

Truth as Corollary to Knowledge: The Impact of Sandra Marlow

Kristen M. Hallows

Abstract: Sandra "Sunny" Marlow, fine artist and librarian, was the conduit through whom the public became aware of radiation experiments conducted on residents of the Walter E. Fernald State School. This exposition of Marlow's fateful tenure at the institution selectively plumbs its historical and situational framework beginning with the toehold established by the eugenics movement in the early twentieth century. While librarians are not the only helping professionals well suited to the task of finding and revealing secrets with potentially shattering significance, their existence at the vanguard of information literacy and access to knowledge uniquely positions them to ensure that bygone events have a place in the public consciousness today.

Keywords: Fernald, Marlow, eugenics, state schools, human needs, helping, relationships, child welfare, mental health, eugenic segregation

Introduction

Fascination with abandoned buildings inevitably introduced me to the widely misunderstood and cavernous history of the structures whose remnants I loved to behold. Unsuccessful attempts to locate a previous work by ruins photographer John Gray prompted me to contact him: In a slightly unrelated and completely voluntary paragraph in a November 2012 email, Mr. Gray mentioned that he wished to visit the "Fernald Center," and he remarked, "I'm sure you read *The State Boys Rebellion*?"

I had not read *The State Boys Rebellion*, and I was not familiar with Fernald. The book quickly became one of my favorites; it chronicles the improper internment of several children whose lives were changed irrevocably after a serendipitous meeting with Sandra Marlow in adulthood. When I encountered the call for submissions for this special issue, I immediately envisioned an article that would pull from, but also expand upon, details in the book. After locating Marlow's current address, I wrote to her, and I was elated to receive an email response within a week. Our correspondence enriched the following historical reflection and the author as well.

Eugenic Sentiments

A concise yet illuminating history of the Walter E. Fernald State School is at once a sine qua non and an astoundingly difficult and nuanced proposition. Inseparable from the institution's past is the unquestionable influence of a social movement revelatory of the ugly underbelly of human nature: the eugenics movement. Originating from the Greek *eugenes*, meaning "good in stock, hereditarily endowed with noble qualities," the term eugenics was coined in 1883 by Francis Galton, Charles Darwin's younger half-cousin (Engs, 2005; Fancher, 2009). Galton's initial subject was positive eugenics, or the improvement of future generations through exhortation of the best (viz., the wealthiest or most intelligent) in society to have more children.

An antithesis exists for eugenics and, more specifically, positive eugenics. Toward the end of his

life, Galton espoused the belief that the "unfit" should not procreate. The term dysgenics was used to describe reproduction among "degenerates" (e.g., the mentally ill or disabled). Negative eugenics, conceptualized in 1907 by British physician C. W. Saleeby, involves the prevention of reproduction by those considered to be defective, usually by segregation or sterilization. It is this negative variety that blossomed in popularity in the United States, Germany, and other countries.

Eugenic sentiments are nothing new. The idea that human reproduction should be restricted to those with desirable traits has been attributed to Plato, ancient Greek philosopher (Engs, 2005; Sullivan, 2013). Of great interest to me was exactly how this movement gained sufficient traction to become so influential in such a relatively short period of time. I have distilled the following synopsis from the extensive background explored in *The Eugenics Movement: An Encyclopedia*.

A perfect storm of ideas began to gather from the mid to late nineteenth century; accordingly, eugenic opinion leadership throughout the Progressive Era seems almost unavoidable. For one, Darwinism produced the concept that men may exert control over their own evolution. Also key was French naturalist Jean-Baptist Lamarck's theory of inheritance of acquired characteristics, which formed the basis of degeneracy theory. Yet another influence was Arthur de Gobineau's hierarchy of races, which categorized people with northern European ancestry as superior; this led to the fear of higher birthrates of "inferior races," including immigrants.

Its relegation to pseudoscience still in the future, the coup de grace appears to be the emergence of eugenics as a science, which, at the time, put it on equal footing with other up-and-coming sciences, such as sociology and psychology.

There is one major difference worth noting. Engs (2005) explains that in the United States, the eugenics movement was never a "crusade of the masses" (p. xiv). Rather, it remained a more academic concern. In Germany and Britain, however, eugenics pervaded "public health and social welfare movements aimed at improving national vitality and health" (p. xiv).

