The Creatures We “Assassinate”:
A Tale of “Mental Testing” as Science Fiction in
Chicago Public High Schools in 1909 - 1924

CLAYTON FUNK
The Ohio State University

This article tracks the development of what educators and psychologists, in 1909, termed “mental testing” in relation to art education in Chicago Public Schools (CPS). According to CPS Superintendent Edwin G. Cooley (1857-1923) American civilization was in trouble due to the influx of Southern and Eastern European immigrants in Chicago. He and other educators sought to ward off the social collapse they feared with the efficiency of science. As part of what Sol Cohen termed the “medicalization of education,” Chicago’s Department of Child Study tested students for mental capacity and those considered less intelligent were placed in technical classes, while others considered advanced went to professional and academic classes. The author tells this narrative as a science fiction of intelligence, to analyze Julia Wrigley’s narrative of Cooley’s bureaucracy of testing and tracking, looking through the lens of Ambrose Bierce’s (1842-1914) science fiction short story, “Moxon’s Master.” This comparison reveals parallels in Cooley’s bureaucracy and Bierce’s science fiction in relation to social efficiency and art education in Chicago.
According to American gilded-age reformers like Chicago Public Schools (CPS) Superintendent Edwin G. Cooley (1857-1923), American civilization was headed for collapse in 1909. Cooley’s solution was to administrate the CPS according to principles of science and efficiency. Cooley eventually resigned, however, because of struggles over his administrative approach (“Expect Cooley,” 1909). In that same year the noted author Ambrose Bierce (1842-1914) compiled a collection of his short stories to mark the close of his literary career. In this collection appeared a short story, “Moxon’s Master,” which first appeared in 1893. It was a tale about a reclusive student of science named Moxon. A narrator in conversation with Moxon, who speculated on the nature of life and the presence of it in all matter, tells most of the short story. Later, the narrator found Moxon playing chess with a robot in his machine shop. When Moxon achieved checkmate, the robot lost control and murdered his opponent, and the building burnt down. The narrator awakened in the hospital pondering if it all was real, or not (Bierce, 1893/2014).

These two men – Cooley and Moxon – both worked with systems of artificial intelligence and imposed them upon their subjects – Cooley’s public school students and Moxon’s robot – making them creatures of science. Cooley and other educators like him were out to ward off social collapse with a system wherein students were tested and sorted according to their mental capacity. Based on these mental tests, students considered less intelligent were placed in technical classes, while those considered advanced went to professional and academic classes (Wrigley, 1982). With everyone in their “place” social order would be restored. Bierce was known for his ability to manipulate the epistemological elements of time and space (Grenander, 1997) and in this article; Bierce’s short story becomes an epistemological lens through which I treat historian Julia Wrigley’s (1982) account of Cooley’s educational bureaucracy, with tropes found in Bierce’s science fiction.

Conversely, both Cooley and Moxon did not maintain control over intelligence. Cooley, in fact, encountered resistance to his reforms from mid-level superintendents, building principals, teachers, and organized labor (Rousmaniere 2007; Wrigley, 1982). This narrative also attempts to reveal parallels in Cooley’s bureaucracy in relation art education in Chicago, in what I term the science fiction of intelligence. This narrative speaks to the theme of this volume of the Journal of Social Theory in Art Education: students’ growth, learning, and assessment, which become acts of assassination – as barriers and limitations while those considered advanced went to professional and academic classes (Wrigley, 1982). With everyone in their “place” social order would be restored. Bierce was known for his ability to manipulate the epistemological elements of time and space (Grenander, 1997) and in this article; Bierce’s short story becomes an epistemological lens through which I treat historian Julia Wrigley’s (1982) account of Cooley’s educational bureaucracy, with tropes found in Bierce’s science fiction.

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transmit or modify force in order to perform useful work” (Machine, 2014, para. 1). Moxon gave a similar definition of a machine: “Any instrument or organization by which power is applied and made effective, or a desired effect produced” (Bierce, 1893/2014, para. 4). In fact he declares, “I do believe a machine thinks about the work it is doing” (para. 6). Cooley’s test-driven efficiency was precisely such a bureaucratic machine that “thought” – it differentiated and sorted students according to their intelligence levels and then tracked them into art and industrial classes. Moxon’s discussion of machines that “think,” in robots programmed and automated for specific tasks, parallels the narrow focus of Cooley’s technical high schools, where students learned to think in rhythm with factory machines (Bierce, 1893/2014; Callahan, 1962). Testing students’ abilities to do tasks and programming a robot to also do tasks are arguably two ways to create forms of intelligence and they are both overlapping fictional representations of mental activity and constitute a science fiction of intelligence.

