Learning from Black Folk(s): Race, Technology, and Society.

Jamel K. Donnor
Ph.D. Candidate
University of Wisconsin-Madison
Educational Communications & Technology
Department of Curriculum & Instruction
163 Education Building
1000 Bascom Mall
Madison, WI 53706
(608) 262-0590
Email: jdonnor@education.wisc.edu

February 2003

For submission to Ladson-Billings, G. Critical Race Theory Perspectives on Social Studies: The Profession, Policies, and Curriculum.
Learning from Black Folk(s): Race, Technology, and Society.

Abstract

The objective of this chapter is to use critical race theory’s tenets of the centrality of history and context, and the rejection of objectivity and neutrality to understand the relationship between race, technology and society. That said, this chapter looks at three specific incidences in the history of African Americans with technology to support this objective. These incidences are: (a) the introduction of the mechanized cotton picker to the Southern region of the United States, (b) the automation of the workplace; and (c) the contemporary uses of computers in educational settings that are predominantly African American.

It is suggested that the examination of some recent experiences of African Americans with technology. In other words, the manner in which technology tends to be infused into racial settings suggests that it is a tool that continues to perpetuate racism.
From the caravels, compasses, navigational techniques, and firearms of the first Portuguese explorers who reached the coast of West Africa in the 1440s to the never-ending expansion of microchip computing power and its implications for our society, the [B]lack community has had one negative encounter after another with the technological innovations of the mainstream. Within American history this aspect of [B]lacks' experience is unique.

Introduction

The National Council for the Social Studies’ (NCSS)(1994) science, technology and society thematic strand acknowledges: Technology is as old as the first crude tool invented by prehistoric humans, but today’s technology forms the basis for some of our most difficult social choices. Modern life as we know it would be impossible without technology...[Y]oung children can learn how technologies form systems and how their daily lives are intertwined with a host of technologies (p. 1).

NCSS (1994) further asserts, “social studies programs should include experiences that provide for the study of relationships among science, technology, and society” (p. 1).

If NCSS is serious about their assertion to include experiences that elucidate the relationships between science, technology, and society; I argue that one possibility would be to look at the experiences of African Americans’ with technology. The justification for such an approach is not only to illustrate the complexity of issues that are involved in the creation, implementation, and use of technological devices. More importantly, the examination of the social impact of technology through the lived experiences of African Americans would show how significant a role race plays with respect to the type of access and use, and consequences of technology one has
of technology. The inclusion of the experiences of a racialized group serves as an analytical lens to better understand the consequences of the “difficult social choices” that are made with technology. These consequences include creating, maintaining, and reification of existing unequal social (e.g., educational), and economic relationships.

As Walton’s (1999) quote illustrates, access to technology for non-White racial groups has never been an issue. Rather, what has and continues to be of import is the impact technology has on those whose knowledge and experiences have not been integrated into the design and implementation of technological devices. According to Skinner and Rosen (2001) we need to “analyse how exchanges around science and technology take place in the context of structured inequalities between racialised groups” (p. 291). Such an analysis may help to explain why it is some racial groups have never embraced or experienced the “benefits” of the technology as promised by its proponents.

The overarching goal of this chapter through use of critical race theory and other various sources is to put forth a more critical understanding of technology as it relates to issues of race and society. The examination of some recent experiences of African Americans' with technology provides one with the opportunity to identify how technology both as a concept and as an artifact perpetuate racial inequity. I will
be specifically looking at three incidences in the history of African Americans and technology: (a) the introduction of the mechanized cotton picker to the Southern region of the United States, (b) the automation of the workplace; and (c) the contemporary uses of computers in educational settings that are predominantly African American. The rationale of this approach is two-fold; the first is to reject the notions of objectivity and neutrality that dominates the discourse surrounding technology. The second is to incorporate the “absolute centrality of history and context” (Crenshaw et al, 1995).

Two final points, one I deem it necessary to first “briefly” identify which of the six tenets of critical race theory I will be using in this chapter to supply the reader with the racial logic that guides the author’s line of reasoning. Lastly, I will also locate the ideological and social positions of technology as a concept within Western civilization to assist me in what I believe has been missing from most comments and discussions about technology—history and context.

