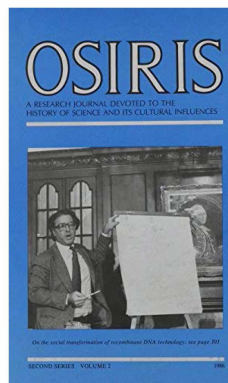


The Eugenics Record Office
at Cold Spring Harbor, 1910-1940
An Essay in Institutional History

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In 1883 THE BRITISH NATURALIST AND MATHEMATICIAN Francis Galton (1822–1911) first introduced the term *eugenics* to the vocabulary of science. According to Galton’s lofty formulation, eugenics was “the study of the agencies under social control that may improve or impair the racial qualities of future generations, either physically or mentally.” By 1911 the chief American advocate of eugenics, Charles B. Davenport (1866–1944), had put it more bluntly; to him, eugenics was no less than “the science of the improvement of the human race by better breeding.”¹

Conceived as a scientifically grounded reform movement in an age of social, political, and economic turbulence, eugenics looked to hereditary factors for the sources of such a vast array of human behavioral problems as alcoholism, feeble-mindedness, rebelliousness—even criminality. Eugenicians also thought they had found the causes of many fundamental social problems in measurable hereditary defects. Eugenics as a social movement developed throughout most of the countries of Western Europe, but it enjoyed a particularly robust life in the United States. After 1900 the movement became, in the eyes of its American advocates, a major breakthrough in the application of rational, scientific methods to the problems of a complex urban and industrial society.

EUGENICS AND GENETICS

Although Galton coined the term *eugenics* in 1883, by 1900 neither he nor his followers had been able to establish a serious eugenics movement in England. Both Galton and his disciple Karl Pearson (1857–1936) lacked a firm and workable theory of heredity. Their views, which were based on biometry, the statistical analysis of biological traits measured for large samples, encountered great difficulty when applied to individual families or lines of descent. With the re-discovery of Mendel’s laws of heredity in 1900, however, the study of heredity in general and eugenics in particular found fertile ground, particularly in the

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¹ Francis Galton, *Inquiries into Human Faculty and Its Development* (New York: Dutton, 2nd ed., n.d.): p. 17n.; quoted also on the frontispiece of the *Journal of Heredity*. Charles B. Davenport, *Heredity in Relation to Eugenics* (New York: Henry Holt, 1911), p. 1.

United States. By 1910 most American biologists, except for a stalwart few, agreed that Mendel's theory could be applied to all sexually reproducing forms. The enthusiasm with which biologists—in the United States in particular—began to endorse the Mendelian scheme cannot be overemphasized. Here, for the first time, was what seemed to be a generalized, predictive, and experimentally verifiable concept of heredity that applied to *all* living forms, including human beings. Indeed, in the period 1900–1910 geneticists had concluded that several human traits follow a strictly Mendelian pattern of inheritance: red-green color blindness, the A-B-O blood groups, polydactyly (presence of short, stubby digits on the hands and feet), and several metabolic diseases or inborn errors of metabolism. A revolution in genetics had taken hold.²

The application of Mendelian theory to human beings armed eugenicists with a powerful analytical tool. Using pedigree analyses as the data from which possible Mendelian patterns of inheritance could be deduced, eugenicists in the United States began to study a wide variety of physical, mental, and moral traits in humans. Although American eugenicists did not adhere to the view, so common in England, that Mendelism and biometry were mutually exclusive, in practice most emphasized the Mendelian scheme. One of these early American supporters of Mendelism, and a champion of experimental biology, was Charles Benedict Davenport, under whose direction the Station for the Experimental Study of Evolution and the Eugenics Record Office were established at Cold Spring Harbor.

The establishment of the Eugenics Record Office (ERO) in 1910 at Cold Spring Harbor, Long Island (New York), was central to the development of eugenics in the United States. Associated with the larger Station for the Experimental Study of Evolution (SEE), the ERO provided both the appearance of sound scientific credentials and the reality of an institutional base from which eugenics work throughout the country, and even in Western Europe, could be coordinated. The ERO became a meeting place for eugenicists, a repository for eugenics records, a clearinghouse for eugenics information and propaganda, a platform from which popular eugenic campaigns could be launched, and a home for several eugenical publications. Moreover, the ERO was headed by two of the country's best-known eugenicists: C. B. Davenport, as director of both the SEE and the ERO, and Harry Hamilton Laughlin (1880–1943), as his deputy at the SEE and as superintendent of the ERO itself. Thus the ERO became a nerve center for the eugenics movement as a whole. When it closed its doors on 31 December 1939, it was clear that the movement as such no longer existed.

The ERO, whose life spans virtually the entire history of eugenics in the United States, provides an illuminating focus for historical study of the movement. Study of the ERO's activities also exposes the modern investigator to a representative cross-section of the work and concerns of eugenicists throughout the world. Moreover, because its financial needs brought the ERO into direct

² Much has been written in recent years about the history of Mendelian theory in the early decades of the century. Among the best general sources are L. C. Dunn, *A Short History of Genetics* (New York: McGraw-Hill, 1965); and E. A. Carlson, *The Gene: A Critical History* (Philadelphia: Saunders, 1966). For more detailed analyses of the first decades of genetics, see Garland E. Allen, *Thomas Hunt Morgan: The Man and His Science* (Princeton: Princeton Univ. Press, 1978); and E. A. Carlson, *Genes, Radiation and Society: The Life and Work of H. J. Muller* (Ithaca, N.Y.: Cornell Univ. Press, 1981).

contact with some of the individual philanthropists as well as the larger philanthropic foundations that were emerging in the first decades of this century, this study also provides historical perspective on the initiation and control of funding for scientific work during that period. In many ways, then, the ERO is a microcosm of the larger social macrocosm that was the American eugenics movement. It also provides a focus for exploring the relationship between the development of eugenics and the changing social, economic, and political life in the United States between 1900 and 1940.

To put the present study in perspective, however, I should emphasize that several other groups also played an important role in the development of the American eugenics movement—groups such as the American Breeders' Association (whose Eugenics and Immigration Committees were the first eugenics organizations in the country), the American Eugenics Society, the Eugenics Research Association, the Galton Society, the Institute of Family Relations, and the Race Betterment Foundation. The ERO, however, was the only major eugenics institution with a building, research facilities, and a paid staff. Although unique in having its own institutional base, it nevertheless could not have done as much without the existence of those other organizations. Another point to keep in mind is that the style and particular focus of the ERO's work was not typical of all aspects of the American eugenics movement. Although the ERO did provide a considerable amount of ideological direction, the American eugenics movement was not monolithic or highly organized. Many eugenicists would have preferred that the movement have more of a unified character, but this proved difficult to accomplish. Eugenicists came from all walks of life, though most were professional middle class or upper class. Often individualistic and independent, they tended to focus on their own projects and were generally not amenable to highly coordinated efforts. Although the ERO tried to provide nationwide coordination, in the long run there was little centralized organization or control. Despite the efforts of Charles Davenport and his staff, the ERO was probably far more effective as a clearinghouse and data repository than as an organizational force.

DAVENPORT AND THE FOUNDING OF THE SEE

Charles Benedict Davenport, who was to spearhead the American eugenics movement, was born in Brooklyn, of New England ancestry. He received an engineering degree from Brooklyn Polytechnic Institute in 1887 and an A.B. from Harvard College in 1889. He immediately enrolled in Harvard graduate school and received his Ph.D. in 1892, writing a thesis on morphology under E. L. Mark (1847–1936). Davenport served as an instructor at Harvard until 1899, when he accepted an assistant professorship at the University of Chicago. There he remained until 1904, when he persuaded the Carnegie Institution of Washington to fund the Station for the Experimental Study of Evolution, with himself as director, at Cold Spring Harbor. Davenport remained director of the SEE, and of the Eugenics Record Office, from its founding in 1910 until his retirement in 1934. During this time he built both institutions into major research laboratories for the study of heredity and evolution—the SEE for the study of plants and nonhuman animals, the ERO for the study of human beings. A rigid

and humorless man, Davenport was nonetheless well respected within the scientific community, both as a geneticist and as a statesman of science. He was a member of the National Academy of Sciences and the National Research Council, as well as secretary of the Sixth International Congress of Genetics (Ithaca, New York, 1932).³

Davenport's engineering background prepared him well to move from classical descriptive morphology into the quantitative and experimental study of heredity and evolution. Far more familiar with mathematics than most biologists of his era, he was among the first in the United States to appreciate the biometrical work of Galton and Pearson. Indeed, at Pearson's request he served as the American representative on the editorial board of the British biometrical journal *Biometrika*, of which Pearson was editor. Yet he was equally prepared to accept the experimental approach of the Mendelian theory. Beginning in the academic year 1892/93, Davenport taught a course entitled "Experimental Morphology" at Harvard (and later at Chicago), and he published a book by the same title in 1897 (revised, 1899). (Two of Davenport's students in that class were to become future leaders of both Mendelian genetics and eugenics: W. E. Castle, a longtime Harvard professor, and Herbert Spencer Jennings, for many years a protozoologist at Johns Hopkins.) Imbued with the rising tide of experimentalism that was so prominent in biology at the time, coupled with his own strong inclination to quantitative studies, Davenport was immediately receptive to the reports of Mendel's work by Carl Correns and Hugo De Vries in 1900.⁴ In 1901 Davenport himself published one of the first papers on Mendelism in the United States.⁵ He saw no dichotomy between Mendel's laws and biometrical thinking, though he realized early on that Mendel's notion of particulate, and therefore discontinuous, inheritance was not compatible with Galton's theories of continuous inheritance and regression.⁶

Proposal for a Research Facility

During his stay at the University of Chicago two factors stimulated Davenport to seek funds for establishing an independent research laboratory. One was his own research, which focused at that time on large animals such as poultry and mice (as compared, for example, to insects) and thus required expanded facilities for care and breeding. For a while there was talk at Chicago of acquiring an experimental farm, but by 1902 Davenport was convinced that nothing would come of it and began looking for other alternatives. Coincidentally, the future of the summer school of the Brooklyn Institute of Arts and Sciences, held at a small summer marine laboratory at Cold Spring Harbor, was in doubt. Daven-

³ The standard biography of Davenport is Oscar Riddle, "Charles Benedict Davenport," *Biographical Memoirs of the National Academy of Sciences*, 1946, 25:75–110. This sketch contains a complete bibliography.

⁴ Charles Rosenberg, "Charles Benedict Davenport and the Beginnings of Human Genetics," *Bulletin of the History of Medicine*, 1961, 35:266–276; see also A. H. Sturtevant, "The Early Mendelians," *Proceedings of the American Philosophical Society*, 1965, 109(4):199–204.

⁵ C. B. Davenport, "Mendel's Law of Dichotomy in Hybrids," *Biological Bulletin*, 1901, 2:307–310.

⁶ Pearson eventually asked Davenport to leave the editorial board of *Biometrika* because of a dispute between the two men over the interpretation of Wilhelm Johannsen's pure-line experiments. This was a rift in their personal and professional relationship that Davenport always regretted.

port, who had taught at the summer school since 1892, recognized Cold Spring Harbor as an ideal spot for the type of research station he envisaged. There would be room to expand animal care facilities, open space for experimental garden plots, facilities for housing a staff of caretakers and scientists, and plenty of marine organisms available for study. Never one to hesitate when an opportunity for funding, however remote, presented itself, in January 1902 Davenport approached the newly founded Carnegie Institution of Washington, established by the personal bequest of Andrew Carnegie.⁷

Davenport sent his proposal to the Carnegie Institution's secretary, Charles Walcott, through an influential Chicago banker who agreed to act as an intermediary. The laboratory that Davenport proposed was to be for "the analytic and experimental study of the causes of specific differentiation—of race change."⁸ Convinced that the Darwinian theory of natural selection was hypothetical because it had not been demonstrated experimentally (that is, no new species had ever been produced by artificial selection, no matter how long or how rigorously selection was carried out), Davenport aimed to recast classical selection experiments in terms of the new Mendelian scheme. Intimately connected with this recasting was the problem of variation. On what types of variations (large, discontinuous or small, continuous) did selection act to produce new species? Did new variants breed true or, as Galton claimed, always regress toward the mean? Were Mendelian traits important to animal and plant adaptation, or were they, as some workers claimed, mostly trivial (such as the number of bristles on a fly's abdomen), in no way affecting an organism's fitness? Moreover, as Davenport was quick to recognize, such questions had an importance that extended beyond theoretical issues of evolution. A more thorough understanding of heredity, variation, and selection had enormous implications for agricultural breeding, an issue that was not lost on the Carnegie Institution's board, or on Andrew Carnegie himself. The board defined its purpose (in part) as sustaining "objects of broad scope that may lead to the discovery and utilization of new forces for the benefit of man." Indeed, just a few years later (1905) the Carnegie Institution was to make a substantial and ongoing commitment (\$10,000 a year) to the work of Luther Burbank, specifically as an example of the application of scientific principles to practical problems.⁹

Davenport's initial proposal of 1902 was turned down by the Carnegie Institution of Washington, partly because the Board of Directors was engaged at that time in considerable debate over whether the CIW should fund research organizations or only individual researchers. By 1904, however, the board's Executive Committee had accommodated both views and determined to fund institutions as well as individuals provided that the researchers in the former worked cooperatively and in an organized manner. The CIW concluded that it could serve researchers best by helping them to *organize* their joint efforts: "in the field of research the function of the Institution is organization; to substitute organized for unorganized effort; to unite scattered individuals working independently, where

⁷ Riddle, "Charles Davenport," pp. 80–81; see also C. B. Davenport, "Biological Experiment Station for Studying Evolution," *Yearbook of the Carnegie Institution of Washington*, 1902, 1:280.