A Fortuitous Visit

Sandra Marlow was hired by the State of Massachusetts to spearhead Fernald's Howe Library in 1991. The oldest institution of its kind in the country, this was unquestionably an intimidating charge. She recalled, "I didn't know what to expect and had no background in the history of mental health at all" (S. Marlow, personal communication, September 3, 2015). With the exception of a non-librarian volunteer, she was the library's only staff person (S. Marlow, personal communication, September 3, 2015).

The prodigious amount of material served as Marlow's first acquaintance with treatments common in the first half of the twentieth century, such as electric shock, insulin therapy, lobotomy, and LSD (S. Marlow, personal communication, September 7, 2015).

Marlow said that she "always wanted to be an archeologist, so finding documents was delightful. Similar to detective work" (personal communication, September 3, 2015). Without the benefit of

an inventory, she remembered that the assistance of longtime residents was critical to her success (personal communication, September 3, 2015).

Joseph Almeida, a former resident employed by the school as a bus driver, paid a fortuitous visit out of curiosity in 1992. Struck by his lucidity, she found it difficult to believe that Almeida had been a resident of an institution for the developmentally disabled. As he led Marlow to the attic of the administration building and other far-flung enclaves in which additional books and papers lay deteriorating, their badinage naturally turned to Almeida's time at Fernald:

[Almeida] described his work in the laboratory basement, slicing up brains amid the big jars that held organs and fetuses. He recalled weeding the gardens in the summer and working in the bakery in winter. (D'Antonio, 2004, p. 241).

In her efforts to confirm Almeida's tenebrous anecdotes, Marlow encountered letters from the Atomic Energy Commission (AEC), now the Department of Energy. Marlow observed:

I knew that the AEC was not interested in helping people who were retarded... (Brown, 1994, p. 124)

One of the most poignant aspects of this story is that, of all available librarians, the State of Massachusetts had hired a researcher with a trenchant personal interest in Cold War science.

Marlow's father, whose life was claimed by leukemia, was exposed to an unknown amount of radiation during his participation in nuclear tests in the United States Air Force. Her dogged attempts to obtain facts about her father's exposure were thwarted due to the reported destruction or nonexistence of records; further, she was told by multiple government agencies that there was "no significant health hazard to the military personnel at any nuclear weapons test" (Marlow, 1983, p. 30). Against this backdrop, she described ships, including at least one on which her father had worked, which were so "red hot" that they were "sunk off the coast of California" (D'Antonio, 2004; Marlow, 1983, p. 30; O'Neill, 2001).

Marlow's pursuit of answers about the effects of radiation on service members and others became the "most important part of [her] entire life" (Marlow, 2014). As a result of this unassuaged desire, she couldn't have been more intrigued by the materials that surrounded her.

From Practical Skills to Incorrect Imprisonment

Abolitionist and reformer Samuel Gridley Howe founded the Massachusetts School for the Feeble-minded in 1848 to provide disabled children with practical skills that would allow them to become productive citizens. The school eventually assumed the name of its third superintendent, Walter E. Fernald, an internationally known expert on mental retardation and author of the oft-quoted address to the Massachusetts Medical Society, "The Burden of Feeble-Mindedness," in which he proclaimed:

...feeble-mindedness is the mother of crime, pauperism and degeneracy. It is certain that

the feeble-minded and the progeny of the feeble-minded constitute one of the great social and economic burdens of modern times. (Fernald, 1912)

Under Dr. Fernald, a "eugenic icon," the mission of the school moved away from its moral or religious origins and became more scientific in nature (Daly, n.d.; Murphy, 2011, p. 28).

The first eugenic law mandating compulsory sterilization of "degenerates" was passed in the United States in 1907. Charles Davenport founded the Eugenics Record Office (ERO) in 1910, and the Eugenics Research Association (ERA) was created to study human heredity and to promote research in 1913. The Eugenics Registry was instituted in 1915 to collect information from families concerning heredity and to classify those families as fit or unfit; *Eugenical News* was founded to chronicle ERO activities and to advance eugenic concepts in 1916.