If the CPS testing machine can be defined as a technology, then educators treated students as technologically classified humans, as if they were cyborgs from myths of science fiction, which were part human and part machine (Pope, 2005). Child-study psychologists ranked students’ mental capacity by imposing a particular medical language of descriptors such as “backward … subnormal … [or] feebleminded” (Ryan, 2011, p. 343). This part-technology and part-human culture of schooling comprised Cohen’s (1999) medicalization of education and included, “the infiltration of psychiatric, psychoanalytic and therapeutic norms, concepts, and language of discourse … into virtually all aspects of American schooling … in the twentieth century” (p. 249). Indeed, Cooley intended Chicago’s public high schools to be designed as clinics that functioned as therapeutic machines that created a pleasant and calming atmosphere to support students’ adjustments to the world (i.e., learning) (Gyure, 2011).³ Ironically, these clinical spaces also truncated student’s identities as they limited students to the kinds of classes they would be allowed to take. Students were faced with long-term limitations in the jobs they could get upon leaving high school that paid lower earnings, lesser housing choices, and lower social status.

Cooley, Child Study, and Social Efficiency

Chicago Public School art educators were among the teachers ensnared within Cooley’s assessment bureaucracy and there is much in this narrative that today’s art educators can learn to better understand their own metrically laden school systems. Then and now, public school administrators were, and still are preoccupied with profiling the conditions of education through high-stakes testing. Our current discourse about everything from school report cards to school systems have constrained teachers and hampered students (Fitzgerald, 2013; Heilig, 2011). Likewise, early 20th-century art teachers also felt constraint in the CPS technocracy driven by test data and tracking.

The CPS culture of testing was only a small part of the larger bureaucracy that stretched across metropolitan Chicago. Progressive city planners and social scientists

³ School decoration in the gilded-age American high schools constituted the placement of graphic and three-dimensional art forms to facilitate the development of good character in students; but Gyure’s (2011) history reveals that art educators were also enamored of the therapeutic value of school decoration used to create a calming school atmosphere, especially in Chicago’s new and innovative high school buildings of the early 20th century.

⁴ Kidel (1999b) defines progressive education as specific educational traditions that derive from John Comenius, Jean-Jacques Rousseau, Johann Heinrich Pestalozzi, and Friedrich Froebel. Broader uses of the term progressive connote the advancement of science, technology, and industrial growth in the 19th and 20th centuries. Cremin (1961) traces the decline of the progressive education era to the closing of the Progressive Education Association in 1955, but Kidel (1999b)
were bent on moral and fiscal reform. They reorganized and centralized the city, suffusing Chicago’s press, commerce, and public affairs with tropes of efficiency. They strove to eliminate waste and control in a city that had expanded by two thirds, from 503,185 in 1880 to 1,698,575 in 1900 (McClendon, 2014). By the turn of the 20th century, the majority of Chicagoans were mostly European working-class immigrants who outnumbered native-born Anglo-American Chicagoans. Because of this shift, the elite officials and executives in charge of Chicago’s civic and commercial affairs believed something had to be done, lest society as they knew it would collapse (Rury, 2005). Just as the city planners set out to reform an entire city, the Chicago Board of Education (CBE) and Superintendent Cooley deployed reorganization of the CPS into a social and economic hierarchy, in concert with the newly stratified metropolis.

Public High Schools in Chicago

The CPS stood in a sea of contention, with every problem from language barriers to the ethnic animosity among new immigrants struggling to establish themselves. These newcomers segregated themselves in their own neighborhoods, each with their own political bosses who negotiated with bosses in other wards. Personalistic alliances and corruption created a cacophony of politics in Chicago’s public agencies and, not the least of them was the CPS system (Wrigley, 1982).