**Critical Race Theory and a Contextualization of Technology**

Critical race theory (CRT) is a contemporary theoretical framework that critiques the dominant White hegemonic discourse and power, analyzes the social disparities between races, and challenges popular notions of the construction and employment of race, racism, and racial power in American society by doing the
following: 1) incorporating the “absolute centrality of history and context” (Crenshaw et al, 1995), 2) rejecting notions of objectivity and neutrality, 3) recognizing that racism is endemic in US Society (Bell, 1995), 4) employing a variety of theoretical traditions including Feminism, Marxism, post-structuralism, and critical legal studies to provide a more complete analysis of raced people (Tate, 1997), 5) incorporating one’s “experiential knowledge” which posits “reality” is situational and socially constructed (Ladson-Billings, 1998, p.11), and 6) working towards the elimination of racial oppression with the goal of ending all forms of oppression (Lawrence III et al, 1993). For the purposes of this chapter I will be using tenets the centrality of history and context, and rejecting notions of objectivity and neutrality in this discussion of race, technology and society.

Technology in Western Civilization(s)

The way that America currently thinks about technology can be traced back to its Ancient Western civilization roots (Klemm, 1959; Buchanan, 1972; Cowan Schwartz, 1997; Pippin, 1999). Technology as a concept is specifically grounded in Ancient European Christian ideology. Ani (1994) writes,

[T]he general emphasis on technology as a social goal all go hand in hand with an assumption of and belief in the ‘idea of progress’ in which the continued
intensification of these facts constitute absolute value. The Judeo-Christian formulation is based on precisely the same concept. Within this tradition ‘religion’ is seen almost as a technological advance, and, therefore, is aided by and aids the growth of the technical order (p. 184).

It is the belief in the “idea of progress” is where proponents of technology have continued to draw their support. According to Custer (1996) at the heart of the “idea of progress” is a “profound sense of optimism, that a rapidly expanding base of knowledge would contribute to an increase in the quality and virtue of the social and human condition” (p. 66).

Encapsulated within the ideology of progress are multiple themes that are in continuous interplay with one another. For instance, at the philosophical level progress signifies a shift from “inferior to superior; from undesirable to desirable; from ignorance and malaise to wisdom. It is the embodiment of hope in a better future” (Custer, 1996, p. 68). Whereas at the ontological level, Western civilizations posit an essentialist idea of progress premised on: “(a) a high valuation of European history, (b) belief in the nobility of Western civilization, (c) support for economic and technological growth [via capitalism], (d) faith in reason and knowledge, and (e) belief in the intrinsic worth of life on this earth” (Custer, 1996, p.
70). In short, progress as a concept in ancient Europe was powerful because it was comprised of multiple components that were also being supported by a “superideology” (i.e., science) (Sanmartín, 1972, p. 72). For in addition to the multiple components that are packaged within the discourse of progress; technology was also being systematically conjoined with science (Ada, 1989). As a result, technology was now expected to scientifically construct a better world in which “human well being is continuously increasing” (Sanmartín, 1992, p.73).

Technology in American Society

It is belief in progress as the constant pursuit of improvement in the “human” condition, which also serves as the foundation for America’s outlook on technology. However, unlike Europe which interpreted progress on moral and spiritual grounds. North America on the other used capitalism, democracy, and “technical development and industrialization” to conceptualize progress (Klemm, 1959). According to Meier (1978) democracy

[B]ecame consciously and elaborately associated with American progress in the applied science…this association came to emphasize the special role of technology in providing the physical means of achieving democratic objectives of political, social, and economic equality, and it placed science and
invention at the very center at the age’s faith in progress (p. 80).

The two most influential proponents of this redefinition of progress in the US were Benjamin Franklin and Thomas Jefferson (Smith, 1996). According to Smith (1996) Franklin and Jefferson were both “avid proponents of the cause of liberty, they looked to the new mechanical technologies of the era as [a] means of achieving the virtuous and prosperous republican society that they associated with the goals of the American revolution” (p. 3). For both men, progress in and through the pursuit of technology meant the betterment of “human interests” and “material prosperity” (Smith, 1996, p. 3). What this meant is that progress in America was to be measured materially by the production of objects and artifacts.