In 1927, the United States Supreme Court upheld the constitutionality of Virginia's compulsory sterilization of young women considered to be "unfit" in *Buck v. Bell*. The American Eugenics Society (AES) launched its official journal, *Eugenics: A Journal of Race Betterment*, the following year. Throughout the 1920s and 1930s, many states passed sterilization laws.

Beginning in 1931, a number of events signaled the enervation of the eugenics movement. Publication of *Eugenics: A Journal of Race Betterment* ceased. The work of the ERO was discredited in 1935, and the last meeting of the ERA was held in 1938. In 1939, the ERO closed, and the *Eugenical News* subtitle, Current Record of Race Hygiene, was dropped (Daly, n.d.; D'Antonio, 2004; Engs, 2005; Sullivan, 2013).

The population of Fernald and similar institutions grew in direct proportion to the increasing pervasiveness of eugenic ideas; this is not a new realization. Why, then, did the number of Fernald residents continue to climb after the movement's devitalization?

Year(s)	Fernald Population
1889	142
1911	494
1926	1,330
1945	1,890
1949	1,900
1952	2,032
1954	2,242
1960s	2,600 (peak)

One of the most devastating developments in Fernald history was the institutionalization of those who tested just below average on IQ tests and who were deemed morons, a scientific term at the time. Today, many of these children would probably be termed at-risk youth: those in foster care or poor or broken homes. Michael D'Antonio (2004) wrote in *The State Boys Rebellion*:

Across the nation, eighty-four institutions housed a total of 150,000 children, and twenty-six more state schools were under construction. Fernald was about to be expanded, even though officials in Massachusetts acknowledged at the time that about 8 percent of the children in its state schools were either almost normal, or not at all retarded. This figure suggests that nationwide, at any given time, more than 12,000 American boys and girls of relatively normal intelligence were locked away. (p. 18-19)

This, explains D'Antonio, was due to inconsistent criteria required for diagnosis as a moron:

Where once state schools refused admission to anyone who scored 70 or higher on an IQ test, the 1940s found many children with such scores being labeled and committed as "borderline" cases. Although some families resisted giving their children up to the doctors, educators, and others who ran state schools, few protests were made on behalf of orphans or abused or delinquent children. (p. 18)

Bringing the picture of those incorrectly imprisoned into greater focus, Maude (Ma) Bell, who assumed the position of matron in the 1950s, vigorously confirmed that there were "very smart" children committed to Fernald as a result of being in legal trouble; it was less of a strain on the family to "put 'em in the Fernald" than in prison (Marlow & Bell, 1999). D'Antonio (2004) adds that social service agencies were eager to disgorge difficult children to an institution; this was possible with a mental deficiency diagnosis.

There was also a financial incentive to incarcerate higher-functioning children and adults: They were the unremunerated custodians, gardeners, cooks, and others needed to keep the facility in operation. If no family existed to receive them, discharge (often referred to as parole) was extremely rare.

The Science Club

One of Marlow's findings was a letter to parents requesting their sons' participation in a nutritional study referred to as the Science Club; in the letter, it was explained that the children's voluntary participation would require blood samples after the ingestion of a certain amount of calcium. The letter also mentioned perks enjoyed by members of the Science Club, such as baseball games and an extra quart of milk per day (D'Antonio, 2004). In reality, members of the Science Club were fed radioactive oatmeal. As explained in "Studies in Calcium Metabolism," radioactive calcium was added to milk, which was "mixed intimately into the cereal" and administered to "nineteen adolescent boys, of inadequate intelligence but otherwise normal" (Bronner, Harris, Maletskos, & Benda, 1954, p. 525; Brown, 1994; D'Antonio, 2004).

The impetus was the notion that a diet heavy in cereal may affect the body's ability to digest iron and calcium, and it was decided that the best way to study this was to use a radioactive form, which is easily detected in blood and waste products (Allen, 1993). The study, funded at least in part by Quaker Oats, was also motivated by the company's desire to respond to claims made by competitor Cream of Wheat that its cereal's nutrients "traveled throughout the body" (Frankel, 1998).