⁸ *Ibid.*

⁹ Minutes of the Executive Committee, 3 Oct. 1902 and 12 Dec. 1905, Record Book, pp. 57 and 468–475, Carnegie Institution of Washington (CIW) Archives, Washington, D.C. I am indebted to Barry Mehler for gathering data and copies of material from these archives.

it appears that such combination of effort will produce the best results; and to prevent needless duplication of work."¹⁰ In this context, Davenport's second application was received more favorably, and on 12 December 1903 he was awarded a grant of \$34,250, with fixed annual appropriations "to continue indefinitely, or for a long time." The "Station for the Experimental Study of Evolution" (SEE) was the name adopted for the facility at Cold Spring Harbor, and it was incorporated as the "Department of Experimental Biology of the Carnegie Institution of Washington," with the express purpose of studying "hereditary evolution, more particularly by experimental methods."¹¹ Edmund Beecher Wilson (1856–1939), a cytologist and chairman of the Zoology Department at Columbia University, was appointed as scientific adviser to Davenport in his work as director of the new research station.

No one could have agreed more than Davenport with the principles outlined by the Carnegie Executive Committee. He had always supported the notion of cooperation in research; more important, however, was his belief that for cooperation to occur an organizational base had to be developed. In his presidential address to the American Society of Naturalists given on 29 December 1907, Davenport emphasized that one of the features differentiating modern from ancient or medieval scientific work was its cooperative nature and thus its organization into societies, institutions, and multidisciplinary or international projects. However, he noted that there remained within the scientific community, especially among biologists, a strain of individualism that militated against cooperative programs and thus hampered research. Davenport reminded his fellow naturalists that the great natural history voyages of the nineteenth century, such as the *Challenger* expedition, were monuments to cooperative efforts; they would not have succeeded had individuals insisted on staking out their private research domains. Looking to the field of astronomy, he cited another example of cooperative effort whereby, beginning in 1887, eighteen observatories organized to produce a comprehensive photographic atlas of the heavens. Davenport urged that naturalists "should do well to adopt principles which have worked successfully in other fields of activity. In the modern commercial world one of the most important principles is cooperation."¹² The Station for the Experimental Study of Evolution was, in Davenport's mind, a perfect example of the spirit of cooperative research that could be fostered by successful organization.

Research at the SEE

The SEE developed into, and remained, a prestigious research institution. Today it is the Department of Genetics of the Carnegie Institution of Washington, with James D. Watson as its director. In the early decades of the century, highly qualified young investigators came to the station for varying periods to work on specific problems relating to heredity and evolution.¹³ Davenport himself re-

¹⁰ Minutes of the Executive Committee, 3 Oct. 1902, Record Book, p. 56, CIW Archives.

¹¹ *Ibid.*

¹² C. B. Davenport, "Cooperation in Research," *Science*, 8 Mar. 1907, 25(636):361–366.

¹³ Among those who figured most prominently were George Harrison Shull (1904–1915), Roswell H. Johnson (1905–1908), A. F. Blakeslee (1915–1942), Ross A. Gortner (1909–1914), J. Arthur Harris (1907–1924), F. E. Lutz (1904–1909), and Oscar Riddle (1914–1945). In addition, a number of Associates—senior investigators who came to the SEE to give seminars, participate in research, and in general to keep the staff in touch with the latest developments—were appointed annually. Among

mained in complete administrative control. It was his kingdom. He administered it scrupulously, autocratically, and sometimes dictatorially, until his retirement in 1934 at the age of sixty-eight. The Carnegie Institution had invested not merely in a facility and a program for research but in one man and his vision of a new direction in biology.

Davenport's vision for the SEE was to bring together three areas of interrelated study: heredity, evolution, and cytology. Researchers were to employ experimental, quantitative, and, where feasible, mathematical methods. They would study heredity through carefully planned breeding experiments, the keeping of detailed, quantitative records of offspring of all crosses, and the analysis of the data by both biometrical and Mendelian means. They would examine evolution through the quantitative study of variation in natural populations (following the methods of Galton and Pearson), as, for example, in Davenport's own work on populations of crabs in the waters around Cold Spring Harbor. They would also pursue selection experiments of the sort that Wilhelm Johannsen had initiated in Denmark (1899–1902) on pure lines of the bean *Phaseolus* and that W. E. Castle was to conduct some years later (1907–1914) on the piebald or "hooded" rat. The central issues of selection were, of course, the degree to which the results of selection can be maintained in a line after selection is relaxed and the possibility of creating new species by many generations of selection in a given direction. Researchers would bring in cytology as an adjunct to their studies, particularly heredity. The microscopic study of chromosomes as they relate to observed genetic differences was to become an important and novel part of Davenport's program; it was this aspect of his research that was picked up and developed so fully by the Morgan group at Columbia after 1910, using the common fruit fly *Drosophila*.

During the first years of the operation of the SEE, Davenport not only served as administrator but also carried out research on his own, studying heredity in poultry, mice, and horses. In this work he employed both biometrical and Mendelian analyses. At the same time he began to apply Mendelian analyses to human traits. With his wife, Gertrude Davenport, he wrote a paper on heredity and hair form in humans and several papers on the inheritance of skin color and other physical traits.¹⁴ In 1910 he published the results of a lengthy study in which he explained for the first time the graded series of skin colors in black-white matings in terms of a polygenic inheritance—that is, several sets of genes interacting to produce what came to be called "quantitative inheritance."¹⁵ At the same time he also applied the newly developed Mendelian concept of multiple alleles to the inheritance of human eye color.¹⁶ Although not highly innovative, Davenport's work was solid, and it earned him the respect of the rapidly growing community of Mendelian geneticists in the United States and abroad.

the most prominent in this group were H. E. Crampton and E. B. Wilson of Columbia University, D. T. MacDougal of the New York Botanical Garden, W. E. Castle and E. L. Mark of Harvard, and W. J. Moenkhaus of Indiana University.

¹⁴ Gertrude C. Davenport and Charles B. Davenport, "Heredity of Hair Form in Man," *American Naturalist*, 1908, 42:341–349; C. B. Davenport, "Heredity of Some Human Physical Characteristics," *Proceedings of the Society for Experimental Biology and Medicine*, 1908, 5:101–102.

¹⁵ C. B. Davenport, "Heredity of Skin Pigmentation in Man," *American Naturalist*, 1910, 44:642–672.

¹⁶ Rosenberg, "Davenport" (cit. n. 4), p. 268.

DAVENPORT AND INITIATION OF THE EUGENICS IDEAL

By 1907 Davenport had already shown a strong interest in the inheritance of not only physical but also personality and mental traits in humans. Increasingly he believed that such traits were genetically determined and could be interpreted in Mendelian terms. Human heredity led naturally enough to questions of eugenics: What sorts of personality and social traits are inherited? What are their patterns of inheritance? And what are the best methods for maximizing the number of good traits and minimizing the number of bad traits within the population? Davenport was not unprepared to take an active interest in such questions. Through his earlier association with Galton and Pearson in England, he was already well aware of the eugenics ideal from both a scientific and a social point of view.

The American Breeders' Association

More directly influential in the development of Davenport's interest in eugenics was his involvement as a founding member of the American Breeders' Association (ABA). The brainchild of Assistant Secretary of Agriculture W. M. Hays in 1903, the ABA represented an attempt to form another of those cooperative networks—this time between academic biologists interested in heredity and practical breeders—about which both Davenport and the Carnegie Executive Committee waxed so euphoric. Hays envisioned for the Breeders' Association an "amicable union of practical breeders, who used records secured at the feeding trough, at the meat, butter, and wool scales, on the race track, and at the prize ring," with the more theoretical biologists who sought knowledge about heredity "by mathematical, mechanical, and other processes under which the facts concerning the relations of individuals and groups of individuals are compared."¹⁷ Although the practical consequences of this union were not as directly realized as Hays and others had hoped, on one point both the breeders and their academic counterparts were in agreement: Mendel's laws of heredity provided the most important theoretical guide yet developed for the study of plant and animal heredity.

Among the most prominent of the ABA's forty-three appointed committees was the Eugenics Committee, formed in 1906 "to investigate and report on heredity in the human race" and "to emphasize the value of superior blood and the menace to society of inferior blood."¹⁸ It was the first formal eugenics group in the United States. The chairman of the committee was David Starr Jordan (1851–1931), ichthyologist, evolutionist, and president of Stanford University. Other members of the committee included Alexander Graham Bell, Luther Burbank, Roswell H. Johnson, Vernon L. Kellogg, and William E. Castle. By 1908 Davenport, whose earliest involvements with the Breeders' Association were in the areas of agricultural breeding, poultry genetics, and heredity in racehorses, had shifted his attention mostly to eugenics.¹⁹ For example, he was instrumental

¹⁷ W. M. Hays, "Address by the Chairman of Organizing Committee" *Report of the American Breeders' Association*, 1905, 1:9–15.

¹⁸ Barbara Kimmelman, "The American Breeders' Association: Genetics and Eugenics in an Agricultural Context, 1903–1913," *Social Studies in Science*, 1983, 13:163–204.

¹⁹ See *ibid.*, pp. 183–189. The same point is made, with minor variations, by W. E. Castle in "The

in expanding the scope of the Eugenics Committee's work and dividing it into ten subcommittees, each dealing with a specific issue (for example, deaf-mutism, criminality, hereditary insanity, feeble-mindedness, epilepsy, and sterilization). Cleverly manipulating W. M. Hays's interest in making the ABA a broad-based coalition of practical breeders, genetics researchers, and agricultural businessmen, Davenport argued for increasing its popular support by including eugenics articles in its publication, the *Report of the American Breeders' Association*. After the reorganization into the American Eugenics Association in 1913, the *Report* became the *Journal of Heredity* and served as the major periodical in the United States for readable, popular papers on eugenics.

Davenport and Hays had more in common than their mutual interests in eugenics and the American Breeders' Association. Both were avid supporters of introducing methods of rational and scientific control into all areas of practical life, including the management of agriculture, research, and even the human germ plasm. In his address as chairman of the organizing committee of the ABA, Hays had argued that "the wonderful potencies in what we are wont to call heredity should be placed under the control and direction of man, as are the great physical forces of nature."²⁰

Between 1902 and 1904, Davenport and Hays had carried on a lengthy correspondence regarding the prospect that the Carnegie Institution could be persuaded to fund a research laboratory for the study of heredity.²¹ Hays, like Davenport, believed strongly in integrated, cooperative work organized for efficiency on a national scale. Hays's work, not only with the Breeders' Association and the U.S. Department of Agriculture but also in the country-life movement, was all aimed at integrating education, research, and agriculture on a national level.²² Hays's address as chairman of the ABA organizing committee (delivered in 1903 and published in 1905) is strikingly similar to Davenport's speech on "cooperation and organization in research" (delivered in 1906 and published in 1907). The concepts of scientific management and control, of organization and development of research for the common good, permeated the writings and informed the activities of both men.

Although the American Breeders' Association served both to stimulate Davenport's interest in eugenics and to give him a forum for his own ideas on the subject, he soon realized that it would require another organization to develop eugenics on a national scale. The Eugenics Committee was a starting place, but it had neither significant funding nor, especially important in Davenport's eyes, an institutional base. Added to these problems was his growing rift with Hays over including the ABA's businessmen among its members and the society's lack of emphasis on research. Davenport therefore concluded that a separate

Beginnings of Mendelism in America," in *Genetics in the Twentieth Century*, ed. L. C. Dunn (New York: Macmillan, 1951), p. 66.

²⁰ W. M. Hays, "Address by the Chairman of the Organizing Committee" (cit. n. 17), pp. 9-10.

²¹ See Kimmelman, "American Breeders' Association" (cit. n. 18), p. 184.

²² For a discussion of the country-life movement, its history and values, see William L. Bowers, *The Country Life Movement in America, 1900-1920* (Port Washington, N.Y.: Kennikat Press, 1974). A more recent but more specialized discussion is David Danbom, "Rural Education Reform and the Country Life Movement, 1900-1920," *Agricultural History*, 1979, 53:462-474. Kimmelman discusses Hays's involvement in the country-life movement, showing just how integral it was to his vision of agriculture in general and the development of the ABA in particular.

organization, one devoted exclusively to eugenics investigation and education, would be desirable, and he naturally thought of locating any laboratory for the study of human heredity and eugenics in Cold Spring Harbor. As Davenport originally envisioned it, a eugenics institute would be administratively under his control but with the day-to-day supervision of research and operating details given over to a superintendent. Thus Davenport, while overseeing major organizational plans, still could devote most of his time to his research, which by 1910 had become almost wholly concerned with human genetics and eugenics. It was clear that he needed both additional facilities and personnel to get on with the growing work in human heredity, "its outlook so vast that . . . the Director . . . cannot cope with it alone."²³

Funding for a Eugenics Institute

Davenport's first step was to secure funding, without which nothing else could proceed. Ever the philanthropic entrepreneur, Davenport took advantage of two circumstances that led him directly to the doorstep of Mary Williamson Harriman. The first was the death of her husband, railroad magnate Edward Henry Harriman (b. 1848), in September 1909. Between 1880 and his death, Harriman had amassed a fortune, principally through his control of the Union Pacific, Southern Pacific, and Illinois Central railroads. Harriman's estate, estimated at approximately \$70 million on his death, was left exclusively to his widow. Mrs. Harriman managed the estate for the next twenty-five years, turning over portions of it to her sons Averell and Roland as they reached majority and as her judgment allowed. In dealing with this fortune, Mary Harriman developed the principle of "efficient" giving—that is, philanthropy devoted to providing individuals with the opportunity to become more efficient members of society. Like her husband, she gave money to conservation groups (the Harrimans were both strong supporters of their friend John Muir), to hospitals, to the arts, and especially to charity organizations devoted to self-help for the poor. A cardinal principle in her philanthropy was to encourage cooperation and scientific planning in every aspect of society—from good government and urban landscaping to the care of the insane. She opposed the tendency toward individualism and competitiveness that she saw in early twentieth-century life, even though competitiveness had won her husband's fortune. From John Muir and C. Hart Merriam (director of the United States Biological Survey), she and her husband gained an insight into the use of scientific principles to plan a more rational and orderly society—according to an order that existed so clearly in nature if human beings would only learn from it.²⁴

Mary Harriman did not accept the foundation concept in philanthropy. She wanted to be in close touch with all the projects to which she gave money. She would not, in fact, give to any project with which she did not feel complete sympathy. Moreover, she particularly disliked the direction in which John D.