In summary, technology in Western civilizations has been constructed in a very racialized manner. By racialized I mean that it promulgates a Western epistemological system. This way of thinking about technology helps to explain the essentialist, and deterministic perspectives that surround its existence. More importantly, these articulations of technology do is establish both an ahistorical and an acontextual understanding of its purpose and impact on society. Thus, what ends up

---

Ladson-Billings (2000) states that “epistemology is more than a way of knowing...[it] is a system of knowing that has both an internal logic and external validity” (p.257)
happening is a focus on social adaptation to technology, instead of how technology may be designed to fit society. Because technology has been socially constructed as an autonomous entity guided by a distinct set of values outside the influence of humans.

This would explain why it is extremely difficult to think of technology in any other way. As a result, it is necessary to engage in critical discussions of technology that address historical and contemporary experiences of non-Whites as a way to better understand the relationship between technology and society.

**The Mechanized Cotton Blacks in the South**

Prior to the First World War the economy of Southern states in the United States were still agriculturally based, because they relied heavily on planting crops such as cotton, tobacco, rice, and sugar cane (Willhelm, 1970). Also up until this time the level of technology used by Southerners in agriculture was low. Overall very little had changed in the way the South was structured socially. For example, although slavery had been abolished in 1862, the bulk of the African American population still resided in the Southern portion of the US but was involved in agriculture as their primary source of employment. In other words, “from the American Revolution until the eve of World War I, about ninety percent of all Black people lived in the
South...[t]he majority of Black male workers ploughed and planted the fields” \(^2\) (Marable, 1983, p. 33).

Sharecropping was the dominant arrangement in which the majority of Southern African Americans in agriculture labored under. Under this arrangement African American farmers occupied land and shelter furnished by White landowners, as well as borrowed “fuel, workstock, stock feed, seed, farm implements, and one-half the necessary fertilizers” from stores operated by White landowners (Low & Clift, 1981, p. 90). In return the farmer was expected to supply his labor, the other half of fertilizer, and 40 percent of the harvest as payment for use of the land and house. In principle this pact appears amicable, however it was not considering that most of the Black sharecroppers fell into “heavy debt.” This debt was accrued as a result of the exorbitant interest rates White land owners charged for the rented housing and field equipment, and provided them with credit from their stores (Christian, 1995, p. 321). Of the crops that were planted the majority of African American sharecroppers farmed the labor-intensive cotton crop (Marable, 1983; Rifkin, 1996). According to Rifkin (1996):

\[\text{[P]icking cotton bolls at harvest was a grueling intensive field. Laborers had to crawl on their knees or stoop over as they worked the cotton fields. The}\]

\(^2\) Marable (1983) wrote that in terms of gender in “1910, 57 percent of all men and 52 percent of all Black women workers were farmers” (p. 33).
soft puff of cotton was surrounded by a tough stem that constantly pierced the hands...[and] lasted from sunup to sundown (p. 70).

However, by 1920 the number African Americans involved in agriculture was on the decline. The factors responsible for this decline include the boll weevil, an increase in the number of floods that were occurring in the region, crop diversification, and the Northern states demand for industrial labor (Low & Clift, 1981). Low and Clift (1981) put this decline in perspective by noting that in 1920 there were 882,850 African American farmers (which constituted 14 percent of all farmers); whereas just ten years prior there were 893,370. They continue by pointing out that by 1940 the number had declined markedly to 681,709 (Low & Clift, 1981). In spite of this decline the majority of African Americans remained in the South. Yet, there would be another factor that would be responsible for the near complete removal of Blacks from agriculture all together.

On October 2, 1944 the mechanical cotton picker was introduced in the South. From a productivity perspective, the mechanical cotton picker could pick approximately one thousand pounds of cotton whereas a field hand could only pick twenty pounds in an hour (Christian, 1995; Rifkin, 1995). What this meant was that instead of relying on a larger number of Black
hands to pick cotton, White landowners now only needed roughly three to four workers. In short, one mechanical cotton picker could do the work of fifty people. Almost immediately African Americans became obsolete in the area of agriculture, because of the infusion of a new technology into an economic system that already favored Whites. In 1949 only six percent of all the cotton harvested in South was done mechanically, where by 1964 it soared to seventy-eight percent³ (Rifkin, 1995). It is for that reason in addition to the ones previously mentioned, Black southerners were forced to migrate to the North.

This new advancement in technology now served to only further disenfranchise African Americans of the South. The mechanized cotton picker had furnished Southern white landowners with the power to evict African American sharecroppers from their land.