Release and an Unprecedented Class Action Lawsuit

The abject Fernald milieu would persist into the 1950s when higher-functioning residents would begin to be released. President Kennedy advanced the cause of the intellectually disabled along with groups such as the National Association for Retarded Citizens (now The Arc of the United States). Also responsible for this positive trend was the Fernald League, founded in 1952 by parents whose mission was to advocate for better care for residents of the school. D'Antonio (2004) summed up these parents' conflicting priorities:

On the one hand, [parents] believed Pearl Buck's message about the value of institutions and wanted an end to waiting lists so their children could be admitted. On the other, they demanded that schools that were already overburdened and understaffed offer much better care and education. (p. 121)

A July 1958 audit revealed perilous overcrowding and understaffing, and it advanced the concern that these issues would only be exacerbated by the increased life expectancy of the severely disabled brought about by modern medicine. The resulting need for additional care, combined with changing societal attitudes and pressure applied by parents and politicians across the country, led to the release of an untold number of individuals who were lamentably institutionalized.

Frederick Boyce, one of the *soi-disant* State Boys whose story figures prominently in *The State Boys Rebellion*, was admitted in 1949. The process that would result in his release began in 1959 (D'Antonio, 2004).

On February 7, 1972, an unprecedented class action lawsuit was filed in response to conditions at Belchertown State School, also located in Massachusetts, which were so inhumane that they could only be summarized as a complete refusal of treatment. In addition to the near nonexistence of educational, psychiatric, psychological, nutritional, medical, dental, and other services, residents endured cockroach and fly infestations, undeterred infectious disease, persistent likelihood of physical and verbal abuse meted out by fellow residents and untrained staff, and an "aberrant sexual climate" (Ricci, 2004).

Cases concerning Fernald, Monson State Hospital, Wrentham State School, and Dever State School were filed in 1974 and 1975 and consolidated with the Belchertown case. In 1977, the first in a series of orders was issued; by 1987, the dire ratios had started to move in the right direction: Funding and staffing had increased, and population had decreased ("Massachusetts Gaining," 1987). In his 1993 opinion, United States District Judge Joseph Tauro ended the federal court's oversight of the cases, and he described the journey from his initial visit to Fernald and similar institutions two decades earlier:

...those initial inspection tours became the first steps in a process that has taken people with mental retardation from the snake pit, human warehouse environment of two decades ago, to the point where Massachusetts now has a system of care and habilitation that is probably second to none anywhere in the world. (Ricci v. Okin, 1993)

Humans as Radiation Test Subjects

The Fernald radiation experiment was not unique. As Tate (1994) explained, the use of humans as radiation test subjects likely encompassed the globe:

According to a 1951 AEC document detailing the commission's shipments of radioactive materials from 1946 to 1951, researchers in 31 foreign countries received radioisotopes for use in medical studies—many involving human subjects. The report documents 1,135 foreign shipments as well as 18,905 domestic shipments. (p. A1)

This document, discovered by Marlow, listed more than 100 locations, including Harvard University, Fernald, and "several Boston hospitals" (Tate, 1994).

Allen (1993) expounded:

The federal review is likely to involve a number of research institutions in Massachusetts, which received more shipments of radioactive isotopes for research than any other except New York from 1946 to 1951, according to federal records. (p. 1)

Not all research was nefarious in nature; in fact, the voracious testing was motivated by the extremely urgent need to understand the effects of radiation at the dawn of the Atomic Age. Some experimentation produced beneficial results, such as new diagnostic tools and an improved understanding of the functioning of the human body. However, the phrase "human guinea pig" has been used extensively to describe duplicative, misbegotten experiments conducted at Fernald and other institutions (Welsome, 1999). Not surprisingly, I have yet to learn of a single experiment for which test subjects' informed consent was secured.

What is immediately abundantly clear is that vulnerable populations were the likeliest recruits. Examples are manifold: radium fed to the elderly just to observe how it passed through their bodies; radioactive uranium injected into terminally ill patients to measure the effects on their kidneys (Allen, 1993). Such populations, debased at least in part due to eugenic attitudes, formed an irresistible pool of test subjects.

Intense National Attention and an Estate Sale

Fortunately, Marlow wasn't the only meticulous curator of facts. In the late 1980s and early 1990s, journalist Eileen Welsome embraced the task of identifying former hospital patients unwittingly injected with plutonium nearly half a century earlier as part of an experiment conducted by the Manhattan Project, the predecessor of the AEC. Her three-part series, "The Plutonium Experiment," first appearing in the *Albuquerque Tribune* in November 1993, received relatively little attention until Department of Energy Secretary Hazel O'Leary officially condemned the experiment during a December 1993 press conference in which she announced the new "Openness Initiative" (Welsome, 1999) that would result in the declassification of documents and even the creation of an online bibliographic database called OpenNet (Aftergood, 2000).