²³ Davenport's annual report, *Yearbook of the Carnegie Institution of Washington*, 1910, 9:85.

²⁴ For more details than one could possibly care to know, the two-volume George Kennan biography, *E. H. Harriman* (Boston: Houghton-Mifflin, 1922), is adulatory but complete. A more manageable source is a short biography and appreciation of Mary Williamson Harriman: Persia Campbell, *Mary Williamson Harriman* (New York: Columbia Univ. Press, 1960), with an introduction by Grayson Kirk. For the data summarized here, see *ibid.*, pp. 12–66, esp. 17–18.

Rockefeller, Jr., was taking the Rockefeller Foundation after 1910. Following an interview with Rockefeller on 9 March 1911, she wrote that for the first time she "saw the Rockefeller mask and heard their formulas." Indeed, she was later to complain when the Rockefeller Foundation engineered a takeover of the New York Bureau of Municipal Research Training School, which she had supported with the provision that the program would be altered according to guidelines set by the General Education Board. At a hearing of the U.S. Commission on Industrial Relations on the Rockefeller move, Mrs. Harriman stated: "Nothing has ever made me realize as does this what a grasp money has on this country."²⁵ Her style of philanthropy was of an older, more personalized sort, less national in scope than that of the rising foundations. Their aims were the same—social control—but the scale and the methods were quite different.

Within a few months after her husband's death, Mrs. Harriman received more than six thousand appeals for donations to many causes, the requests totaling over \$247 million. One of those appeals came from Charles B. Davenport. For propriety's sake, Davenport held off initiating a move until February 1910, but, then again, he had a special connection that gave him an edge over others. Davenport had taught Mrs. Harriman's daughter Mary in the summer of 1906 at the Biological Laboratory School of the Brooklyn Institute at Cold Spring Harbor, and he found it very convenient to renew an old acquaintance.²⁶ His efforts were not misdirected; Mrs. Harriman was attracted to his project of studying hereditary social traits with a view toward solving social problems.

After several interviews and discussions, Davenport came away with an enthusiastic promise of support for what came to be known as the Eugenics Record Office, to be located at Cold Spring Harbor on a site next to the SEE. The site amounted to almost seventy-five acres and included a huge old mansion that had once been the country home of a wealthy New Yorker. Mrs. Harriman initially agreed to fund the complete operating expenses of the eugenics office for at least five years. This commitment included building a concrete, fireproof vault for storing eugenics records collected in the field and a main laboratory-office complex. The two building operations cost over \$121,000. During the seven years that Mrs. Harriman was the major donor, she contributed an additional \$246,000 in operating costs, including salaries, equipment, office furniture, and indexing facilities. Between 1910 and 1918, the so-called Harriman period in the history of the ERO, the total cost of all operations came to a little over \$440,000.²⁷ During that time the relationship between Mrs. Harriman and Davenport, cordial from the beginning, developed into an almost daily ritual of communication. The correspondence between them, beginning in July 1910, records the extent to which Davenport presented his ideas, large and small, to her, explained his decisions, sought her advice, and submitted every major decision for her approval. As Davenport wrote on her death in 1932:

²⁵ Entries from M. W. Harriman's diary, "following an interview . . . on 9 March, 1911"; quoted in Campbell, *Mary Harriman*, pp. 24, 27.

²⁶ See Frances Hassencahl, "Harry H. Laughlin, 'Expert Eugenics Agent' for the House Committee on Immigration and Naturalization" (Ph.D. diss., Case Western Reserve Univ., 1969).

²⁷ See Harry H. Laughlin, "Notes on the History of the Eugenics Record Office, Cold Spring Harbor, Long Island, New York," mimeographed report compiled from official records of the ERO, Dec. 1939, pp. 5–6, Harry H. Laughlin Papers, Northeast Missouri State University (NMSU), Kirksville, Mo.

For us at the Eugenics Office [*sic*] the things that counted most were her understanding of the needs of the work at a time when it was ridiculed by many and disesteemed by many others. As she often said the fact that she was brought up among well bred race horses helped her to appreciate the importance of a project to study heredity and good breeding in man. Though she could turn a deaf ear to many appeals to the emotions, she had a lively sympathy for those things of whose lasting value she felt sure.²⁸

In 1917 the Carnegie Institution of Washington agreed to take over responsibility for the annual operating expenses and future expansion of the ERO. At that time Mrs. Harriman transferred the ERO in its entirety to the CIW, with an additional endowment of \$300,000, thus giving the ERO a financial independence that virtually none of the other departments of the Carnegie Institution enjoyed. The years from 1918 until the ERO was closed on 31 December 1939 are known as the Carnegie period. During that period the CIW spent approximately \$25,000 per year in operating expenses. The Harriman period was one of expansion and growth; the Carnegie period, one of stabilization and eventual decline.

Laughlin's Niche

With funds and space secured, Davenport turned to the search for a manager and planner for the ERO. The position of "superintendent," as it was called, required a person of scientific background, preferably someone who understood the principles and problems of heredity and had experience in practical breeding. It also required someone totally devoted to the eugenics cause, someone who could raise money among the wealthy, carry out educational programs, and promote a far-reaching vision of how eugenics could help to remake society. Many people have compared the advocates of eugenics to religious zealots, a comparison no doubt fostered by Francis Galton's references to the "religion of eugenics." In one sense Davenport was a preacher, and he was seeking someone of similar energy, devotion, and vision as his superintendent. This he found in the person of Harry Hamilton Laughlin (1880–1943), who was then teaching in the agriculture department of the State Normal School in Kirksville, Missouri.²⁹ Laughlin had first come to Davenport's attention in February 1907, when the young man had written to ask some questions about breeding chickens.³⁰ Noting Laughlin's interest in heredity, Davenport invited him to attend the Brooklyn Institute's summer course at Cold Spring Harbor in 1908. With their common interests in agricultural breeding and in heredity, Davenport and Laughlin hit it off well from the beginning. Both were highly energetic and serious about their work, utterly humorless and rigid in their approach to life, and totally dedicated to the cause of social reform through eugenics. For Laughlin, born in Oskaloosa,

²⁸ Draft of a one-page eulogy, "Mrs. Harriman," in file, "Mrs. E. H. Harriman," Davenport Papers, American Philosophical Society (APS), Philadelphia.

²⁹ Hassencahl's full-length study of the life and work of Harry Laughlin, which unfortunately has never been published, focuses particularly on Laughlin's lobbying activities. It contains a wealth of additional information on his other work, the ERO, and the Nazi *Rassenhygiene* movement. For a discussion of Laughlin's work as surveyed from his papers in Kirksville, see also Randy Bird and Garland Allen, "The J.H.B. Archive Report: The Papers of Harry Hamilton Laughlin," *Journal of the History of Biology*, Fall 1981, 14(2):339–353.

³⁰ Laughlin to Davenport, 25 Feb. 1907, Davenport Papers, APS.

Iowa, the chance to study at an East Coast marine laboratory with a figure as well known as Davenport was the experience of a lifetime. Of that first summer, he wrote to Davenport: "I consider the six weeks spent under your instruction to be the most profitable six weeks that I ever spent."³¹ Although not formally trained in biology or heredity, Laughlin was a quick learner, and his energy and enthusiasm for projects, usually on a grand scale, were boundless.

Although Laughlin wanted to return to Cold Spring Harbor for the summer course in 1908, his teaching duties made it impossible to be absent from Kirksville for another six-week period. Correspondence between Laughlin and Davenport continued regularly, however, during the next several years, concerned with topics such as filling out Mendelian information cards on students at Kirksville, winglessness in chickens, inheritance of redheadedness, and other genetic matters. Laughlin was particularly attentive in distributing all sorts of information cards on human traits to his students and in making sure the cards were completely and thoughtfully filled out.

Laughlin's thoroughness and energy impressed Davenport, and the possibility of a meeting suddenly arose when, in December 1908, Davenport wrote to Laughlin that he would be journeying to Columbia, Missouri, the first week in January to attend the sixth annual meeting of the American Breeders' Association (6-8 January). Laughlin was ecstatic and immediately invited Davenport and his wife to visit Kirksville prior to the meeting.³² Laughlin also hoped to attend the sessions himself, since he was now teaching "Nature Study and Agriculture," but he was not sure if the president of the Normal School would allow him to leave. The Davenports did visit the Laughlins in Kirksville, and Laughlin was able to attend the meeting in Columbia after all. Thus the two had the opportunity to discuss many facets of breeding. In Kirksville Davenport was induced to give two public lectures that aroused "great interest in the subject of heredity." For Laughlin, Davenport's visit was of special value because it gave a boost to his ongoing attempts to organize a scientifically based agriculture department. "It takes money to run a department like the one I want," he wrote. "In two or three years I will be able to show—I hope—an agricultural department worthy of the name."³³

Little did Laughlin know that his plans would not materialize, but only because bigger things were in store for him. Davenport subsequently invited Laughlin to attend the 1910 summer course at Cold Spring Harbor, which included lectures and field trips related to eugenics. Then, in mid July, Davenport approached Laughlin about resigning from Kirksville and taking the job as superintendent. As Davenport wrote to Mrs. Harriman: "I was surprised to see how receptive he was of the idea. He said there would be no financial advantage but that, above all, he desired to go into this work. He made no conditions, even as to the length of appointment. I am more than ever satisfied that he is the man for us."³⁴ Laughlin accepted, returned with his wife Pansy to Missouri to straighten out their business affairs, and moved to the east in mid September 1910.

³¹ Laughlin to Davenport, 30 Mar. 1908, Davenport Papers, APS.

³² Laughlin to Davenport, 15 Dec. 1908, Davenport Papers, APS.

³³ Laughlin to Davenport, 30 Jan. 1909, Davenport Papers, APS.

³⁴ Davenport to Mrs. Harriman, 1 Oct. 1910, Davenport Papers, APS.

GOALS AND PROGRAMS OF THE ERO

Laughlin set about organizing matters at Cold Spring Harbor as soon as he arrived. At first, because of a shortage of buildings on the new property, the ERO administrative quarters were located on the ground floor of the large home that had been the center of the former estate. The Laughlins lived on the part of the ground floor not occupied by the offices and on the second floor. Several record clerks, a groundskeeper, and two assistants lived on the third. A fireproof vault for eugenics records was added to the east side of the main house in 1911. The Eugenics Record Office opened its doors on 1 October 1910. Although Mrs. Harriman could not be present for the official opening, Davenport wrote her that it was "a red letter day."³⁵

The Eugenics Record Office was organized with two general purposes: to carry out research on human heredity, especially the inheritance of social traits; and to educate laypersons about the importance of eugenic research and the implications of eugenic findings for public policy. The work of the ERO was to be strictly scientific, growing out of the experimental and biometrical studies of Davenport and the Station for the Experimental Study of Evolution.³⁶ To give the organization scientific credibility, Davenport set up a Board of Scientific Directors, consisting of, in addition to himself, Alexander Graham Bell, chairman; Lewellys F. Barker (professor of medicine, Johns Hopkins Medical School); William H. Welch, vice-chairman (dean, Johns Hopkins Medical School); Irving Fisher (professor of economics, Yale University); and E. E. Southard (a brilliant young psychiatrist at the Boston Psychopathic Hospital). Board members were required to attend meetings (they would be asked to resign if they missed more than two consecutively), which indicated that Davenport wanted the scientific advisers to be more than figureheads. Since minutes of meetings of the advisory board are not available, it is difficult to know how often these meetings were held or how seriously the advisers took their jobs. At any rate, Davenport did manage to assemble a prestigious group of advisers, including the dean of American medicine and medical reform (Welch) and one of the foremost inventors in the United States (Bell).³⁷

In his first report, in 1913, Laughlin listed a number of the specific functions that the ERO was intended to perform. The following descriptions of these purposes give an indication of the scope of activities that Laughlin and Davenport envisaged.³⁸

To serve eugenical interests as a repository and clearinghouse. First and foremost, the ERO was to become a data bank for information on human hereditary traits. This function was clearly one of research and was an extension of work already carried out through the Eugenics Committee of the ABA. The data would ultimately serve as the basis for analyzing the inheritance patterns of a wide variety of traits. As a clearinghouse and information repository, the ERO could also supply individuals with data about their family history if their families

³⁵ *Ibid.*

³⁶ Harry H. Laughlin, "The Eugenics Record Office at the End of Twenty-Seven Months Work," *Report of the Eugenics Record Office*, June 1913, No. 1, p. 1.

³⁷ Bell was interested in eugenics because of hereditary deafness in his own family and because he had always been fascinated with the breeding of sheep and other large domesticated animals.

³⁸ Laughlin, "Eugenics Record Office" (cit. n. 36), pp. 2-21.

had participated in any of the studies. A newsletter, *Eugenical News*, contained short, nontechnical articles and items of information about eugenics research throughout the country.

To build up an analytical index of traits in American families. All data coming in to the ERO, from whatever source, were to be carefully indexed in accordance with a complex classification system known as *The Trait Book*, which Davenport had devised in 1910. *The Trait Book* listed all the human physical, physiological, and mental traits imaginable (and some that are hard to imagine)—rowdyism, moral imbecility, train-wrecking, and ability to play chess, to name but a few. It classified every trait by a numbering scheme akin to the Dewey Decimal System. The condition of harelip, for example, is classified as 623, where 6 indicates a condition of the nutritive system; 2, the mouth portion of the nutritive system; and 3, the specific mouth feature of harelip. Similarly, chess-playing ability is number 4598, where 4 signifies a mental trait; 5, general mental ability; 9, special game-playing ability; and 8, the specific game, chess. The ERO stored its information on such conditions in folders filed either by family name or by the caseworker who collected the information. This information was then indexed on 3×5 cards and cross-referenced in three ways: by family name, by number (for the trait), and by geographic locality. Thus an investigator could search out, for example, all the cases of harelip by going to the card drawer for the number 623, or all the references to a particular family by checking for its surname. Each card in the drawers provided reference to the appropriate file folder or folders containing all the detailed information. By 1 January 1918, the ERO had accumulated 537,625 cards; there were nearly twice that many by the time the office closed in 1939. The information that was filed and catalogued at the ERO was organized into five main categories of traits: physical traits (e.g., stature, weight, eye and hair color, deformities), physiological traits (e.g., biochemical deficiencies, color blindness, diabetes), mental traits (e.g., intelligence, feeble-mindedness, insanity, manic depression), personality traits (e.g., liveliness, morbundity, lack of foresight, rebelliousness, trustworthiness, irritability, missile throwing, popularity, radicalness, conservatism, nomadism), and social traits (e.g., criminality, prostitution, inherited scholarship, alcoholism, patriotism, "traitorousness"). These groupings were not meant to be mutually exclusive since, for example, a personality trait could have more than one social manifestation. It was nonetheless the hope of Davenport, Laughlin, and others that, through such a detailed breakdown of traits into categories and subcategories, researchers could easily identify and follow the same traits through a wide variety of family lines.