The solution to these problems was to expand Chicago’s high schools from exclusive college prep academies into much larger high schools with vocational classes for working-class students. Reform efforts progressed unevenly through the 1890s, but when Cooley moved into the CPS Superintendents office in 1900, he put forth his agenda of differentiated schooling. Cooley planned a dual system in which schooling after the grammar grades was housed in two kinds of high schools. Some students would be sent to technical high schools, where boys learned mechanical drawing, woodworking machining, and electrical work and girls learned domestic applications of handicrafts, sewing, and cooking. Other students would go to elite high schools for professional classes to prepare for managerial jobs, architectural drafting, commercial art, photography, and college preparation at some high schools (Gyure, 2011). Cooley had the support of the recently formed Chicago Commercial Club (CCC) of elite corporate executives, including retail magnate Marshall Field, who was also a school board member. Field and other corporate elites wanted schooling to focus on vocational training and not excessively intellectual academic subjects, which, they felt, were wasted on working-class students (Wrigley, 1982).

Cooley’s dual school plan met with resistance, however, led by the Midlevel Superintendent Ella Flagg Young, (1845-1918) who advocated for child-centered education, teachers, and the arts. She opposed Cooley’s dual plan and pushed for comprehensive high schools with a combination of vocational, professional and academic subjects. Flagg supported teachers and felt they should have a voice in the administration of schools. In fact, Cooley endured many battles with teachers and organized labor. Eventually the Chicago Daily Tribune reported that the embattled

notes other progressive movements in the late 20th century derived from the work Paolo Freire, Elliot Wiggington, and Myles Horton among others.

Superintendent would resign from his post, citing stress and exhaustion (“Expect Cooley,” 1909).

The CBE appointed Young as the succeeding CPS Superintendent, to appease the wrath of teachers and their affiliates. Cooley left Chicago for a job as president of the D. C. Heath Publishing Company of Boston, but returned to Chicago in 1911, when the CCC hired him as business adviser from where he continued to promote vocational education. In later years, business leaders presented Cooley’s vocational education plan before the State Legislature, in 1913, 1915 and 1917, only to be defeated each time (Wrigley, 1982).

Child Study

As school administrators and commercial magnates battled in public view, there emerged a quieter force, known as the “child study movement.” Child study “of the first half of the twentieth century sought to describe child development as a maturational process that is independent of experience and learning” (Maturation, 2008, para. 2). In other words, psychologists studied children to determine how they developed naturally without formal tutoring. It was “the first organized movement to target public school reform in the United States and to deploy the terminology of centering in or on the child” (Baker, 2001, p. 428). Child study was also part of the larger mental hygiene movement that was unfolding within the “medicalization of public schooling” (Cohen, 1999, p. 249). These so-called clinics shielded students from what raged outside – the cacophony alarmist educators saw as “[s]ociety … flying apart.” They believed that schooling with “scientifically constructed curriculum at its core could forestall and even prevent that calamity” (Kliebard, 1986, p. 29).

Child study for art educators differed from the strict control of efficiency educators. According to historian Arthur Efland (1990), child study in art education drew from late 19th-century psychological studies of children and their art, according to such European and American psychologists as James Sully (1842-1943), Earl Barnes (1861-1935), Georg Kerschensteiner (1854-1932), and Ebenezer Cook (1837-1913). Although a full discussion of this research could be an article unto itself, what is important to know here is that this strain of psychologists generally believed that children grew and developed on their own, moving through stages.

Child study and art education evolved from similar traditions. Let us backtrack to the 1880s and the unfolding of child study in women’s activism. Clubwomen reformers from across the United States adopted the practice of what Lawrence A. Cremin (1988) terms “familial pedagogy” that emerged in the 1870s within the social gospel movement among Protestant groups and social settlements. Both familial pedagogy and art education were based on the same educational philosophies, including the work of Friedrich Wilhelm August Froebel (1782-1852) whose idea of the “kindergarten” nurtured the capabilities of children (Efland, 1990). These reformers believed that a child’s nature had potential assets to shape into adult productivity and this perspective flew in the face of Cooley’s reasons for assessing the needs of his students.