By mid-1992, Marlow, with the assistance of Almeida and Boyce, had gathered sufficient evidence that children at Fernald had been purposely exposed to radiation with neither the subjects' informed consent nor their parents' complete knowledge. A friend connected Marlow to *Boston Globe* reporter Scott Allen, whose previously quoted December 1993 article, together with Secretary O'Leary's efforts, helped to produce the media paroxysm that spurred hearings, investigations, and even a committee created by President Clinton to explore the government's role in the use of humans as radiation test subjects.

Prior to this period of intense national attention, Marlow learned that she would be replaced by a more senior librarian whose library had been shuttered. Marlow organized the Friends of the Library, a galère of area professors and others active in human rights initiatives and disability legislation, and they were a source of support and encouragement. An expert task force, appointed to investigate radiation experiments at all state schools, would eventually install itself at Fernald. Marlow interacted with the task force minimally, and she recalled a tense environment in which she felt as if she were in a vacuum (personal communication, September 6 and 14, 2015).

Almeida and Boyce were understandably concerned about the fate of the incriminatory records. During a meeting with Marlow in the library to discuss the Science Club, Almeida surreptitiously unlocked one of the windows. He and Boyce returned days later under the cover of darkness and entered through this window. Armed with a flashlight, they sorted through logbooks, reports, and lists, some of which contained their names. Among the items they placed into several boxes was a list of 35 State Boys, themselves included, who had allegedly received permission to participate in the Walter E. Fernald School Science Club.

Marlow's interest in the institution did not wane. An irresistible opportunity presented itself when Dr. Clemens Benda, co-author of the calcium study and one-time head of Fernald's Southard Laboratory, passed away: The public was invited to an estate sale. Marlow, Almeida, and Boyce were told that everything was for sale except papers in the attic. Marlow perused the items for sale while Almeida and Boyce headed for yet another evidentiary mother lode.

Because there was no inconspicuous way to abscond with the records, they inserted as many as possible between the pages of books, which they purchased afterward. The following day, they returned with the hope that some or all of the remaining documents lay among the trash, but there was nothing of value to be found (D'Antonio, 2004).

According to the report issued by the Massachusetts Task Force on Human Subject Research, among the papers located during the estate sale were progress reports written by the doctoral student who conducted the Fernald calcium experiment. These reports contained the names of the boys involved, making their identification possible (West, 1998).

Transfer of Ownership

In May 2014, it was announced that the City of Waltham would be allowed to buy the Walter E. Fernald Development Center by the end of the year. At the time, there were six remaining

residents, and four were in the process of moving to a community setting (Reiss, 2014). Given the competing interests and priorities of myriad public and private stakeholders, the December 2014 transfer of ownership was no small accomplishment. The last resident left Fernald in November 2014. Use of Community Preservation Act funds requires that the majority of the land (138.977 of the nearly 200 acres) be used for "open space, recreation, or historic preservation" (Grannan-Doll, 2014).

The Necessity of Public Attention

American institutions like Fernald were founded with altruistic purposes. Initially, the nation's state hospitals, too, had a munificent objective: to be an asylum—a refuge—for the mentally anguished. Yet, invariably, eugenic and dysgenic philosophies blended with expedience to transform these institutions into places that could only be described with dysphemistic phrases such as "snake pit."

Why send a meretricious letter to parents at all? If the radioactivity of the food wasn't believed to be medically or ethically precarious, why overlook its involvement? The task force found that the letter's purpose was to encourage additional participation in order to reach the desired number of test subjects (West, 1998). The reason for the exclusion of radiation is a little more difficult to divine; the Atomic Age had just begun, and it has been said that if radiation had been mentioned, more participation would have been garnered ("44 Years Later," 1993).