To study the forces controlling and hereditary consequences of marriage-matings, differential fecundity, and survival migration. Today these studies, which include a considerable amount of sociological as well as biological information, would fall roughly under the heading of demography. From the start eugenicists were particularly concerned about the "differential fertility" issue—that is, about which groups in society were showing the higher and the lower birthrates.

To investigate the manner of inheritance of specific human traits. These studies were mainly straight-line applications of Mendelian principles to analyzing human genetic data. Thus eugenicists were interested in determining

not only whether a trait was inherited but also whether it was dominant or recessive, whether it was sex-linked, the degree to which its expression might be influenced by environment, whether it was expressed early in life or was of late onset, and so forth. Investigations in this category involved constructing pedigree charts from raw data on families and deducing from the data what the pattern of heredity might be. (The obvious difficulties facing the eugenicist, especially in 1910–1920, in collecting enough reliable data to draw such conclusions will be discussed in a later section of this paper.) In the analysis of inheritance patterns, ERO workers were advised and sometimes aided by members from the appropriate committee of the American Breeders' Association—for example, the Committee on Heredity of the Feeble-minded, the Committee on the Heredity of Epilepsy, the Committee on Heredity of Deafmutism, the Committee on Heredity of Eye Defects, and the Committee on Heredity of Criminality.

To advise concerning the eugenical fitness of proposed marriages. Prospective marriage partners could visit or write to the ERO for what today might be called “genetic counseling.” Drawing on as much of the individuals' family histories as possible, in conjunction with other data already in the files, ERO workers would discuss with the couple the probabilities of their children inheriting this or that trait and emphasize the importance of good mate selection in marriage. As Laughlin wrote:

It is one of the cherished beliefs of the students of eugenics that when painstaking research has determined the manner of the inheritance of traits so that, upon examination of one's somatic traits and pedigree, something concerning his or her hereditary potentialities can be determined, social customs will make such hereditary potentialities marriage assets, valued along with—if not above—money, position and charming personal qualities. This belief is based not upon desire alone, but upon a few actual visits and letters from intelligent persons that come with increasing frequency to the Eugenics Record Office, asking for instructions for making a study of the eugenical fitness of a contemplated marriage.³⁹

Laughlin noted that as of 22 January 1913 there were seventy-seven such requests on file at the ERO.

To train fieldworkers to gather data of eugenical import. The most reliable data on heredity could be collected, Laughlin noted, by fieldworkers who were trained to gather information in hospitals and asylums as well as in individual homes. Each summer the ERO ran a short training course for fieldworkers, including lectures by Laughlin, Davenport, and occasional guests on endocrinology, Mendelian heredity, Darwinian theory, elementary statistical methods, and eugenic legislation. Students also became familiar with various mental tests (Binet, Yerkes-Bridges, army Alpha and Beta tests) and learned how to administer and interpret them. They memorized classifications of insanity, criminality, epilepsy, and skin and hair color and methods of anthropometrical measurement, with particular emphasis on cranial capacity. The course also involved field trips to nearby hospitals and institutions for mental defectives in New York—Kings Park Hospital for the Insane, Letchworth Village for the Feeble-minded—and the receiving stations for immigrants at Ellis Island. To conclude the summer's training program each student produced a research project that involved col-

³⁹ Laughlin, “Eugenics Record Office” (cit. n. 36), pp. 10–11.



Figure 1. Summer trainees in the fieldworker course at the Eugenics Record Office, about 1919. Harry Laughlin is in the front row, center (seated, with hat in hand). The building in back is the original house in which all the ERO work was done. It remained the major facility for all ERO business, as well as the Laughlin residence, during the thirty year history of the ERO. Courtesy of the Harry H. Laughlin Papers, Northeast Missouri State University, Kirksville, Missouri.

lecting and analyzing eugenical data. The summer also had its lighter side, with clambakes, picnics, and boat trips. By 1917 the ERO had trained approximately 156 fieldworkers, 131 women and 25 men, among them 8 Ph.D.s and 7 M.D.s (see Fig. 1).

Those who completed the training program took up positions in various institutions. A few were retained as paid fieldworkers by the ERO. The majority were attached to state mental hospitals, insane asylums, or almshouses, with their salaries either paid wholly by those institutions or, more frequently, shared between the institution and the ERO. The fieldworkers' jobs involved taking family histories of patients within the institution to determine to what degree their conditions were hereditary. These linear studies, as they were called, would then be filed in large folders at the ERO, where they provided the basis for studies on the inheritance of mental deficiency, insanity, Huntington's chorea, and the like. Laughlin's records show that in the first three years (1910–1913) thirty-two fieldworkers amassed 7,639 pages of family case histories (text) and 800 pages of pedigree charts and averaged forty-six interviews per month.⁴⁰ The training program was carried out most extensively between 1910 and 1917; thereafter it tapered off somewhat but remained in operation until 1926. During the first seven years, funds for the training program came from the personal bequests of John D. Rockefeller, Jr., amounting to a total of \$21,650.⁴¹ From

⁴⁰ *Ibid.*, foldout chart opposite p. 19.

⁴¹ Harry H. Laughlin, "Notes on the History of the Eugenics Record Office," mimeographed report (Cold Spring Harbor, 1934), p. 5; original in the Laughlin Papers, NMSU.

then on, for the duration of the program, funds came from the Carnegie Institution as part of the ERO's regular budget.

To encourage new centers for eugenics research and education. Laughlin in particular conceived of the ERO as encouraging the formation of new groups and prompting existing organizations to take up eugenic studies within the context of their established programs. For example, he was quite active in getting the YMCA to take part in eugenical work (making available data on vital statistics of members as well as propagandizing eugenics ideals). He urged women's clubs to get involved and asked the director of the United States Census to include eugenics questions in the 1920 and subsequent censuses. He encouraged colleges to hold programs on eugenics, show eugenics films, teach eugenics courses, and take surveys of their student populations.

To publish the results of research and to aid in the dissemination of eugenic truths. A final specific function of the ERO was education. To Laughlin this included everything from showing films to publishing the results of research on human heredity, monographs on the status of relevant legislation, and analyses of public attitudes toward eugenic ideas. The ERO itself published a list of eugenics monographs, written by such investigators as Henry H. Goddard, Davenport, and Laughlin himself (a number of monographs came from his pen).⁴²

DATA GATHERING AND GENETIC ANALYSIS

Because eugenics claimed from the outset to be an objective and scientifically based program, to understand its general history and social impact it is important to see what type of research eugenicists pursued. While it is clearly beyond the scope of this study to examine these projects in depth, a few examples of work carried out at the ERO under the auspices of Davenport and Laughlin will show the style and flavor of eugenicists' scientific work. While the research interests and methods of analysis employed by Davenport and Laughlin are not necessarily representative of eugenics as a whole, they are nonetheless indicative of much of the work going on in the United States between 1910 and 1935.

The raw data from both individual family questionnaires and fieldworker studies collected at the ERO during the years 1910–1939, as well as the index cards cross-referencing them, are now housed in the basement of the Dight Institute of Human Genetics at the University of Minnesota in Minneapolis.⁴³ The vast bulk of the data (some ten filing cabinets) consists of individual questionnaires; the rest (some eight cabinets) consists of fieldworker studies of individual families. It is a testimony to the energy and dedication of the field and office workers that in the course of less than thirty years they accumulated, indexed, and cross-referenced such a monumental amount of material.

A quick perusal of the data collected by fieldworkers indicates that, despite Davenport's and Laughlin's emphasis on rigorous, quantitative methodology,

⁴² Laughlin, "Eugenics Record Office" (cit. n. 36), pp. 21–22.

⁴³ When Milislav Demerec, director of the SEE, wanted to clear out the old ERO building at Cold Spring Harbor in 1946, he put out a call to various organizations and individuals to see who would take the case studies, index cards, and back issues of *Eugenical News*. The only acceptance came from Sheldon Reed, director of the Dight Institute. I am grateful to Professor Reed for having preserved the material at that time and for his hospitality and guidance when I inspected the records in 1981.

most of the data collected were of a subjective, impressionistic nature. One example will illustrate this point. The fieldworker Anna Wendt Finlayson carried out a study of the Dack family, descendants of two Irish immigrants in western Pennsylvania. She did no mental testing, and the data consist solely of "community reactions," a euphemism for "common gossip." The interviewer talked with family members, neighbors, and local physicians. The write-ups on two of the individuals, James Dack and William Dack, read as follows:

James Dack (I16) was commonly known as "Rotten Jimmy," the epithet was given because of the diseased condition of his legs, which were covered with chronic ulcers, although the term is said to have been equally applicable to his moral nature. He was a thief and general good-for-nothing, but neither shrewd nor cunning. His conversation quickly revealed his childlike mind.

William Dack (I2) was born in Ireland and came to the United States about 1815. He settled near a little town in the northern part of the soft coal district of Pennsylvania, which we will designate Bushville, and raised his children (9) in that vicinity. William died almost fifty years ago, but he is remembered by a few of the oldest settlers of the locality as a peculiar, silly old fellow who drank a good deal, stole sheep and household valuables from his neighbors, and did not seem to be very intelligent. He was married twice, his first wife died in Ireland and we know nothing of her. She bore him one child. . . . William's second wife was (I3) Mary Murphy. . . . An old resident of Bushville, now deceased, once stated to a woman who was interviewed by the writer that William and Mary were first cousins.⁴⁴

Because there is no way to verify such information, it is of no value as objective data. Yet on the basis of that "evidence" the researchers drew up a pedigree chart indicating the presence of hereditary feeble-mindedness in the Dack family.

Slightly different problems are associated with the data processed from questionnaires sent out to families. In these cases the individual subjects recorded the data about themselves and their family members. These data are subject to the errors introduced when many different observers are involved in measuring the same quantity throughout a population. No two observers measure even the same item in the same way. The problem is obviously compounded when many different observers measure many different quantities. Even the data on height of individual family members (one item on the questionnaire) appear to be guesses, not actual measurements, for they often relate to relatives who are either geographically distant or deceased. In the collection of data known as the "Record of Family Traits," much of the information is secondhand, and none of it is quantitative. As Sheldon Reed, Director Emeritus of the Dight Institute in Minneapolis, has stated, most of the data collected by the ERO are worthless from a genetic point of view.⁴⁵

Even if the raw data collected by ERO fieldworkers and others were considered reliable, their application in determining patterns of heredity was fraught with difficulties. The major method of analysis, of course, has always been the pedigree chart, but this involves two types of problems. First, many families have only a small number of children, statistically speaking, and thus the appearance, or especially the nonappearance, of a trait often says nothing about

⁴⁴ Anna Wendt Finlayson, "The Dack Family: A Study in Hereditary Lack of Emotional Control," *Bulletin of the Eugenics Record Office*, 1916, No. 15, pp. 6-7.

⁴⁵ Sheldon Reed, personal interview, 30 Oct. 1981, Minneapolis, Minn.

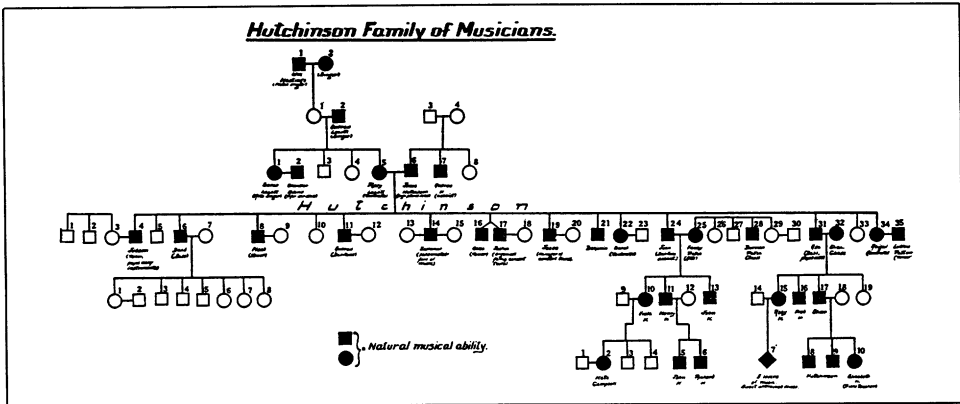


Figure 2. Pedigree chart for “Natural Musical Ability” in the Hutchinson family, as constructed by Davenport in 1915. Solid figures indicate individuals who display “natural musical ability.” This sort of chart, which does not distinguish between learned and inherited (genetic) causes for a trait, led critics to note that eugenicists failed to understand the difference between genetics and genealogy. From C. B. Davenport and H. H. Laughlin, “How to Make a Eugenical Family Study,” *Bulletin of the Eugenics Record Office*, 1915, No. 13, p. 27 (2nd ed. 1919).

its actual mode of inheritance—for example, whether the trait is dominant, recessive, or sex-linked. Moreover, pedigree charts are often woefully incomplete—that is, many family members are not included, and thus what might look like a dominant trait (because it appears frequently) appears so only because data on other family members are missing. Second, and probably most critical, pedigree charts provide no way to separate genetically determined from environmentally determined phenotypes. The fact that musical ability, for example, appears repeatedly in the Hutchinson family pedigree (see Fig. 2) says nothing about the actual inheritance of that trait in the genetic, as compared to the social, sense. The more a trait involves social, behavioral, or personality features, the less possible it is to separate genetic from environmental influences. Since eugenicists were far more interested in mental and personality traits than in clinical conditions, their pedigree charts were prone to such misinterpretation.