Thus, the introduction of technology as it pertains to African Americans during this time period was ironic. On the one hand, the mechanical cotton picker had “freed” African Americans from the exploitative system of sharecropping and debt peonage.⁴ On the other hand, by being a significant contributor to Black unemployment in the South, the mechanical cotton picker

³ For a more thorough demographic break down by state see Wilhelm’s (1970) Who needs the Negro p. 140.
⁴ Low and Clift (1981) define debt peonage as a “system under which many insolvent black farmers, unable to pay their debts from year to year, were legally bound to work for landlords until their debts were paid. This condition, equivalent to involuntary servitude” (p. 90).
became a “push” factor responsible for Southern African Americans migration to Northern racially segregated inner-city ghettos.

**Automation of the Workplace**

As previously mentioned, the introduction of a new technology (e.g. mechanical cotton picker) in the Southern states of America had played a significant role in “pushing” its African American residents to migrate to the North. Conversely, technology (e.g. the manufacturing industry) also served as a factor in pulling Southern African Americans to the North. Similar to the mechanized cotton-pick, automation of the workplace would disrupt and displace African Americans both socially and economically. Also similar to the mechanical cotton picker, the automation of the manufacturing industry (e.g., mass production) affected a significant number of exploitable low-skilled and non-educated workers to work in repetitive jobs. For example, with the advent of automation in the manufacturing industry, “skilled” industries such as shipbuilding and aircraft production became divided into “simple components that could readily be taught to inexperienced, low-skilled workers who had never before seen an airplane or a ship” (Killingsworth, 1968, p.).

Unlike mechanization where the emphasis was placed on the creation of a device or object to replace people that work,
automation focuses on the process of how work is done. Automation as a process is premised on the following four principles: (a) control, (b) feedback, (c) the viewing of economic activity and work as a process, and (d) the application of the first three principles through electronic devices (Drucker, 1961/1955; Buckingham, Jr., 1961a, 1961b/1955; Solow; 1961/1956; Rifkin, 1996; Diebold, 1969).

The application of these principles however is very specific. For instance, in terms of control, the machine not only replaces the person doing the work, but through its employment it also establishes a “standardization of equipment and specialization of tasks” (Buckingham, 1961a, p. 6). Feedback refers to the inputting of information automatically into the system to “control” (Solow, 1961/1956, p. 24). In other words, the “machines start and stop themselves and regulate quality and quantity of output automatically” (Buckingham, 1961a, p. 11). Computers play an essential role in this because it is programmed with the information upon which the machines are to act on.

The third principle, viewing economic activity and work as a process encompasses “the engineering aspects of automation to the economic, social, and managerial aspects” (Buckingham, 1961a, p. 13). This is considered to be either the “rationalization,” or a “philosophy of organizing any work as a
system” where the entire production process is “carefully analyzed so that every operation can be designed to contribute in the most efficient way to the achievement of clearly enunciated goals of the enterprise” (Buckingham, 1961a, p.13; Solow, 1961/1956).

Finally, the application of the first three principles through electronic devices allows for a continuous flow of production without human interference. The most salient example of this application is the assembly line, where a device handles, positions, performs a function, and transfers it to the next station in the production process. This process is repeated electronically until the desired product in desired quantity has been created. Drucker (1961/1955) points out early industry...the integrating principle of work was skill. For instance, in Henry Ford’s concept of mass production the organizing principle was the product. With automation, however, the entire activity of the business is a whole entity which must be harmoniously integrated to perform at all (p. 33).

Automation’s Impact on African Americans

African Americans in the automobile industry were profoundly impacted negatively by automation. On the topic of the automotive industry Buckingham (1961a, 1961b/1955) states, “between the world wars the assembly line spread to a host of
industries while the automobile industry, where it was used first and effectively, mushroomed into one of the largest industries in the world” (p. 10). With regards to African Americans Rifkin (1996) writes, during the 1950s they had comprised 25.7 percent of the workers at Chrysler, and 23 percent of the workers at General Motors. On the surface these numbers may look insignificant, however they become enormous considering that Blacks made up the majority of the unskilled laborers first let go because of automation. Another way to better contextualize this situation is to note that of the 7,425 skilled workers at Chrysler in 1960 only twenty four were African American; while at General Motors of the 11,000 skilled workers on the payroll a mere sixty-seven were Black (Rifkin, 1996).