The report issued by the task force delves into these and other pertinent questions concerning authorization, consent, and reasonable anticipation of harm. Interestingly, rather than foist modern standards of conduct onto another era, the task force applied, in part, "ancient ethical principles relevant to American law":

- One ought not to treat people as mere means to the ends of others;
- One ought not to deceive others;
- One ought not to inflict harm or risk of harm;
- One ought to promote welfare and prevent harm;
- One ought to treat people fairly and with equal respect; and
- One ought to respect the self-determination of others. (West, 1998)

Similar to the assurances Marlow received regarding her father's exposure, a common refrain throughout the literature is that Fernald students were given such a small amount of radiation that the experience was completely innocuous. Brown (1994) was likely referencing ethicist Doe West's comment that the students "may not have been harmed, but surely they had been wronged" (p. 129).

Marlow's suspicion stemmed from the fact that she is a humanist, and she asserts that there is more to be discovered in the accounts of those who were incarcerated at Fernald than in any of the "whitewashed" formal histories (Constitution and Campaign Reform, 1994). She likely felt that public scrutiny was the only acceptable response to the discovery of such information, and this conviction undoubtedly moved her to grant interviews, to conduct interviews, to testify

before Congress, and to write articles. History appears to support the necessity of public attention:

After World War II, medical research developed with minimal government intervention. At common law, there were very few court opinions addressing human subject experimentation. Cases involving clinical practice endorsed professional autonomy and gave judicial deference to medical opinion which, at that time, made no distinction between clinicians and researchers. During the 1960s and 1970s, when society began to challenge biomedical research on the grounds of individual rights and patient consent, the federal government finally intervened. Publicity surrounding unethical experimentation apparently served as a catalyst for increased government intervention. (Loscialpo, 1997, p. 146)

Marlow explained:

I saw a connection between the experiments and what the Nazis did. I saw the experiments against the whole backdrop of lies—the silence of the government, the silence of the professionals. The experiments were a part of the past that was affecting the present. (Brown, 1994, p. 124)

Possibly the most damaging repercussion of all is the stigma of an association, however improper, with a brickbat such as retard, moron, or gargoyle. Frustratingly, the media attention designed to shine a light on obfuscated events and even clear the name of those involved inevitably unearthed these pejorative terms and stygian memories of time spent at Fernald; consequently, some former residents refrained from speaking out (West, 1998).

Conclusion

Would anyone in Marlow's position do the same thing? That is, what does her identity as a librarian have to do with her tireless determination to uncover information hidden from view for decades? Would she have provided details to Allen if she didn't have such a strong personal connection to America's nuclear past? The latter may be impossible to answer, but I'd like to believe that it isn't coincidence that the state hired a librarian to establish a library at one of its institutions. Likewise, while librarians aren't the only champions of access to information, it is a hallmark of the profession that was exemplified in her actions.

The motto of Beta Phi Mu, international library and information studies honor society, is *aliis inserviendo consumidor*, meaning *consumed in the service of others*. Regardless of a librarian's membership in the honor society, service informs the mission of libraries and librarians generally. In addition to the factors previously stated, this commitment to service arguably made Marlow the ideal person to discover an injustice of this magnitude.

Think pieces over the last quarter century often conclude with a "never again" directive. Perhaps the only closure suitable for a storyline such as this is a call for further investigation and discourse: a challenge to revisit not only the detritus left in the wake of each misstep, but also

the invaluable learning opportunities that ought to prevent another coalescence of similarly hidebound beliefs, reckless misjudgments, and unbridled opportunism.