Gould (1996) has shown that in the late 19th century, there began a shift away from the practice of physical assessments, toward ranking intelligence based on behavior and testing to estimate mental activity. Physical assessments were widely practiced in such

6 Efland (1990) provides a more developed discussion of art educators in child study and developmental psychology. He observed that James Sully, Earl Barnes, Georg Kerschensteiner, and Ebenezer Cook tended to associate the art of young children with artifacts of indigenous people, calling them “primitive” (p. 160). This movement anticipated a later shift toward children as expressive agents through art making practices.
approaches as Phrenology and Craniometry—wherein intelligence was supposedly determined by measuring the structure of the cranium (methods now thoroughly discredited as pseudoscience). These scientists presented no qualms about assessing individuals and sorting them into social groupings.

The Chicago Board of Education (CBE) formalized child study, as a way to profile the physical and mental needs of the CPS’s overwhelming numbers. In 1899, the CBE commissioned Board member Dr. W. S. Christopher (d. 1905) as a principal advocate for a four-month study of CPS students. Many CPS students were recently arrived immigrants from Eastern and Southern Europe, and this study was meant to determine if they were “vital and vigorous children who could become energetic modern workers and citizens” (Churchill, 2008, p. 341). Data included: measurements of physical features—size, weight, strength, lung capacity, hearing, and general fitness, following the then-current belief that physical traits were indicators of good genes and thus determined mental capacity. Published results stated that the students “who have made greater intellectual advancement are on the whole taller, heavier, stronger, [and] possessed a greater endurance” (Chicago Board of Education, 1899, p. 52).

Christopher sorted the students in poorer condition into classifications of “backward” or subnormal (functioning below grade level) or the classification of “feebleminded” (more than backward). Although his work reflected the growing popularity of eugenics theories in the United States and Europe with a firm racial bias, Christopher masked his approach as based solely on the collection of objective data. Thus was constructed a human-conceived hierarchy of mental functions, named with testing descriptors to signify intelligence (Ryan, 2011).

Christopher followed current thinking at that time and embraced the notion that intelligence was an inherited, genetic trait. Preparing the way for the DCS, Christopher called for further study to determine the impact of nationality on children’s intellectual abilities. Christopher argued that if it “is the state’s duty to educate normal children, it is doubly its duty to educate these less favored ones,” using teachers with special psychological training. His final recommendation was to make child study a permanent practice in schooling these children. This practice was eventually organized within the DSC, established in 1899 (Chicago Board of Education, 1899, p. 27). The Child-Study Monthly praised Chicago’s new department as the most advanced child study agency in the country (Smedley, 1900). Through this formalized agency, the CPS now had policy and procedures for differentiating and tracking students according to race, ethnicity, and economic class (Ryan, 2011).

Sorting students by mental capacity would also have affected CPS art teachers, with
some of their students considered able to merely copy patterns, as carpenters, machinists, or domestic workers; and others considered able to design as artists and architects. In Cooley’s (1901) description of the differentiation of students, he did not refer to art, but he did refer specifically to manual ability. Cooley argued that many children had “motor classes of mind” because “intelligence was a variation in the life history of animals selected on account of its special fitness to aid in the struggle for existence” (Cooley, 1901, p. 54). He continued to state that people engaged in manual activity out of necessity did not need an abstract form of intelligence, which he believed would not develop in the majority of students. Looking through the lens of genetics alone, Cooley argued that because of what he considered natural limitations in so many students, the schools would have to shift from academic to practical subjects (Wrigley, 1982). This was Cooley’s clinical solution to maintaining social control, as a form of the medicalization of education (Cohen, 1999), complete with the race and class bias of Social Darwinism, enshrouded in its cloud of bureaucracy.

**Effects of Chicago Bureaucracy on Art Education**

Cooley’s (1901) statement about students with a “motor class of mind” could not have sounded more technocratic if it came from Moxon’s description of robots. To think that students were simply unable to develop the ability to think abstractly, let alone make artworks, would have undermined the foundation of child-centered teaching and shaken art educators (Cooley, 1901, p. 54). Reformers and activists like Ellen Gates Starr (1859-1940)9 assailed such pigeonholing of students and advocated for the presence of arts in public schools, drawing upon a long held tradition in Chicago set by the American social reformer activist, and educator Francis Wayland Parker (1837-1902).