As an example of the simplistic generalizations in which eugenicists indulged, consider Davenport’s study of the inheritance of *thalassophilia* (“love of the sea” or “sea-lust”). In 1919 Davenport published a book-length study, under the auspices of the Carnegie Institution of Washington, entitled *Naval Officers: Their Heredity and Development*. It was a study of why naval careers seemed to run in families. Davenport’s explanation was genetic; in fact, he attributed this tendency to a single Mendelian gene! Here is how Davenport reasoned. Nomadism, the impulse to wander, was obviously hereditary because such racial groups as Comanches, Gypsies, and Huns were all nomadic. Searching individual family pedigrees, Davenport found recurrent examples of nomadism in the families of traveling salesmen, railroad workers, tramps, vagabonds, and boys who played hookey from school. Since the trait of nomadism showed up mostly in men, he concluded that it must be sex-linked and recessive, passing from mothers to half of their sons. *Thalassophilia*, a version of nomadism, is thus also genetically determined:

Thus we see that thalassophilia acts like a recessive, so that, when the determiner for it (or the absence of a determiner for dislike) is in each germ-cell the resulting male child will have love of the sea. Sometimes a father who shows no liking for the sea . . . may carry a determiner for sea-lust recessive. It is theoretically probable that some mothers are heterozygous for love of the sea, so that when married to a thalassophilic man half of their children will show sea-lust and half will not.⁴⁶

Davenport's method of argument was by analogy, not by direct evidence. Thus, he drew an analogy between thalassophilia and the inheritance of comb size in fowl: "It is possible . . . that the irresistible appeal of the sea is a trait that is a sort of secondary sex character in males in certain races, just as a rose comb is a male characteristic in some races of poultry."⁴⁷ By 1919 the inheritance pattern for rose comb was a well-established Mendelian trait. By making the comparison between human beings and poultry, Davenport assumed that superficial similarity in patterns of inheritance between two quite different species implied similarity in genetic causality. More important, he virtually discounted the effect of environmental factors in molding human behavioral traits.

Davenport's genetic determinism led to the obvious view that the source of a social problem was not environment but "bad genes." He urged philanthropists to donate their funds to eugenics, and not to charity, which would only perpetuate hereditary degeneracy. Accordingly, in a report to the Committee on Eugenics of the American Breeders' Association in 1909, Davenport insisted: "Vastly more effective than the million dollars to 'charity' would be ten million to eugenics. He who, by such a gift, should redeem mankind from vice, imbecility and suffering would be the world's wisest philanthropist."⁴⁸ In public and in private, Davenport belittled social reform. He apparently was fond of telling the parable of a man who found a bitter gourd and watered and tended it carefully to produce a delicious vegetable. That man was, Davenport claimed, like the trustee of a rehabilitation hospital for the insane. Poverty and lack of social or economic success were *de facto* the phenotypic expressions of genotypic inferiority. In 1912 he advised the National Conference of Charities and Corrections that social reform was futile since "the only way to secure innate capacity is by breeding it."⁴⁹ To Davenport, the comparison between breeding humans and breeding strains of domesticated animals or plants was self-evident.

TAKING EUGENICS TO THE PUBLIC ARENA

Since one of the expressed purposes of the ERO was education and the dissemination of "eugenical truths,"⁵⁰ it is not surprising to find that Laughlin (in particular) devoted considerable energy to publicity endeavors. One vehicle was the ERO's publication, *Eugenical News*, whose first volume was issued in 1916

⁴⁶ C. B. Davenport, *Naval Officers: Their Heredity and Development* (Washington, D.C.: Carnegie Institution of Washington, 1919), p. 29.

⁴⁷ *Ibid.*, p. 28.

⁴⁸ C. B. Davenport, "Report of the Committee on Eugenics," *Rep. Amer. Breeders' Assoc.*, 1909, 6:94.

⁴⁹ See Mark Haller, *Eugenics: Hereditarian Attitudes in American Thought* (New Brunswick, N.J.: Rutgers Univ. Press, 1963), p. 65.

⁵⁰ See Laughlin, "Eugenics Record Office" (cit. n. 36), pp. 19-20, which lists among the ERO's purposes No. 9, "to encourage new centers of eugenics research and education" (p. 19), and No. 10, "to publish the results of researches and to aid in the dissemination of eugenical truths" (p. 20).

with Davenport and Laughlin as editors. *Eugenical News* contained short, popular articles reporting on eugenics research, the menace of the feeble-minded, differential fertility, the evils of race-crossing, and the like, as well as reviews of books on eugenics. The editorial board of the *News* remained substantially the same from 1916 through 1939, the only changes being the addition of Roswell H. Johnson for 1920–1929 and Morris Steggerda for 1932–1939. The tone of the *News* as a whole was overtly propagandistic, quite often with few facts and little or no presentation of data.

In addition to *Eugenical News*, the ERO helped to launch and guide through publication popular and semipopular works of other eugenicists who were not directly connected to the institute. Laughlin, for example, was a close personal friend of Madison Grant, a wealthy New York lawyer, conservationist, member of several public commissions, and author of one of the most racist, pro-Nordic tracts written during the period 1910–1920, *The Passing of the Great Race*. Laughlin met regularly with Grant in New York to discuss matters concerning the several eugenics organizations of which they both were members: the American Eugenics Society, the Eugenics Research Association, and later the Pioneer Fund. Grant regularly donated money to these organizations, as well as to specific ERO projects. Laughlin supported Grant in a variety of ways. When Grant was about to publish his second book, *Conquest of a Continent*, in 1932 (it was actually published in 1933), Laughlin went over the manuscript carefully and helped him to avoid some of the most blatant racial slurs.⁵¹ Furthermore, Laughlin bid hard to encourage Yale to award Grant an honorary degree (Grant was a Yale alumnus, class of 1887). To Laughlin, presentation of an honorary degree by a prestigious university to one of the country's foremost eugenicists would provide a big shot in the arm for the movement in general and for the ERO, with which Grant was closely associated, in particular.

Through the ERO, Laughlin also organized a series of research and propaganda efforts, including a nationwide study of racial origins of inventiveness; a study of the hereditary lineage of aviators; a survey of the human resources of Connecticut, in which ancestry was studied in complete detail for the entire population of a small Connecticut town; a study of alien crime, organized in conjunction with Judge Harry Olson of the Municipal Court of the City of Chicago; and the distribution of defectives in state institutions by type of defect and by national and racial origins. He was also in close contact with Charles M. Goethe, a wealthy lumberman from Portland, Oregon, who gave considerable financial support to eugenics projects and was a great publicizer of eugenic ideals (Goethe also left his estate to the Dight Institute of Human Genetics in Minneapolis).⁵² Laughlin supported and encouraged Goethe's plan to establish a "clinic on human heredity," a kind of eugenic counseling and birth control clinic that, despite all the effort, never materialized. The list could go on and on, but

⁵¹ See Madison Grant, *The Passing of the Great Race* (New York: Scribners, 1916); and Laughlin to Grant, 10 Nov. 1932, Laughlin Papers, NMSU. Laughlin told Grant he should strike from the manuscript the statement that "if the remainder of the Jews could be prevented from coming to the United States. . . ." As Laughlin remarked, "This has a tinge of 'Damn Jew' about it. It would, I believe constitute a more forceful statement if it were pointed out that the United States has already one out of five of the world's Jews" (p. 2). Laughlin did not disagree with Grant in substance, only in form.

⁵² Sheldon Reed, personal communication, 9 Nov. 1981.

the point is this: using the ERO as an operational base, Laughlin developed and kept up a lively network of associations that served to gain financial and moral support for eugenics in general and the work of the ERO in particular. Furthermore, through his activities, Laughlin gave considerable organization and coordination to far-flung and conceptually diverse eugenics projects in the United States and, somewhat later, throughout the Western Hemisphere.

Laughlin also helped to popularize eugenics through his ERO association. He loved exhibits. His correspondence is filled with plan after plan for exhibits at state fairs, genetics meetings, teachers' conferences, and the like. For example, in preparation for the Third International Congress of Eugenics at the American Museum of Natural History in New York in 1932, Laughlin sent out over one hundred letters asking for donations to mount a huge eugenics exhibit in one of the museum's largest halls. It was an ambitious exhibit, for which he finally raised sufficient funds. Laughlin used ERO secretarial and research help in preparing many of his projects, including exhibits. Without this sort of institutional support it would have been difficult, if not impossible, to carry out so many projects and integrate the activities of so many people.

Laughlin also used his institutional base at the ERO as a platform for political activity on behalf of eugenics. The two most notable examples are his research and testimony before the House Committee on Immigration and Naturalization and his effective lobbying for the passage of eugenical sterilization laws in various states. In 1924 the Johnson Act (also called the "Immigration Restriction Act") passed both houses of Congress, and by 1935 some thirty states had passed sterilization laws. Neither of these results can be attributed to Laughlin alone, but he was instrumental in both—perhaps more directly visible in his House testimonies than elsewhere. Laughlin brought forth reams of biological data to prove the genetic inferiority of southern European, central European, and Jewish people. His congressional testimony received wide press coverage, and a transcript was reprinted as part of the *Congressional Record*.

Laughlin's invitation to become the congressional "expert witness" came from Representative Albert Johnson, a rabidly anti-immigrant, antiradical, and anti-Communist journalist and editor from Washington State who had entered Congress in 1912 on a restrictionist platform. Laughlin, long interested in the immigration issue, had made the initial contact with Johnson and, along with Madison Grant, had established a close personal and professional relationship with him. One consequence was that in 1924 Johnson, who was not then even a member, was elected to the presidency of the Eugenics Research Association.⁵³ As "eugenics expert," Laughlin received congressional franking privileges, and he used them to assemble vast amounts of data about the institutionalized alien and native stock. The Carnegie Institution of Washington in turn officially allowed Laughlin to use his secretarial staff at the ERO to help compile data and figures for the congressional testimony. Later the CIW would regret encouraging Laughlin in this overtly political role, but in the early and mid 1920s the directors had no objection.

⁵³ See Hassencahl, "Harry H. Laughlin" (cit. n. 26), pp. 206–208. Grant gave moral support to the committee but so far as we know did not appear before it in person; see *ibid.*, pp. 283, 293–300; and Kenneth Ludmerer, *Genetics and American Society: A Historical Appraisal* (Baltimore: Johns Hopkins Press, 1972), pp. 112–113.

The story of Laughlin's work as eugenics expert to the House Committee on Immigration and of his arguments in his major congressional hearings has been told in detail elsewhere.⁵⁴ What is striking in these testimonies is the strong racist and antiethnic feeling to which Laughlin, bolstered by charts and graphs, gave vent. Laughlin was already voicing distinctly anti-immigrant sentiment immediately after World War I; like Madison Grant, he now called for a "purification" of the good Nordic stock of the United States to free it from contamination by the "degenerate" sectors of Europe (according to Laughlin, eastern and southern Europe). Laughlin was particularly anti-Semitic, arguing that with respect to immigration "high-grade Jews are welcome, and low-grade Jews must be excluded." "Racially," he argued, "the country will be liberal if it confines all future immigration to the white race, then, within the white race, if it sets up differential numerical quotas which will admit immigrants in accordance not with external demand but on the basis of American-desired influence of such racial elements on the future seed-stock of America."⁵⁵ Laughlin further distinguished himself by devoting considerable research energy to showing that recent immigrants and "aliens" were responsible for much of the crime committed in the United States between 1890 and 1920.⁵⁶

In discussing the immigration issue, Laughlin was particularly disturbed by the specter of "race-crossing." He reported that a committee from the Eugenics Research Association had studied the matter and had failed to find a single case in history of two races living side by side and maintaining racial purity. Race mixtures, Laughlin said, are poor mixtures, referring for corroboration to a study on race-crossing in Jamaica in which Davenport was then engaged. Like W. E. Castle, Edward M. East, and other geneticists at the time who had agricultural interests, Laughlin compared human racial crossing with mongrelization in the animal world. The progeny of a cross between a racehorse and a draft horse, Castle once wrote, "will be useless as race horses and they will not make good draft horses. . . . For similar reasons, wide racial crosses among men seem on the whole undesirable."⁵⁷ Like Grant, Laughlin felt that immigrants from southern and eastern Europe, especially Jews, were racially so different from, and genetically so inferior to, the current American population that any racial mixture would be deleterious. Even after the phenomenon of "hybrid vigor" was known to be widespread, eugenicists conveniently explained it away by arguing that only a few of the offspring of any hybridization would really show increased vigor. The rest would be decidedly inferior.⁵⁸ Using statistics

⁵⁴ Ludmerer, *Genetics and American Society*, pp. 87-119; Hassencahl, "Harry H. Laughlin" pp. 161-312; and Garland E. Allen, "The Role of Experts in the Origin and Closure of Scientific Controversies: The Case of the American Eugenics Movement, 1910-1940," in *Scientific Controversies: Studies in the Resolution and Closure of Disputes Concerning Science and Technology*, ed. A. L. Caplan and H. T. Engelhard (New York/Cambridge: Cambridge Univ. Press, forthcoming).

⁵⁵ Harry H. Laughlin, *Report of the Special Commission on Immigration and the Alien Insane* (submitted as a study of immigration control to the Chamber of Commerce of the State of New York, 16 Apr. 1934), pp. 17, 18.

⁵⁶ See National Commission on Law Observance and Enforcement, *Report on Crime and the Foreign Born* (Washington, D.C.: U.S. Government Printing Office, 1931).

⁵⁷ C. B. Davenport, "Race Crossing in Jamaica," *Scientific Monthly*, 1982, 27:225-238. This was a summary of Davenport's lengthier study, carried out with Morris Steggerda, *Race Crossing in Jamaica* (Washington, D.C.: Carnegie Institution of Washington, 1929); and W. E. Castle, *Genetics and Eugenics* (Cambridge, Mass.: Harvard Univ. Press, 1916), p. 233.