The massive displacement of African Americans by automation is the result of the general failure to see it short comings, and to overstate its benefits. In short, automation eliminates more jobs than it creates. Snyder, Jr. (1965) supports such a position by positing that there is a duality in automation’s displacement of workers; he asserts that people are not only removed directly, but they are indirectly placed on the “silent firings in relation to workers who would have been hired for jobs eliminated by automation” (p. 47). Rifkin (1996) notes that from the late 1940s through 1957 the Ford Corporation spent
over $2.5 billion dollars on automation and plant modifications. Noble (1984) points out that in 1948 the Ford Automation Department, which had been in operation for eighteen months “approved the use of five hundred devices, costing a total of $3 million, and expected to increase production by 20 percent and eliminate one thousand jobs” (p. 67).

At first glance these figures make it appear as if upgrading to automation does not make good business sense. However, if one thinks about it over a ten-year period the issue becomes clearer. Corporations are able to recoup their initial investment in automation and increase their profit margins by not only reducing their payroll through layoffs, but also in reducing their retirement payout. These companies are also able to weather financial shocks of introducing new technology because they are no longer responsible for having to pay for the training of new employees.

Automation as a concept and as an application succeeded in modernizing the “routine” elements of manufacturing. However, it came at the expense of the majority of African Americans that worked in the manufacturing industry who tended to occupy jobs within the sector that were either semi or low skilled (Buckingham, 1961a; Killingsworth, 1968; Willhelm, 1970; Rifkin, 1996). According to Rifkin (1996):
In the mid-1950s, automation began taking its toll in the nation’s manufacturing sector. Hardest hit were the unskilled jobs in the very industries where Black workers were concentrated. Between 1953 and 1962, 1.6 million blue-collar jobs were lost in the manufacturing sector. Whereas the unemployment rate for Black Americans had never exceeded 8.5 percent between 1947 and 1953, and the White rate of unemployment had never gone beyond 4.6 percent, by 1964 Blacks were experiencing an unemployment rate of 12.4 percent while White unemployment was only 5.9 percent (p. 73).

Another point to keep in mind is that once these jobs are gone, they are never reinstated. Supporters of automation insist workers that are displaced as a result of its introduction will be absorbed into a self-adjusting labor market (Buckingham, 1961a). However, there is a lack of sufficient data to support this insistence.

Willhelm (1970) insightfully points out “when machines operate machines, man becomes dispensable in the production of goods and performance of services...man frees himself from man to the extent that technology eliminates even human decision making” (p. 136). In speaking on the effect on Blacks and issues of race, technology and society the
[I]ntroduction of automation announces an entirely new perspective by posing the possibility of an alternative available for Whites to cope with [B]lacks. [Because] The fundamental process of race relations within America society persists whereby economic values set the range of racism by White toward Negroes, but the new technology portends a sharp modification (Willhelm, 1970).

Finally, the automation of the workplace has further rendered African Americans obsolete. The increase of material productivity in manufacturing through “Niggermation”\(^5\) also is responsible for the continued social powerlessness of Black Americans.

**Pedagogical Use of Computers in the Education of Urban African Americans**

Presently, the United States has reached a stage in its development where everyone can say computers and related information technologies occupy an important social and economic position. The U.S. Department of Commerce (1999) exclaimed that America is entering an *Information Age*. The information age is characterized by the entire economy will rely on digital technologies, and workers who can create, apply and use

---

information technology in diverse settings including education. According to then U.S. Secretary of Commerce William M. Daly (1999):

[W]ith the emerging digital economy becoming a major driving force of our nation’s economic well-being we must ensure all Americans have the information tools and skills that are critical to their participation. Access to such tools is an important step to ensure that our economy grows strongly and that in the future no one is left behind.

Schools in particular have responded to this call for technological preparedness by trying to ensure access and use of computers in the education of students. For example, the US Department of Education (1999) noted Internet access in public schools had risen from 35 to 89 percent between the Fall of 1994 and the Fall of 1998. Similarly, the percentage of public schools with instructional rooms with access to the Internet increased during the same time period from “three percent in 1994 to fifty-one percent in 1998” (US Department of Education, 1999, p. 60).