In the previous decade, child-centered educators like Parker advocated for teaching that centered upon students’ overall understanding, with visual art forms like drawing and clay modeling, at the heart of most learning activities (Efland, 1990; Wrigley, 1982). Amburgy (2002) observed that approaches like Parker’s were criticized by efficiency-minded administrators like Cooley in the “fads and frills” controversy, which carried into the 20th century. In 1902 the issue gained momentum, when the legislative committee of the Chicago Federation of Labor (CFL) was charged with investigating the supposedly wasteful child-centered schooling (Wrigley, 1982). Their *Report on Public School Fads* (Chicago Federation of Labor and Industrial Union Council, 1902) revealed that instead of the alleged wastefulness from the fads, they found students acting in what they described as natural and intelligent ways, thriving and enjoying their schooling (Wrigley, 1982).

Wrigley (1982) notes that the CFL legislative committee ultimately rejected claims that child-centered teaching with art (i.e., fads and frills) weakened the schools. The report noted advantages in art instruction, such as plain paper for drawing from observation cost less than drawing books for merely copying pictures. Child-centered educators and the CFL generally did not object to vocational education, so long as it was balanced with academic subjects; but Cooley’s dual system would have centered vocational training in high schools and co-opted labor’s tradition of apprentice training. They also objected to placing academic subjects into separate high

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9 Ellen Gates Starr was a co-founder of Hull House with the well-known reformer, Jane Addams (1860-1935). She also spearheaded the Chicago Public School Art Society, which installed graphic and sculptural art forms in Chicago’s public school buildings. See Brown (2007) for her history with Hull House and Addams.
schools, which would exclude most working-class students from academic courses they wanted to take for social refinement and advancement.

Just as Moxon found out too late that he could not control his own robot, Cooley’s control of working-class students through exclusion from the arts was effective only in school. Young adults of the working classes, including vocational high school students, often knew the value of arts and culture, especially academic education, from life in their native countries (Wrigley, 1982). In Chicago, members of the working classes sought out the arts where they could gain access, like art exhibitions at department stores, such as Marshall Fields, and the performing arts of Vaudeville Theatre (Oberdeck, 1999; Richardson, 1911). Amburgy (2002) noted that the common notion of most people not caring about art, placing more value on practical and useful forms of knowledge, was not the case. It is likely that students, whom educators excluded from learning about art forms, found other ways to form their tastes in the arts.

**Social Efficiency**

Cooley’s bureaucracy was part of a larger educational ethos known then as social efficiency, with parallels in Cooley’s administration and Bierce’s short story. Through Bierce’s (1893/2014) lens we see that Moxon cites theories also heard from educators and social scientists of the turn of the 20th century. To substantiate that a machine can have consciousness, for example, Moxon cites Herbert Spencer’s (1820-1903) theory that life “is a definite combination of heterogeneous changes” and if “consciousness is the product of rhythm, all things are conscious, for all have motion, and all motion is rhythmic” (Spencer as cited in Bierce, 1893/2014, para. 26). If the CPS bureaucracy can be regarded as a machine set in motion to produce consistent outcomes efficiently, as if it were a kind of reliable rhythm, then it might also be imbued with a consciousness, or at least in the minds of students collectively focused on their tasks under the bureaucratic cloud of “social efficiency.”

The term “social efficiency” was a broad umbrella term for many complicated efficiency movements in the early 20th century. For historian of education Edward Krug (1964), social efficiency was defined one way or another, depending on who was talking. On the other hand, another historian of education, Ellen Condliffe Lagemann (2000), termed social efficiency as a vague slogan without a clear definition. Still other historians (e.g., Kliebard, 1986; Schipps, 2006; Spring, 2005) define social efficiency in amalgamations of the machine bureaucracy with ideology. Tyack (1974) terms the educators who followed these efficiency trends as “administrative progressives.” Yet Kate Rousmaniere (2007) argued that all administrative progressives couldn’t be lumped together as supporters of this movement, for many mid-level administrators did not buy into scientific management. Thus, and the landscape of social efficiency was complicated.