⁵⁸ See E. M. East and Donald F. Jones, *Inbreeding and Outbreeding* (Philadelphia: Lippincott,

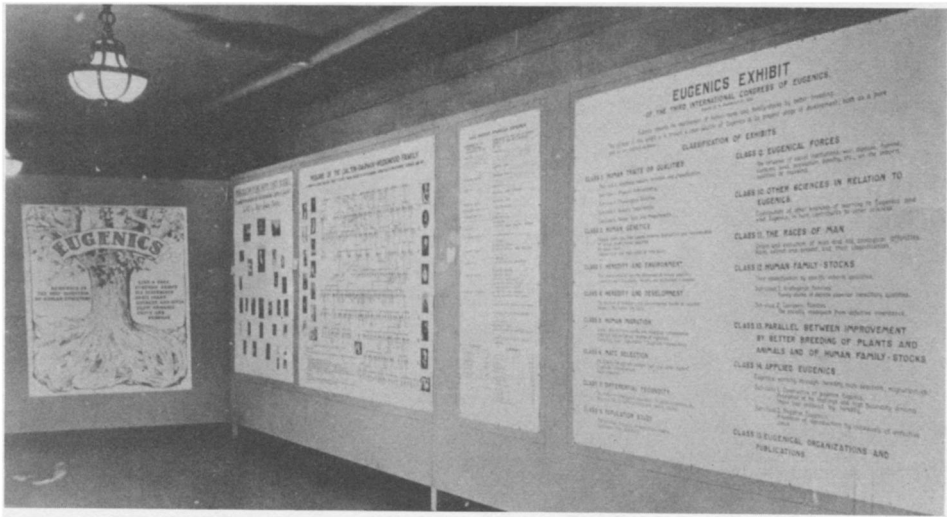


Figure 3. Exhibit introducing the concept of eugenics, as displayed in the American Museum of Natural History during the 1932 International Congress of Eugenics in New York. The large poster at the far end depicts eugenics as a tree whose roots draw upon many areas of study: genetics, anthropology, religion, statistics, physiology, and the like. The museum's services were made available by its president, Henry Fairfield Osborn, noted paleontologist and avid eugenicist. Courtesy of the Laughlin Papers.

and data buttressed by analogies from agricultural breeding, Laughlin managed to provide a “scientific” rationalization in Congress for passage of a highly selective immigration restriction law. The effect of Laughlin’s testimony, both on committee members and on the public (through newspaper accounts), was enormous.⁵⁹ The groups who were most restricted (Jews, Mediterraneans—particularly Italians—and people from Central Europe) were also the ones Laughlin claimed were the most biologically inferior.

With the immigration debates, the “old-style” eugenics movement hit its zenith. When the Johnson Act was passed in early 1924, Laughlin, Grant, and other eugenicists were euphoric.⁶⁰ Laughlin made good use of his position as superintendent of the ERO—not only in terms of the actual services his staff was able to render in preparing for the immigration testimony but also in terms of the prestige afforded by his title and by his association with the Carnegie Institution of Washington. Laughlin immediately aspired to even greater triumphs—advocating a Pan-American eugenics society, trying to convince the U.S. Census Bureau to use the 1930 Census to obtain eugenical data, drawing up model sterilization laws for all the forty-eight states, and presenting a plan

1919). It is ironic that one of the coformulators of the notion of hybrid vigor, E. M. East, was also one of the eugenicists who tried to argue away the analogy to human racial crossing. In the final chapter of his book with Jones, East claims that because some human races are decidedly inferior to others, hybridization between races is not of general value unless the two races are equivalent in genetic endowment. East’s argument is somewhat more complex because he admits that some hybridization can on occasion be a stimulus to further variability and thus to favorable new combinations of traits (see pp. 244 ff.).

⁵⁹ Hassencahl, “Harry H. Laughlin” (cit. n. 26), pp. 282–283.

⁶⁰ Ludmerer, *Genetics and American Society* (cit. n. 53), p. 106.

to have American consulates in foreign countries perform eugenical tests on prospective immigrants before they left their native countries. None of these plans bore fruit. The eugenics movement began to take a new turn, losing some of the groundswell of support it had previously enjoyed from biologists, the wealthy elite, and the general public. The fifteen-year period from 1925 to 1940 saw the decline of old-style eugenics, and that change is reflected in the fortunes of the Eugenics Record Office.

THE DECLINE OF OLD-STYLE EUGENICS

A number of factors contributed to the decline of old-style eugenics between 1925 and 1940: increasing criticism from geneticists and anthropologists; public rancor at the blatantly racist and anti-Semitic statements of Laughlin and Grant, who persisted in making political campaigns out of eugenics; the rise of Nazi race-hygiene, with its explicitly American—and most notably Cold Spring Harbor—connection; and, finally, changing social and economic forces that made eugenics of the ERO variety less useful to the wealthy elites that had previously funded it.

An important though much-belated force in undermining the continued efforts of old-style eugenics was the increasing loss of support for eugenical research among practicing geneticists. Among those who publicly or privately attacked the claims of eugenicists after 1915 were T. H. Morgan, Herbert Spencer Jennings, Raymond Pearl, H. J. Muller, and Sewall Wright. By 1925, even W. E. Castle began to question claims for eugenics. Academic geneticists began to come to the fore over the exaggerated claims about genetic differences between races and ethnic groups that emerged as a result of the immigration debates. Because of the publicity surrounding the debates on and final passage of the Johnson Act (1921–1924), biological arguments became prominent in the public media, and some biologists felt compelled to speak up. Moreover, to many geneticists, the arguments of eugenicists—particularly those of Grant and Laughlin—were totally out of touch with advances in the field of genetics.⁶¹

These criticisms found expression within the institution of the ERO itself. Partly in response to growing academic skepticism regarding eugenics, the Carnegie Institution of Washington, under its president John C. Merriam, felt called upon to invite a visiting committee to examine the work being carried out at the ERO and to evaluate the office's usefulness and future potential for genetic work.⁶² When the first visiting committee convened on 19 February 1929 at Cold Spring Harbor, however, its members included, along with Laughlin and Davenport, men who were largely eugenics sympathizers: A. K. Kidder, the chairman and an archaeologist and associate curator of archaeology at the CIW; the psychometricians Carl C. Brigham of Princeton and Edward L. Thorndike of Columbia; and Clark Wissler, an anthropologist from the American Museum

⁶¹ An example of such attacks is found in Raymond Pearl, "The Biology of Superiority," *American Mercury*, 1927, 2:257–266. Pearl's views are discussed in detail in Garland E. Allen, "Old Wine in New Bottles: From Eugenics to Population Control in the Work of Raymond Pearl," In *Eugenics: Comparative Studies*, ed. Lyndsay A. Farrall (Dordrecht: Reidel, forthcoming). A shorter version is already published as "From Eugenics to Population Control: The Work of Raymond Pearl," *Science for the People*, July 1980, 4:22–28.

⁶² Hassencahl, "Harry H. Laughlin" (cit. n. 26), p. 330.

of Natural History; only Leslie C. Dunn, a mammalian geneticist from Columbia, was seriously skeptical of eugenics. After a day-long meeting and personal inspection of the index cards and the fieldworkers' folders, the committee drew up its report. Despite the basically sympathetic nature of the committee, there were three major points of criticism. Not enough effort had been put into developing quantitative and precise techniques for assessing individual traits. As a result, the majority of the scientific records depended on the subjective assessments of the individual fieldworkers and were thus of practically no use to other investigators. Finally, the usefulness of the accumulated material would have to be tested on a few selected problems in human genetics to see what basis it formed for actual scientific study.⁶³

Matters rested here for some five years. In the meantime, Laughlin continued to proselytize for immigration restriction,⁶⁴ spoke repeatedly to nativist groups like the Daughters of the American Revolution, and published strongly adulatory articles about Nazi race-hygiene in the *Eugenical News*. Although Davenport had on more than one occasion warned Laughlin to be more cautious in his public statements and to involve himself less in politically inflammatory issues, the latter seems not to have taken the advice.⁶⁵ Probably as a result of this fact, and because of Davenport's retirement early in 1934, Merriam convened another visiting committee in 1935. The new committee's composition was significantly different from that of its earlier counterpart. Absent were all the strong pro-eugenicists (Davenport, Laughlin, Brigham, and Thorndike); the only continuing member was L. C. Dunn, whose anti-eugenics stance was well known by this time.⁶⁶ Among the others were Adolph H. Schulz of the Johns Hopkins Medical School, Hobart Redfield of the University of Chicago, and Ernest A. Hooten, an anthropologist at Harvard. (The latter did maintain a somewhat pro-eugenics stance but did not agree with the simplistic Mendelian formulations of Davenport and Laughlin.)

The new visiting committee met on 16–17 June 1935 at Cold Spring Harbor. To try to smooth over the situation, Mrs. Laughlin, for whom cooking was not a delight, prepared meals and offered generous hospitality. The committee did not mince words, however. They found the ERO's total collection of records "unsatisfactory for the study of human genetics" and concluded that the indexing of nearly a million cards, covering over 35,000 case histories, had consumed more time, energy, space, and money than was justified:

The records, upon which so much effort and money has been expended, have to date been extremely little used, to judge by the number of publications based upon them. Thus the Office appears to be accumulating large amounts of material, and devoting a disproportionately great amount of time and money to a futile system for indexing it, without certainty, or even good probability, that it will ever be of value.⁶⁷

⁶³ *Ibid.*, p. 331.

⁶⁴ See Laughlin, *Report of the Special Commission* (cit. n. 55).

⁶⁵ Davenport clearly, though gently, rebuked Laughlin in 1928 after the latter made public statements about the "menace" of Mexican immigration just when CIW president John C. Merriam was in Mexico staying with the U.S. ambassador. See Davenport to Laughlin, 16 Apr. 1928, Laughlin Papers, NMSU.

⁶⁶ See Dunn to Merriam, 3 July 1935, Laughlin Papers, NMSU.

⁶⁷ "Report of the Advisory Committee of the Eugenics Record Office" (n.d.), pp. 2–3, Laughlin Papers, NMSU.

The committee went on to specify the problems that made the collected records worthless: some traits, such as "personality" or "character," lacked precise definition or quantitative methods of measurements; some traits, such as "sense of humor," "self respect," "loyalty," and "holding a grudge," could seldom be known to anyone outside an individual's close friends and associates, and furthermore, to get an honest recording of such traits is virtually impossible; and even more objectively measurable characteristics, such as hair form, eye color, or degree of tooth decay, become "relatively worthless items of data for genetic study" when recorded by an untrained observer. Ironically, the committee remarked that probably the most reliable records were the individual questionnaires filled out by college students, but these represented such a small fraction of the whole that they hardly constituted a usable resource. "Never again," the committee wrote, "should records be allowed to bank up to such an extent that they cannot be kept currently analyzed."⁶⁸ They suggested that all current work of the ERO be discontinued as soon as each project came to completion.

The committee then moved to address the problems of mixing eugenical research with political activity and propaganda. They recommended that the personnel of the ERO discontinue their association with *Eugenical News* and, further, that they "cease from engaging in all forms of propaganda and the urging or sponsoring of programs for social reform or race betterment such as sterilization, birth control, inculcation of race or national consciousness, restriction of immigration, etc."⁶⁹

The entire report, but especially the last insertion, was obviously an indictment of Laughlin. As was his way, Laughlin did not take the criticism lying down. He penned what appear to be the notes for a response, but it is not clear whether the response was ever written up formally. These notes express his frustration that the report was tying his hands for future eugenics research and his continued assertion that "the study of human migration, mate selection, size of family can be pursued objectively by eugenics as a science." The scientist, he argued, is not responsible for the use made of his work. Laughlin denied that his work on immigration and sterilization was propagandistic, and he was resentful that the advisory committee had accused him of sponsoring propaganda and going beyond "scientific evidence."⁷⁰

As if the committee report were not enough, several additional factors contributed to Laughlin's appearance as an embarrassment to the Carnegie Institution of Washington. The first was his involvement with, and enthusiasm for, the German race-hygiene movement. Throughout the 1920s *Eugenical News*, of which Laughlin was chief editor, had continued to run favorable discussions of the German race-hygiene movement, including summaries of articles appearing in the German eugenical journal *Archiv für Rassen- und Gesellschaftsbiologie*.⁷¹

⁶⁸ *Ibid.*, pp. 3–4.

⁶⁹ *Ibid.*, p. 6.

⁷⁰ Laughlin, "Notes" (n.d.), found in Laughlin Papers, NMSU; summarized from Hassencahl, "Harry A. Laughlin" (cit. n. 26), p. 336.

⁷¹ See *Eugenical News* as follows: "Hitler and Race Hygiene," Mar.–Apr. 1932, 2:60; "The German Population and Race Politics," Mar.–Apr. 1934, 2:33; "Sterilization in Germany," *ibid.*, p. 38; "Eugenics in Germany," *ibid.*, p. 40; "The Mother of Nations," *ibid.*, p. 45; "New German Etymology for Eugenics," Sept.–Oct. 1934, 19(5):125; "Jewish Physicians," *ibid.*, p. 126; "A Letter from Dr. Ploetz," *ibid.*, p. 129; and "The Sterilization Law in Germany, Nov.–Dec. 1934, 19(6):137–140.

Indeed, *Eugenical News* became the major forum for bringing German eugenics to American readers. For example, in 1929 the *Eugenical News* expressed high praise for the involvement of German medicine with eugenical matters. After the Nazis came to power in 1933, the magazine lauded the German government for putting eugenics into practice. One unsigned article looked to the German sterilization law as a "model law," stating that "from a legal point of view nothing more could be desired." The writer is undoubtedly Laughlin, since the term "model law" as applied to legalized sterilization is a term he coined. Furthermore, in 1929 Laughlin had been invited by the editor to prepare a paper for the *Archiv* on legalized sterilization in America.⁷² Davenport, too, had been interested in the German movement in the 1920s and had at one point instructed Laughlin to send complete sets of reprints and information about eugenical sterilization in the United States to Eugene Fischer, Director of the Kaiser Wilhelm Institut für Anthropologie, Menschliche Erblehre und Eugenik in Berlin-Dahlem.⁷³ However, the *Eugenical News*'s avid support of Nazi race-hygiene became a cause for alarm and concern among some geneticists and eugenicists.⁷⁴ It became clear that Laughlin and the ERO were the main propagandists for the German eugenical cause, a factor that further contributed to his disfavor among Carnegie Institution officials.