However, what is perhaps most telling about this “booster” discourse are the pedagogical approaches schools employ to use

---

6 The booster discourse promotes a “strong sense of inevitability about computers in schools and demonstrate an unshakable faith in the capacity of computer technology to solve, if not all, of the problems of schooling” (Bigum, 1998, p. 590).
computers in the education of African American students. Of the various educational uses of computer-assisted instruction drill and practice is by far the most dominant approach (Harper, 1987; Kosakowski, 1998; Streibel, 1998). Within education settings with a student body that is predominantly African American drill and practice is the primary mode of computer use (Carver, 1999). Becker and Ravitz (1998) suggest that in working class schools there tends to be an emphasis on “punctuality, neatness, obedience, and structure because these are the attributes conducive to subordinate labor” (p.2). When juxtaposed with more affluent educational settings they indicate that creativity, independence, and higher level thinking skills are taught in order to prepare students from middle class and elite schools to maintain their socioeconomic status (Becker & Ravitz, 1998).

As a pedagogical method drill and practice employs the principal of trial and error (DeVaney, 1998). This principle is premised on two assumptions: (a) “students usually learn more, and learn more rapidly” (Kosakowski, 1998, p.1); and (b) students can “master” the class material when allotted sufficient time (Streibel, 1998). The learner in this pedagogical paradigm is constructed as a consumer of information, because of the learning process is viewed as something that can be rationally managed.
Drill and practice programs pedagogically are based on behaviorist theories of learning, which emphasize “stimulus, response, and reward” (Healy, 1998). Learning is framed in very individualistic terms, that presume the following: (a) the student has received previous instruction in the subject, (b) instruction is to follow a controlled, step-by-step linear sequence of sub-skills according to an algorithm embedded in the computer program (rote skill building, and pattern skill building; Streibel, 1998), (c) there is a right-wrong answer binary that exists within the logic of the context, (d) instructional interaction occurs in the form of a question-answer format, (e) immediate feedback on the student’s response is considered positive; and (f) this approach “frees” the instructor from the more routine aspects of teaching (e.g. grading papers, and recording student progress; Cuban, 1986). As a result, the student’s are not active participants in the learning process. Instead they are told by the machine that their way of learning does not “compute”. More importantly, this consumer-relationship emphasizes the students’ dependency on the machine because the computer supposedly knows more than the students do. Thus the “relationship” between the student and the computer is one that is grounded in consumption. Because the individual student abilities are judged against a set of pre-determined expectations and outcomes.
Drill and practice approaches in computer-assisted instruction are meant to be a supplement to the teacher and the curriculum. They are designed to be responsive to the student, in that they elicit a response from the student by putting forth a query. The educational goal of drill and practice courseware is meant to provide practice for basic low-level skills the student has already learned. If new skills or learning are to occur, they are the result of trial and error instead of directed instruction (Gagné, Wager, and Rojas, 1981).

**Conclusion**

By adhering to critical race theory’s two tenets of the centrality of history and context, and the rejection of objectivity and neutrality. I have been able to illustrate a distinct connection between race, technology, and society in two ways. The first was by locating the historical position of technology within Western civilizations ideologically. This historical positioning not only provided the reader with an understanding of how technology came into existence, but also why it is taken for granted by society. The second illustration was fleshing-out the connections between technology, and society as it specifically relates to issues of race and racism. The three examples of African Americans’ experiences with technology used here makes one better able to conceptualize the material
effects of technology on already marginalized groups. These three examples suggest that the manner in which technology as it is conceived and employed are not neutral.

Instead, the way in which technology tends to be infused into racial settings suggests that it is a tool that can perpetuate racism. In other words, using race an analytical lens to understand why it is racial groups such as African Americans have a historical pattern with technology in which their social condition continuously worsen is very informative. Thinking and looking at technology through a critical race lens not only exposes the link between technology and racism ideologically and ontologically. More importantly, it can show how groups of people are materially affected.

For instance, Kelley (2000) argues that computers can have a profound “negative impact on justice” (p. 48). In discussing the matter of police department’s creation and use of databases Kelley (2000) states,

If your name appears, you are guilty unless proven innocent. And given the backlog of cases and racial prejudice among police, juries, and judges, public defenders tend to plea-bargain for Blacks and Latinos even when a client appears innocent, because it reduces jail time and speeds the process. In the long run, however, it means that a young person just
beginning his or her adult life now has a conviction, whether or not he or she has ever, in fact, been convicted. And when one is convicted, one is practically unemployable, and it is difficult to rent an apartment or obtain insurance (p. 48).

Finally, I believe if NCSS seriously wants to include experiences that make clear the relationships between science, technology, and society. Then NCSS could learn a lot from Black Folk(s).
References