Historian Herbert Kliebard (1986) framed social efficiency as a melding of social theory and systems of scientific management. The social theory of Edward A. Ross (1901) known as “social control” was prominent in the work of educators like David Snedden (1868-1961), Ross Finney (1875-1934), Charles A. Elwood (1873-1946), and Charles C. Peters (b. 1881).10 Kliebard (1986) characterized Edward A. Ross (1866 – 1951) was a scholar in economics and a follower of race purification (Edward Alsworth Ross, 2014). Scholars who followed Ross included: David Snedden (1868-1951) who believed that the entire school should follow doctrines of social control and efficiency. He served as commissioner of education in Boston, where a system of dual schools was established. He returned later to the faculty of Teachers College, Columbia University for the rest of his career (Drost, 2000). Ross L. Finney (1875-1934) was an American Educator known for public education and genetics.
Ross’s thinking as “a kind of intellectual schizophrenia” (p. 91). In one sense, Ross was a Social Darwinist who admired the thinking of the “restless, striving, doing Aryan, with his personal ambition [and] his lust for power ... compared to the docile Slav or the quiescent Hindoo [sic]” (Ross, 1901, p. 3). In another sense, however, Ross also believed that social amalgamation had corrupted what he termed the “Aryan instincts of Teutonic genius” and it became necessary to place Anglo-Americans in charge of society. He reasoned that with Anglo-Saxons in charge, public school systems would supposedly become better institutions than families for instilling “obedience to an external law” (p. 164).

Taylorism

While Ross believed that his social hierarchy facilitated successful industry, there were practical matters. Frederick Winslow Taylor’s (1856-1915) scientific management, or “Taylorism,” as it is known, was efficiency applied directly to working tasks. Factories were organized so workers’ thoughts and movements synchronized with the repetitive rhythm of factory machines, thus producing humans in sync with technology. Taylor’s match of human consciousness with mechanical movement is also reminiscent of Moxon’s belief that consciousness was present in movement and rhythm of anything (Bierce, 1893/2014).

Historian Raymond Callahan (1962) outlined the organizational concepts behind Taylorism, called “functional foremanship.” In this system, Taylor replaced traditional, punitive military-style bosses with specialized bosses for specific roles, such as training, specializing in consistent speed on task, equipment repairs, payroll, routing materials, and discipline. This system was governed by four principals of scientific management: 1) Replace rule-of-thumb methods with the science of a task; 2) train, teach, and develop the worker according to scientific standards; 3) cooperate with workers to ensure work is done according to standards; and 4) divide equally the responsibilities between worker and managers. Arguably, the factory became a collective cyborg, with the most work carried out in the least amount of time, with the most efficient movements, all of which coupled human effort with mechanical power. Just as Moxon animated a robot with intelligence and chess-playing skills, it seems that school administrators like Cooley also “animated” their “creatures” by bridling the behavior of faculty and students in schools regimented as Tayloristic factories, creating a bureaucratic machine that thinks.

Taylor and Ross had complementary theoretical positions. As Ross (1901) believed that Anglo-Americans should maintain control over workers, based on what he considered natural ability; Taylor had moral concerns about overseeing workers. Proper supervision would curb what Taylor (1903) termed “natural laziness” and turn workers into “first-class men” (p. 1365). Yet, the two men differed: Ross’s social control was based on belief in Aryan superiority, whereas Taylor’s hierarchy strived toward a utopian objectivity of science and efficiency, which could instill humanitarian influences on labor relations. In effect, working precisely by the clock bolted down White Anglo-American privilege within a racially
biased hierarchy, which conflated Ross’s and Taylor’s theories into one structure. Eventually, the race and class bias of social efficiency emerged in U.S. public schools as Ross’s social control and Taylor’s scientific management congealed in the a technology of curricula, or a machine that thinks.

**Social Efficiency and Curriculum**

John Franklin Bobbitt (1876-1956),\(^{12}\) was the educational giant of curriculum based on social efficiency. Bobbitt came to the University of Chicago in 1909, just when Cooley left the CPS System. Although Bobbitt (1909) was an advocate for Taylorism, his views were also imbued with the race and class bias of eugenics. In thoughts similar to Ross’s social control, Bobbitt pre-supposed that intelligence was inherited and correlated to racial characteristics. Just as Moxon drew from Spencer’s idea of consciousness in rhythm, Bobbitt framed the future of the human population with a magnified, pessimistic take on evolution: Humans were blind to their demise, seeing themselves in a “Eutopia [sic], a millennium, a City of the Sun, a Platonic Republic, but always defeated” (p. 385). His solution was biology that revealed the “secret of their decline” and he believed it would be “[e]ugenics, the newly-arising science which seeks to improve the inborn qualities of our race” that holds the solution to this social dilemma” (Bobbitt, 1909, p. 386).