To make matters worse for the Carnegie, in the middle of May 1936 Laughlin was notified that he was to be awarded an honorary Doctor of Medicine degree at the approaching celebration of the 550th anniversary of Heidelberg University.⁷⁵ Since the Nazis had gained control of all the German universities by 1935, university recognition at that time was equivalent to official Nazi recognition. Laughlin was invited to attend the ceremonies in Heidelberg, 27–30 June, and receive his degree. Deeply honored, he wrote back:

I consider the conferring of this high degree upon me not only as a personal honor, but also as evidence of a common understanding of German and American scientists of the nature of eugenics as research in and the practical application of those fundamental biological and social principles which determine the racial endowments and the racial health—physical, mental, and spiritual—of future generations.⁷⁶

Laughlin did not actually journey to Germany to receive his degree—indeed he may have been advised against it by Davenport or other officials of the CIW. He did, however, go as far as downtown Manhattan, to the German consulate,

⁷² See Harry H. Laughlin, "Die Entwicklung der gesetzlichen rassenhygienischen Sterilisierung in der Vereinigten Staaten," *Archiv für Rassen- und Gesellschaftsbiologie*, 1929, 21:253–262. Laughlin drafted a "model sterilization law" that was used as the basis for a number of state sterilization laws in the United States and for the German sterilization laws as well. Although this last point cannot be demonstrated with certainty, "Eugenical Sterilization in Germany" notes: "To one versed in the history of eugenical sterilization in America, the text of the German statute reads almost like the 'American model sterilization law'" (p. 89).

⁷³ Davenport to Laughlin, 21 Dec. 1920 and 6 Oct. 1927, Davenport Papers, APS.

⁷⁴ See, e.g., W. K. Gregory of the American Museum of Natural History (paleontology) to Clarence C. Campbell, 6 May 1935, and Gregory to Raymond Pearl, same date, in which Gregory states his intention to resign from the Galton Society (which by that time had taken over the publication of *Eugenical News* from the ERO) unless the *News* stopped publishing favorable articles on Nazi eugenics; Pearl Papers, APS.

⁷⁵ Carl Schneider, Dean of the Faculty of Medicine of Heidelberg University, to H. H. Laughlin, 16 May 1936, Laughlin Papers, NMSU.

⁷⁶ Laughlin to Carl Schneider, 11 Aug. 1936, Laughlin Papers, NMSU.

to receive his diploma in November 1936.⁷⁷ Announcements of the award in various newspapers brought some added criticism—not, however, from mainstream, old-style eugenicists such as Grant or C. C. Little.

A final matter that sealed Laughlin's fate was related to what appeared to be his deteriorating health. Rumor had it that he suffered increasingly from epileptic attacks, some of which had occurred in public places. On one occasion in 1937 he had a seizure while driving down the main street of Cold Spring Harbor; his car was prevented from plunging directly into the water only by its crashing into a retainer wall. There is an irony in the fact that epilepsy was one of the traits that Laughlin and other eugenicists had wanted to purify out of the population; now he and his career became the victims of that neurological disorder.

In October 1937 a letter from the chairman of the board of the Carnegie Institution, George Streeter, to its president, John C. Merriam, first called the latter's attention to reports about Laughlin's condition. From there matters moved quickly. Sensing a chance to avoid yet another embarrassing situation, as well as to change vastly the direction of the ERO, Merriam, under direction from Streeter and the board, asked Laughlin to have a complete medical check-up and submit the results to the CIW. Laughlin obtained a letter from his own doctor that vaguely indicated his health to be satisfactory. Streeter wanted a fuller report from a doctor appointed by the CIW, but such documentation appears to have been unnecessary. Merriam retired as CIW president at the end of 1938, and his successor, Vannevar Bush, wasted no time in bluntly asking Laughlin to retire. Negotiations strung out for a while, but a settlement was reached and Laughlin left Cold Spring Harbor in January 1940. He retired to Kirksville, Missouri, where he died in January 1943, at the age of sixty-three.⁷⁸

On 31 December 1939 the Eugenics Record Office closed its doors for the last time. The old style eugenics movement had lost its major institutional base. New-style eugenicists, led by Laughlin's longtime friend Frederick Osborn, began the transformation of the movement, under Rockefeller auspices, into a series of international population control experiments. Although he was skeptical of the birth control movement during the 1920s and 1930s, Laughlin might well have been pleased by the direction in which Osborn took eugenical concepts after World War II. Population control became the international version of Laughlin's eugenical sterilization principle—this time on a much vaster scale.

THE ERO IN AMERICAN SOCIETY

What conclusions can we draw regarding the founding and development of the Eugenics Record Office? How does it relate to the development of the American eugenics movement as a whole, and to broader currents of American social history in the late nineteenth and early twentieth centuries? Was the ERO the product of the whims of a few zealous biologists and utopian philanthropists? Or was it, as I will argue, the product of a whole complex of social forces converging during the period 1890–1920? I would like to suggest that the founding of the ERO represents several trends in American social history that were set

⁷⁷ H. Borchers to H. H. Laughlin, 25 Nov. 1936, Laughlin Papers, NMSU.

⁷⁸ Streeter to Merriam, 26 Oct. 1937; Merriam to Laughlin, 31 Dec. 1938; Bush to Laughlin, 4 Jan. 1938; CIW Archives.

in motion by the rapid growth of industrial capitalism in the latter part of the nineteenth century. It was founded and developed by those with the means—both the financial capital, on the one hand, and the scientific knowledge, on the other—to set about combating what they perceived to be a disintegration of the fabric of modern society. Eugenacists and their supporters attributed this disintegration to lack of social planning and to inefficient management of the human germ plasm. Eugenics was but one of many attempts to apply the concepts of scientific management and rational planning to a society that was experiencing severe growth pains as it developed from a rural agrarian to an urban industrial economy.

Mirror of the Progressive Era

The ERO brought together a number of strands of American social history during the late nineteenth and early twentieth centuries. Among these were the spirit of reform that grew out of evangelical notions of social responsibility, as exemplified by Andrew Carnegie's own "gospel of wealth"; the broad economic changes that accompanied widespread industrialization, particularly the shift from laissez-faire to planned capitalism; the cult of efficiency as developed in the industrial, and later the social, spheres; the rise of a new sector of the middle class—the professional managers—including scientific experts, engineers, social workers, sociologists, and foundation directors; and, lastly, concern with the problem of social control, of using scientific (which meant also sociological) knowledge to achieve greater social and economic stability. While it is impossible to discuss all of these aspects of eugenics history in detail, I would like to emphasize here the way in which the ERO mirrored the notions of reform, scientific planning, efficiency, and social control that were harbored by its wealthy benefactors and their middle-class professional advisers.

The last decades of the nineteenth and first decades of the twentieth century in the United States were times of considerable upheaval in economic, class, and demographic patterns. Robert Wiebe has characterized the period as one of a "search for order," that is, for stability, integration, and social control in a society that was changing and fragmenting in a variety of directions. The various responses to this fragmentation have been frequently collected under the term *progressivism*, and the period is commonly called the "Progressive Era." Many historians, however, have found difficulty with the designation "progressive," not only for its denotative meaning (as the opposite of conservative) but also for its suggestion that there was a unified or focused social movement at that time. Despite these reservations about the term, distinct concerns and points of view did come to the fore during those years. James Weinstein has emphasized the important shift that wealthy elites made from laissez-faire to managed or planned capitalism during the period 1890–1920.⁷⁹ Not only had industrialization created new economic problems of its own, but it had also magnified many of

⁷⁹ See Robert Wiebe, *The Search for Order* (New York: Hill & Wang, 1967), one of the best overall summaries of the period; and James Weinstein, *The Corporate Ideal in the Liberal State, 1900–1918* (Boston: Beacon Press, 1968), a close second. Others with the same basic message, though focused on different aspects of the period or with different interpretations, include Paul A. Carter, *The Spiritual Crisis of the Gilded Age* (DeKalb: Northern Illinois Univ. Press, 1971); and Graham Adams, *The Age of Industrial Violence* (New York: Columbia Univ. Press, 1966).

the problems already encountered in earlier stages of the development of American capitalism: vast price fluctuations, inflation, small business failures (accompanied by the growth of monopolies), and depressions (there had been several depressions between 1870 and 1900, particularly serious ones in 1873 and 1893). In response to these recurrent problems, radical trade union organizing, from outside as well as from within the movement, had increased dramatically from the 1880s on. The Haymarket Affair in Chicago in 1886, the Homestead Steel Strike of 1892, and the Pullman Strike of 1894 had already terrorized the upper classes before the turn of the century. After 1900 militancy continued with the San Francisco General Strike in 1900, the Lawrence, Massachusetts, textile strike of 1912, the Ludlow Massacre in Colorado in 1915, strikes in Patterson and Bayonne, New Jersey, also in 1915, and the Seattle General Strike in 1919, to name only a few of the more prominent outbreaks in the United States alone. Labor agitation and the instability it brought became issues of major concern among the wealthy elites. Various sectors of the wealthy business class had gradually been won by these realities to the concept of a more planned economy—and that meant using scientific and technical knowledge where possible to organize and regulate economic activities. This was the era that saw passage of the Sherman Antitrust Act (1890) and the beginnings of federal regulatory activities: the creation of the Interstate Commerce Commission in 1887, further strengthened in 1906; the enactment of the Pure Food and Drug Act in 1906; and the creation of the Federal Trade Commission in 1914.

A cornerstone of the era of regulation was the notion of efficiency, an ideology that spilled over into a number of areas, from conservation to urban politics, criminology, education, and medicine. In the marketplace as well as the workplace, a concern, almost a fanaticism, about efficient use of time, space, and energy engulfed American business leaders. Efficiency experts such as the engineer Frederick Winslow Taylor (1856–1915) created a science of efficient business operation. Efficiency came to mean analysis of the input and output of factory machinery and human activities alike, the breaking down of complex tasks into discrete components under the control of planners, and, finally, accentuation of the process of division of labor, including such innovations as the assembly line. Applied to the social sphere, efficiency meant correcting problems at their source, not in the aftermath of damage already done. Prevention became a central organizing concept within the efficiency movement. Efficiency also involved knowledge and use of scientific principles, and it became a commonplace to talk of certain kinds of reform as the scientific solution to social problems.

The application of rational planning in general, and of concepts of efficiency in particular, required the active participation of scientifically trained experts, professionals whose job it was to bring technical concepts and knowledge to bear on problem solving. The professional expert became an indispensable agent for the modernizing of American business in the early twentieth century.⁸⁰ Experts served two different functions: as advisers who provided technical infor-

⁸⁰ See, e.g., S. Haber, *Efficiency and Uplifts: Scientific Management in the Progressive Era, 1890–1920* (Cambridge, Mass.: Harvard Univ. Press, 1964); and Alfred D. Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass.: Harvard Univ. Press, 1977); see also M. S. Larson, *The Rise of Professionalism* (Berkeley: Univ. California Press, 1967).

mation or problem-solving skills, and as managers who oversaw the day-to-day operation of a business, a government agency, a medical facility, or an educational institution. The professional expert thus became part of the new managerial class, those trained individuals whose specialized knowledge was increasingly needed in business and in society and who thus played a vital role in the shift toward planned or managed capitalism. The professional experts even found their way into American philanthropy as the managers of the new foundations (for example, Frederick Gates of the Rockefeller Foundation and R. S. Woodward of the Carnegie Institution of Washington). Although these experts were solidly middle-class professionals, they carved a niche for themselves in American society that allied them with the needs and aims of the wealthy elites who employed them.

Several writers have emphasized the importance that business leaders and their professional managers attached to the social and natural sciences for their evolving concepts of economic and social control.⁸¹ Economic as well as social instability, especially surrounding the labor unrest of the period 1880–1920, had become cause for enormous concern among the wealthy elites. (Andrew Carnegie was even prompted to devote an essay from his *Gospel of Wealth* to the topic of labor violence and anarchy.⁸²) The topic of controlled social change informed much of the advice that Columbia University economist Wesley Clair Mitchell gave to the Rockefeller Foundation in the teens, and it was the basis of his own program as director of the National Bureau of Economic Research (founded 1919–1920).⁸³ Social control meant more than merely not upsetting the apple cart or than not altering the *status quo*. Conceptually, it was also linked with the notion of efficiency, equating control and order with more effective production. Social control implied integration of the fragments of society into a coordinated, interacting whole. That the wealthy elites and their professional advisers also saw social control as a way of preserving their own values and hegemony is not a negligible factor. However, it is most important to see the interrelationships between the idea of social control and the ideology of efficient planning in order to understand the role that eugenics was expected to play in the new social order.

In the eyes of many, the necessity of social control was underscored by the threat, both real and imagined, of labor unrest caused by foreign (alien) radicals. With the changing patterns of immigration (increased numbers from eastern Europe, the Mediterranean countries, and the Balkans) and the concentration of new immigrants in slum areas of the larger cities, the fear of alien radicalism

⁸¹ See, e.g., Herman Schwendinger and Julia R. Schwendinger, *The Sociologists of the Chair: A Radical Analysis of the Formative Years of North American Sociology, 1883–1922* (New York: Basic Books, 1974); and Clarence Karier, "Testing for Order and Control in the Corporate Liberal State," *Educational Theory*, 1972, 22:154–180.

⁸² Andrew Carnegie, *The Gospel of Wealth* (Cambridge, Mass.: Harvard Univ. Press, 1962); Essay VI, "Results of the Labor Struggle," was originally published in the *Forum* in Aug. 1886 and is in large part a strong attack on labor violence and agitation as a means of achieving social change.