References

- 44 Years Later, the Truth About the 'Science Club'. (1993, December 31). *The New York Times*. Retrieved from <http://www.nytimes.com/1993/12/31/us/44-years-later-the-truth-about-the-science-club.html>
- Aftergood, S. (2000). Openness and secrecy at the Department of Energy after the China espionage investigations. *Journal of the Federation of American Scientists*, 53(1). Retrieved from <http://fas.org/faspir/v53n1a.htm>
- Allen, S. (1993, December 26). Radiation used on retarded: Postwar experiments done at Fernald School. *Boston Globe*. Retrieved from http://faculty.uml.edu/darcus/47.269/MATERIALS/fernale_globe1993.htm
- Bronner, F., Harris, R., Maletskos, C., & Benda, C. (1954). Studies in calcium metabolism. Effect of food phytates on calcium 45 uptake in children on low-calcium breakfasts. *The Journal of Nutrition*, 54(4), 523-542.
- Brown, C. (1994). The Science Club serves its country. *Esquire*, 122(6), 122-129.
- Constitution and Campaign Reform: Hearings before the Advisory Committee on Human Radiation Experiments, 103rd Cong. (1994) (Testimony of Sandra Marlow). Retrieved from <http://nsarchive.gwu.edu/radiation/dir/mstreet/commeet/meet9/trnsc09b.txt>
- Daly, M. (n.d.). History of the Walter E. Fernald Development Center. Retrieved from http://www.city.waltham.ma.us/sites/walthamma/files/file/file/fernald_center_history.pdf
- D'Antonio, M. (2004). *The state boys rebellion: A true story*. New York, NY: Simon & Schuster.
- Engs, R. (2005). *The eugenics movement: An encyclopedia*. Westport, CT: Greenwood Press.
- Fancher, R. E. (2009). Scientific cousins: The relationship between Charles Darwin and Francis Galton. *American Psychologist*, 64(2), 84-92.
- Fernald, W. E. (1912). The burden of feeble-mindedness. *Boston Medical and Surgical Journal*, 166(25), 911-915.
- Frankel, B. (1998, May 18). Revolt of the innocents. *People*. Retrieved from <http://www.people.com/people/archive/article/0,,20125312,00.html>
- Grannan-Doll, R. (2014, December 29). Waltham closes deal on Fernald purchase. *Waltham News Tribune*. Retrieved from

<http://waltham.wickedlocal.com/article/20141224/News/141228189>

Loscialpo, M. J. (1997). Nontherapeutic human research experiments on institutionalized mentally retarded children: Civil rights and remedies. *New England Journal on Criminal and Civil Confinement*, 23(1), pp. 139-182.

Marlow, S. (1983). A daughter's story. *The Bulletin of the Atomic Scientists*, 39(1), 29-30.

Marlow, S. (2014, February 25). Training ship "scarred" by tests [Video file]. Retrieved from <http://cironline.org/reports/treasure-island-cleanup-exposes-navy%E2%80%99s-mishandling-its-nuclear-past-5986>

Marlow, S. (Interviewer) & Bell, M. (Interviewee). (1999). *Fernald State School: Sandra Marlow's interview with school matron Ma Bell*, side 2 [Audio file]. Retrieved from https://dl.tufts.edu/catalog/ead/tufts:UA069.001.DO.MS005/aspace_398972e0460ac150958be6993eb1ed53

Massachusetts Gaining in its Care for Retarded. (1987, January 4). *The New York Times*. Retrieved from <http://www.nytimes.com/1987/01/04/us/massachusetts-gaining-in-its-care-for-retarded.html>

Murphy, S. T. (2011). *Voices of Pineland: Eugenics, social reform, and the legacy of "feeble-mindedness" in Maine*. Charlotte, NC: IAP—Information Age Publishing

O'Neill, P. (2001, August 8). Atomic legacy. *Indy Week*. Retrieved from <http://www.indyweek.com/indyweek/atomic-legacy/Content?oid=1184292>

Reiss, J. (2014, May 25). Fernald property offered to city. *Boston Globe*. Retrieved from <https://www.bostonglobe.com/metro/regionals/west/2014/05/24/waltham-accepts-state-proposal-for-fernaldd-sale-city/M8R5bVgE7ROicMjOeuh5qJ/story.html>

Ricci, B. (2004). *Crimes against humanity: A historical perspective*. Lincoln, NE: iUniverse, Inc.

Ricci v. Okin, 823 F.Supp. 984 (Mass. 1993).

Sullivan, D. (2013). A short history of eugenics thought and practice [PowerPoint slides]. Retrieved from http://works.bepress.com/dennis_sullivan/11

Tate, N. (1994, January 24). Radiation scandal spreads across globe. *Boston Globe*, p A1.

Welsome, E. (1999). *The plutonium files: America's secret medical experiments in the Cold War*. New York, NY: Random House

West, D. (1998). Radiation experiments on children at the Fernald and Wrentham Schools: Lessons for protocols in human subject research. *Accountability in Research: Policies & Quality Assurance*, 6(¹/₂)

About the Author: Kristen M. Hallows, MLIS, is Research Analyst, Bricker & Eckler, LLP (614-227-4967; khallows@bricker.com).