Based on these theories, Bobbitt (1909) pointed to feeblemindedness as the reason that public school educators have a poor “raw material” (i.e., “students”) to work with, along with more “educational difficulties which are at present sufficiently bewildering.” (p. 387). Bobbitt (1909) framed his eugenics lens warning of a twofold problem: first, “[t]he more highly endowed classes furnish a far smaller proportion of the parentage than is furnished by the stupid, unambitious, poorly-endowed strata at the bottom” (p. 387). Second, this shift indicated that “[a]bility is dying out at the top simply because it is not being born. There is a growing proletarianization of our high race, simply because the proletariat furnishes the major portion of the parentage” (p. 387). These problems, Bobbitt claimed, would have consequences in two undermining effects: 1) The melioration of the races, and 2) growth of “lower” races. Bobbitt’s message seemed clear: What starts out as the human race teetering on the edge of their “Eutopia” has become the collapse of “civilization … digging the pit into which it must fall if these two powerful, undermining processes are not checked” (p. 394). Bobbitt’s message became a major voice in school curriculum, as if to set in motion the forces behind the CPS’s bureaucratic machine to not only bring social order, but to prepare for the collapse of society.

It seems that if figures like Taylor and Bobbitt had their way, the making of all commercial products would become machine driven, while craft receded, along with the supposed “waste” of child-centered pedagogy in a race-biased hierarchy. The social efficiency expert David Snedden (1917) made this shift even more obvious eight years later, when he questioned the relevance of practicing the arts at all. He believed that in the new century, evolution had taken industrial society past a primal state into a future driven by science and technology. Any romantic strains of visual arts were to be abandoned. Efland (1990) summarized Snedden’s outlook stating, “that while art still had a place in life, it [was] not as important for the survival and expansion of civilized societies as science” (p. 165). As elite educators forecasted the reorganization of the

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\(^{12}\) John Franklin Bobbitt (1876-1956) was a student of G. Stanley Hall. He became known as a school efficiency expert in his day and is important in history for his scientific approach to curricula. His work was widely criticized by Progressives like John Dewey and William H. Kilpatrick, but his work laid the foundation for a new technological approach to curriculum. (Kridel, 1999a).
public school systems, they also bespoke the establishment of elite hierarchies on an apocalyptic scale. Undoubtedly, art educators would have faced challenges within turbulent changes in American demographics, especially if they bought into Bobbitt’s tragic forecast.

**Reflection on Growth, Learning, Assessment, and Assessination**

If science fiction foretells new developments in lived experience, then Bierce’s story that was first published in 1893 predated the beginning of Cooley’s superintendency by 13 years and yet, similarities emerge between Bierce’s story and Cooley’s Bureaucracy. What follows is a reflection of these parallels as they fit with the theme in this volume of the *Journal of Social Theory in Art Education: growth, learning, assessment, and assessination*.

**Growth**

Human growth and development were implicit in science-fiction tropes of super intelligence with mechanical brains or intelligence potions in fiction (Bleiler & Bleiler, 1990). However, the fictive character of Moxon was not the only figure making claims about the presence of life and intelligence. The psychologist G. Stanley Hall (1844-1924) believed that superior intelligence could emerge through art activities. He stated that “guardians of the young should keep out of nature’s way” (Hall, 1901, para. 3) so that children’s expression of their own ideas should be supported through activities, like drawing” (Hall, 1901 para 10). These conditions, Hall (1901) concluded, would “bring the race to the higher maturity of the superman” (para. 23). Conversely, one could argue that the obstacles Hall wanted to keep out of the way were the educational bureaucracies and the confining ethos of mental hygiene (Cohen, 1999). This bureaucracy did not promote what Hall (1901) termed “super intelligence;” instead, it curtailed it.

