the demand for its use. But to succeed effectively in accessing these new modes of expression, will require higher sophistication than that commonly available among our traditional leaders.

Additional forms of leadership must arise to address the issues critical to the competitive interests of the black community. High-tech educators and entrepreneurs, finance brokers, as well as systems managers and planners, are needed in countless locations throughout black society. For the most part, these will be professionals and who have grown up in the Information Age, learned state-of-the-art computer tools of work, and had an opportunity for hands-on experience within the belly of one of the major commercial structures that are at the center of the Information Age. These will be the very people least likely to have had leadership roles in the old paradigm.

This new generation of role models must see themselves as more than conspicuous consumers, with a recognition of the interaction of their material resources and skills with the security and well-being of the black masses. Hopefully they will be more inclined to participate out of self-interest in the social and economic uplift of that third of the population falling below the poverty-line than many of their miseducated predecessors were typically willing to do. This new generation of *haves* will be the backbone for reform in public education as well as the invention of private means of education through alternative education systems, and will craft the paths by which black youth can be prepared for modern employment through applied forms of learning technology. The coming generation will see church resources as more than private holdings, and connect them with community renewal projects. They will also be able to negotiate better terms by which jobs and business opportunities are coupled with the grant of consumer patronage. Finally, this new generation must appreciate the age-old reality that one cannot take without giving back lest the source of the bounty not be renewable. In addition, this new generation leadership must be at pains to groom their own successors as soon as they assume office, lest the ruin of discontinuity undermine

every new level of their accomplishments. The education of successors requires a role reversal for those who are the first to get in to racially restricted positions. Leaders must see themselves as pathfinders for others, instead of barring the door after themselves to assure their continued uniqueness and prestige.

Contrary to the doomsday predictions of some, black people can have confidence in the revitalization required by these changes in circumstances. Based on a bedrock of self-esteem through accomplishments during the worst of times in yesteryear, our community has what it takes to reinvent its institutions and restore the ladders of hope that sustained past progress. Drug addiction and the other attendant pathologies are the symptoms, not the disease. The disease is the despairing inability to fashion the realistic course of survival through self-controlled improvement. Too little has also been devoted to naming those who are the detractors within our ranks for their contribution to the plight of the village. Now this misdirected practice of silent indulgence must stop. It must stop now, not just because of the internal ethical appeals that have been heard for the past fifty years, but because of the imminent cutoff of prior support that was coming by external hands.

The challenge is to use this pivotal decade that spans the end of this century and the beginning of the next to replace the old style of gatekeeping with a new role of gatecrashers to the thoroughway to the future known as the Information Superhighway. It means retooling the educational engines of our communities. It means assuring internal economic benefit from the billions of dollars that mark the black community as the twelfth largest economy in the world. It means zero tolerance for waste and dysfunctional self-seeking of select institutional leadership. It calls for a deeper celebration of self that is not predicated on a put-down or even a protest against others, but calls for constructive criticism. It means a new message of concern and participation in educational development and communal parenting for our lost youth.

Fortunately the genius of modern-day science and technology of the Information Age offers tools needed for this kind of broad-sweeping change. The demand is that we step up and seize the opportunities inherent in the world reordering that will inevitably result through the communications revolution and the industrial, economic and social ripples resulting in its wake. We must replace rhetoric with analysis, mere opinions with factual documentation, speculation with studied probabilities, procrastination with real-time initiatives, the historical with the futuristic, the haphazard with the calculated, the emotional with the deliberative, and even representation must be replaced by the direct participation of the actual stakeholders themselves, through ongoing and direct means of communications. Our organizational behavior will not change, however, if the people at the top are not personally knowledgeable, committed, and actively given to the demonstration of modern managerial leadership. Simply giving lip service to the importance of computers in information and management sciences will simply generate lip service in response.

Equally important is the assurance that senior executives have the understanding and ability to manage others who are using these new tools. In learning what is and is not possible with personal computers, executives learn to gauge what

they can expect from others. The great generals are those familiar with the perspective of the foot soldiers. The object is to make the tools of this complex new world an enhancement to intuition, not its denial. The reinvention of our leadership is a two way street; it will also introduce something new to the world of cybernetics, computational science, and enhanced multimedia applications. For too long such scientific innovations have simply been viewed in quantitative terms to make life faster and more materially profitable without improving goals, purposes or quality.

Because the historic strength of black leadership has been the advocacy of values, it should use this skill to refine the interpretation of cybernetics. By doing so, black people can give a voice and direction that goes beyond engineering for engineering's sake. In this way different and more people-oriented discussions can emerge to complement the language of science. Such a blend of sensitivity with knowledge is what much of the world of cybernetics has repeatedly shown to be lacking. It has known a great deal about how, but not enough about why. Black leadership is ideally positioned to add a *high-touch* of the world of high-tech. By high-touch we mean a personal and caring dimension that assures equal access, affordability, and applications for technology relevant to the disadvantaged elements of society.

13. Feminist Perspectives on Technology

JUDY WAJCMAN

The study of the relationship between gender and technology has received increasing attention in recent years as feminists (both scholars and activists) have become concerned with the impact of new technology on women's lives and work, while "social constructivist" researchers on technology (see Chapter 3) have begun to examine how women's roles have influenced the evolution of technologies. This selection, "Feminist Perspectives on Technology" by Judy Wajcman, provides an overview of this area of study.

In order to understand the relationship between women and technology, it is important, first of all, to distinguish between science and technology and to be sensitive to the different layers of meaning of "technology." Women have contributed to the development of technology not just in terms of their conventional inventive activity but in terms of other kinds of activities in which they have engaged, but which may not have been recognized as "technological" in a gender-stereotyped view of technology. The emerging sociology of technology lacks a gender dimension, which Wajcman aims to provide both by the conceptual analysis presented here (and in her book, *Feminism Confronts Technology*, from which this essay is taken), and by her own sociological research.

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FROM SCIENCE TO TECHNOLOGY

While there has been a growing interest in the relationship of science to society over the last decade, there has been an even greater preoccupation with the relationship between technology and social change. Debate has raged over whether the "white heat of technology" is radically transforming society and delivering us into a postindustrial age. A major concern of feminists has been the impact of new technology on women's lives, particularly on women's work. The introduction of word processors into the office provided the focus for much early research.