**Learning**

The difference between Cooley’s administrative control and Hall’s (1901) psychology boils down to how students learned best. Cooley felt that students in vocational classes should learn through discipline and hard work. He and his followers believed that liberal arts and art activities (i.e., fads and frills) would distract students from learning the value of hard work. To 21st-century ears, Cooley’s approach may seem extreme, but during the gilded age, his thinking would have been more tolerant than that of other Social Darwinists, like Cesare Lombroso (1835-1909) and Arthur MacDonald (1856-1936), who concluded that individuals classified as “feebleminded” were supposedly an unredeemable threat to society and predisposed to crime and vice (MacDonald, 1893). In science fiction, such latent fear would have created suspense, just as it did when Bierce played the wonder of a chess-playing automaton against Moxon’s flirtations with power beyond his control, only to have his creature attack and kill him. Similarly, reformers also conveyed “suspense” and “danger” when they disparaged “organized state care of the ‘dependent classes,’” because it only to impeded human progress, contradicted natural law, and ultimately prolonged the suffering of individuals destined to be criminals (Platt, 2009, p. 20).

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13 The American psychologist and educator G. Stanley Hall (1844-1924) was known for his evolutionary theories and for bringing the idea of adolescence to significance (HALL, G(ranville) Stanley, 2009).

14 Italian criminologist Cesare Lombroso (1835-1909) was a conservative Social Darwinist in the 19th and early 20th centuries. Lombroso believed in the existence of a “Criminal Class,” a morally inferior species with physical traits reminiscent of apes, lower primates, and save tribes” and should be restrained (Lombroso as cited in Platt, 2009, p. 21). Lombroso’s work was not translated into English until 1911, after his death, but American criminoiologists knew of Lombroso’s biological determinism from Arthur MacDonald’s treatise *Abnormal Man* (1893).
Assessment

The DCS’s differentiation and tracking of students by physical assessment and testing was a way of taking stock of students, or what Bobbitt (1909) termed the “raw material.” Hence, student recordkeeping and processing were important, as if the CPS had become one of Moxon’s machines that think (Bierce, 1893/2014). In 1909, the association of a machine with thinking was unheard of to most individuals, for there was no formal distinction between natural and artificial intelligence, as in the 21st century. Artificial intelligence emerged later in the 1930s, when Alan Turing originated concepts leading to what John McCarthy would term “artificial intelligence” (McCarthy, et al., 1955, para. 1). In 1909, there were no computers, as there are today, but the human data-processing infrastructure in armies of teachers, clerical staff, typists, and calculating machine operators recorded and processed data on the ability and progress of each pupil mathematically and systematically. Every data worker knew the business well, from the superintendents’ with metric business methods learned in graduate school, to teachers whose jobs depended on teaching the same lessons on the same day, and recording grades and calculating averages (Callahan, 1962; Wrigley, 1982). These acts of assessment and recordkeeping, it would seem, fabricated fictional descriptors of mental activity that were computed and classified, naming students as “sub-normal” and “feebleminded” (Ryan, 2011, p. 343). Just as Moxon considered his robot the transformation of matter into the thinking automaton that fascinated readers, the CPS system became systematic thinking machine for assessing and sorting students, to create an elite social hierarchy.

Conclusion

Cooley was caught up in the craze of efficiency to keep order in a world that he feared was flying apart. As Bierce’s Moxon amazed readers by giving materials mechanical power and movement, in which, he claimed, existed consciousness; Cooley’s bureaucratic “machine” classified and sorted students by measuring their mental capacity and connected them with mechanical power and movement. Just as Taylor (1903), organized factories by synchronizing the minds of workers with the movement of machines, Cooley synchronized the minds of students with a bureaucratic “machine” that sorted them into differentiated levels of instruction with differentiated degrees of social power.

Cooley also followed principles of efficiency, thinking they would lead toward a science-driven utopia; but within the shadows, he was also preoccupied with maintaining an elite social hierarchy with privileged Anglo Americans in charge of individuals they considered less intelligent. Just as Bierce (1893/2014) told of animated automatons and made them seem unnervingly possible with Darwinian theory, Cooley envisioned American society out of control with a penchant for apocalyptic drama, if not the end of civilization. Bierce’s Moxon claimed that where there is movement there is life while Cooley pushed boundaries of natural law into the amorphous social realm of intelligence. At the end of this tale, readers are left to ponder which is the artificial or at least reduced to science fiction in acts of assessment.

References