⁸³ "Reform by agitation or class struggle is a jerky way of moving forward. Are we not intelligent enough to devise a steadier and more certain method of progress?" W. C. Mitchell, *The Backward Art of Spending Money* (New York, 1950), p. 5. Mitchell was recommended to the Rockefeller as the most capable man to found a social science research facility; see David M. Grossman, "Professors and Public Service, 1885–1925: A Chapter in the Professionalization of the Social Sciences" (Ph.D. diss., Washington Univ., 1973), esp. Ch. 7, "Organizing Research."

bordered at times on hysteria.⁸⁴ Immigrants as a group were accused of spawning every sort of social ill, from criminality to rebelliousness, alcoholism, prostitution, socialism, Bolshevism, and trade unionism.⁸⁵ They became a national scapegoat for many of the economic and social problems experienced by urban industrialized society. Nativist feeling was brought into the movement for social control by portraying the radical, alien worker as innately (biologically) inferior—not only to old American stocks but also to earlier generations of immigrants—and thus incapable of adjusting to complex industrial society.

It is not difficult to see how the organization and ideology of the ERO in many ways fit most, if not all, of the general characteristics of the Progressive Era.⁸⁶ First and foremost, eugenics was a reform movement aimed at correcting existing social problems—that is, the problem of the “defective classes.” It was also a movement based on the concept of rational, scientific planning in the cause of national efficiency. Thus Davenport, writing in 1910 about the “socially defective” portion of the population, reflects the aims of eugenics in general:

This three or four per cent of our population is a fearful drag on our civilization. Shall we as an intelligent people, proud of our control of nature in other respects, do nothing but vote more taxes or be satisfied with the great gifts and bequests that philanthropists have made for the support of the delinquent, defective classes? Shall we not rather take the steps that scientific study dictates as necessary to dry up the springs that feed the torrent of defective and degenerate protoplasm?

Davenport's booklet, a distinct call for rational social control, begins with a primer of Mendelian genetics and the explicit assertion that “were our knowledge of heredity more precisely formulated there is little doubt that many certainly unfit matings would be prevented.”⁸⁷

Davenport, Laughlin, and other eugenicists were loud in claiming to apply knowledge of biology and statistics to social problems. As Laughlin put it succinctly in 1913:

In justice to the new science, it must be said for most of the traits *specifically* and *extensively* studied, the student of eugenics can confidently predict the nature of the offspring of two parents of known ancestry. To the degree that this prediction can be made, eugenics is justified in calling itself a science, for here, as in all other cases, predictability is the criterion of the understanding of nature.⁸⁸

Conceiving of themselves as scientists with expert knowledge, and of the ERO as a “scientific institution,” Davenport and Laughlin sought a role in social planning along with those who were emerging as social planners in industry and

⁸⁴ See Barbara Solomon, *Ancestors and Immigrants* (Chicago: Univ. Chicago Press, 1972).

⁸⁵ Charles Leinenweber, “The Class and Ethnic Bases of New York City Socialism, 1904–1915,” *Labor History*, 1981, 22:31–56.

⁸⁶ Among those noting the close ideological affinity between eugenics and the loose fabric of progressive thought are Donald Pickens, *Eugenics and the Progressives* (Nashville, Tenn.: Vanderbilt Univ. Press, 1968); and (more satisfactory, though more limited in scope) Rudolf Vecoli, “Sterilization: A Progressive Measure?” *Wisconsin Magazine of History*, 1960, 43:190–202; and Michael Freeden, “Eugenics and Progressive Thought: A Study in Ideological Affinity,” *Historical Journal*, 1979, 22(3):645–671.

⁸⁷ C. B. Davenport, *Eugenics: The Science of Human Improvement by Better Breeding* (New York: Henry Holt, 1910), pp. 31–32, 4.

⁸⁸ Laughlin, “Eugenics Record Office” (cit. n. 36), p. 1.

government. It was time to get the layperson, the amateur, out of social planning. They would have agreed strongly with eugenicist Raymond Pearl, who wrote in 1912 (long before his later denunciation of old-style eugenics): "Hitherto everybody except the scientist has had a chance at directing the course of human evolution. In the eugenics movement an earnest attempt is being made to show that science is the only safe guide in respect to the most fundamental of social problems."⁸⁹

The ERO was involved in scientific management, or planning, at two levels: planning of actual marriages, for which the thousands of index cards and other genealogical information stored at the ERO could be used; and social legislation and education through large-scale programs aimed at reducing the number of "defectives" actually brought into the society. The latter was by far the more important aspect of the ERO's work, though Laughlin never tired of emphasizing its marriage-counseling role as well.

The efficiency of eugenical planning was a central feature of the ERO's *raison d'être*. Laughlin emphasized this point in one of its periodicals in 1914:

Eugenics, which Davenport defines as "the improvement of the human race by better breeding," is one of these agencies of social betterment, which in its practical application would greatly promote human welfare, but which if neglected would cause racial, and consequently social, degeneration. Eugenics, then, is the warp in the fabric of national efficiency and perpetuity. As an art it is as old as mankind; as a science it is just now taking definite form.⁹⁰

Science applied to social degeneration, as previously applied to medicine, dictated seeking the causes of a malady, not merely treating the symptoms. The older solutions for social misfits constituted charity, and Davenport, in particular, was absolutely clear on the misspent efforts that charity represented. Science dictated drying up the springs that "feed the torrent of defective and degenerate protoplasm." A curious indication of the prevalence of the cult of efficiency in ERO circles is a newspaper clipping found in Laughlin's papers in Kirksville, Missouri. The clipping comes from the *Birmingham Mail* (Birmingham, England) and is dated 1930. The column-wide headline, in three parts, reads:

RATIONALISING MANKIND

Big Business Methods in Evolution

Eugenic Reform

The article reports on a British eugenics meeting devoted to applying the methods of business to human evolution. The folder containing the clipping was labeled in Laughlin's own hand. There are no notes or comments on the substance of the article, but it would be difficult to imagine that he disapproved of

⁸⁹ Raymond Pearl, "First International Eugenics Congress," *Science*, 1912, 36:395-396.

⁹⁰ H. H. Laughlin, "Report of the Committee to Study and to Report on the Best Practical Means of Cutting Off the Defective Germ-Plasm in the American Population," *Bull. Eugen. Rec. Off.*, Feb. 1914, No. 10, p. 100.

the comparison. Significantly, the clipping demonstrates that at least some eugenicists at the time appear to have seen a clear relationship between their own work and the broader currents of Progressive solutions to economic and social problems as a whole.

Many of these very problems converged on the issue of immigration, particularly on the nature of the newer immigrants and the problems they faced in adapting to American life. For eugenicists, the source of the problem, as we have seen from Laughlin's testimony before the House Committee on Immigration and Naturalization, was the alleged genetic inferiority of the new immigrants from Southern and Eastern Europe, notably those of Jewish extraction. Immigrants became criminals, alcoholics, or radicals because they were biologically incapable of competing with the older, established Anglo-Saxon and Nordic stock. They took to antisocial ways as a means of dealing with their frustrations and incapacities. In his own way, Laughlin made his feelings on this point quite clear. In *Europe as an Emigrant-Exporting Continent and the United States as an Immigrant-Receiving Nation* (1924), Laughlin praised those American consuls abroad who weeded out as many of the unfit as possible from those who applied for visas. Among those "unfit" that he actually mentioned were "white slavers, anarchists, or Bolsheviks."⁹¹ Restriction of immigration became the efficient solution to stop propagation of defective immigrants. The immigration problem was not merely a faddish cause tacked on to eugenical programs; its presence as a strong focus of attention and research by the ERO reflects the importance that the problem assumed in "the search for order" that pervaded late nineteenth- and early twentieth-century American society.

Philanthropy for Social Control

The concerns of Progressives and eugenicists were the same concerns to which the wealthy and the coterie of managers and advisers who clustered around them were also responding. Both Mrs. Harriman and the Carnegie philanthropies were concerned with what the former called "efficient giving." This meant, among other things, using philanthropic dollars to get at the cause of a problem and treat it at its source. It also meant, somewhat more indirectly, using philanthropic dollars to bring organization and order into research itself through emphasis on cooperative efforts, creation of research institutions, and the like. Foundations in particular (as opposed to individual donors) played an extremely important role during the Progressive Era in translating the concerns of the wealthy elites into concrete, scientifically grounded research projects, or into actual social planning. Wesley Clair Mitchell, a Columbia University economist and an adviser to the Rockefeller Foundation, explicitly related the use of science to achieving social control in a memo to the foundation trustees in 1914: "Just as science affords the chief means of improving the practice of medicine, so science affords the chief means of improving the practice of social regulation."⁹²

⁹¹ H. H. Laughlin, *Europe as an Emigrant-Exporting Continent and the United States as an Immigrant-Receiving Nation*, Report of the U.S. Congress House Committee on Immigration and Naturalization (Washington, D.C.: U.S. Government Printing Office, 1924), p. 1235.

⁹² W. C. Mitchell to Trustees of the Rockefeller Foundation, Jan. 1914, Rockefeller Foundation Archives, Draft Report 22. A useful study of the ideological and organizational debates within the

Table 1. ERO funding in the "Harriman period," 1910–1917

Donation of original 74.85 acres (next to the SEE at Cold Spring Harbor) and buildings	\$ 80,680
Construction of new office building (1915)	15,000
Contribution for annual operating expenses (Mrs. E. H. Harriman) (total for 7-year year period)	246,000
Additional endowment at time of transfer to CIW (Mrs. Harriman)	300,000
Total	\$641,680

SOURCE: Records in the Harry H. Laughlin Papers, Northeast Missouri State University (NMSU), Kirksville, Mo., and in the Charles B. Davenport Papers, American Philosophical Society (APS), Philadelphia.

Efficiency, rational planning, and expert knowledge thus were all concerns common to both the professional, middle-class eugenicists (such as Davenport and Laughlin) and to the wealthy elites and their advisers. It was a convenient marriage of like minds and concerns. It is not surprising, then, that the wealthy contributed significantly to the funding base and continuing support of the ERO. From the fairly complete financial records of the ERO—available both in the Laughlin Papers in Kirksville, Missouri, and in the Cold Spring Harbor Series of the Davenport Papers at the American Philosophical Society—it is possible to reconstruct something of the endowment as well as the annual budget (operating expenses) of the ERO for its entire history. The records show that there were two distinct funding periods: first, the Harriman period (1910–1917), which provided endowment, seven years of operating expenses, and property—in short, the necessary start (see Table 1); and second, the Carnegie period (1918–1939), which provided twenty years of operating expenses but nothing in the way of additional endowment (see Table 2). In addition to these two major sources of funding, other benefactors, large and small, provided sums for specific new projects or, occasionally, to rescue an ongoing project from disaster (see Table 3).

Endowment for the ERO came exclusively from the Harriman family. There was the bequest of the original property and houses at Cold Spring Harbor, valued at \$80,680 at the time of purchase; the new office built in 1915 and valued at \$15,000; and the additional \$300,000 donation given when the ERO was transferred to the Carnegie Institution in 1917. The total endowment, including properties, thus amounted to approximately \$395,000. Operating expenses from both periods (from 1910 through 1939) amounted to \$720,000 (\$246,000 plus \$474,000). Add to this the major individual gifts, and the operating budget for a thirty-year period tops \$820,000. Combined operating funds and endowment thus gave the ERO an overall financial base of \$1,217,308 for the period 1910–1939. The Harriman funding was crucial to getting the ERO on its feet, while the Carnegie support enabled the institution to consolidate its efforts and pursue a long-range course of planning and development.

A significant problem in trying to understand the sources and motives of

Table 2. Expenditure for eugenics by the Carnegie Institution of Washington, 1918–1935

Year	Total CIW budget for Dept. of Genetics (SEE and ERO) (\$)	Sum from total budget expended for ERO ^a (\$)	% of total budget expended for ERO
1918	84,790.00	25,000.00	29.5
1919	95,910.00	26,836.00	28.0
1920	109,129.00	30,785.76	28.2
1921	125,974.03	283,429.36	15.0
1922	125,205.00		
1923	121,290.00		
1924	124,055.00		
1925	129,125.00		
1926	125,960.00		
1927	131,510.00		
1928	133,727.67		
1929	139,380.00		
1930	143,666.67		
1931	146,384.99		
1932	158,460.00		
1933	143,550.00		
1934	141,242.00		
1935	135,780.00	22,903.15	16.8
1936	144,135.00	25,256.78	17.5
1937	138,980.01	20,180.00	14.5
1938	145,745.00	20,943.37	14.4
1939	143,220.00	18,680.00	13.0
Total	2,887,219.37	474,014.69	16.4

SOURCE: Harry H. Laughlin, "Notes on the History of the Eugenics Record Office, Cold Spring Harbor, Long Island, New York," mimeographed report compiled from official records of the ERO, Dec. 1939, p. 5; from Laughlin Papers, NMSU.

^a Figures for 1918–1920 are exact; total for 1921–1934 is an estimate, equal to 15% of the total Department of Genetics budget; figures for 1935–1939 are exact, from the files of the chief clerk of the ERO.

funding for the ERO is that of finding a meaningful basis on which the scale of funding can be judged. A given donation—or even the collective budget of the ERO—may sound like a trifling amount or a fortune, depending on one's basis for comparison during the same period. How, then, do we determine what are useful and valid comparisons? For example, should donations to eugenics be compared to donations to genetics as a whole? Or to physics? Or to the American Museum of Natural History? Or to the Rockefeller Institute for Medical Research? Is it valid to compare grants to an institution such as the ERO with aggregate individual grants for all genetics research? Or is it valid only to compare one institution with another? There are no easy answers to these methodological questions. I have therefore approached the comparative issue ex-

Table 3. Additional contributions to eugenics work at the ERO, 1910–1930

Rockefeller family contributions	
John D. Rockefeller, Jr., for training program for ERO fieldworkers (1910–1917)	\$ 21,650
Individual gifts	
Walter J. Salmon, for study of inheritance of racing capacity (Lexington, Kentucky)	75,726
Bleeker van Wagenen, to underwrite publications such as <i>Eugenical News</i>	1,737
Mrs. Lucy W. James, for a field lecturer on eugenics	2,500
Total	\$101,613
Total funds for operations from Tables 1, 2, and 3	\$821,628 ^a

SOURCE: Records in the Laughlin Papers, NMSU, and the Davenport Papers, APS.

^a Figure from Table 2 rounded.

peditionously, largely by making only the comparisons for which some data are reasonably available. However, if several such comparisons are made, some idea about the scale of funding for eugenics in its time period emerges.

First, within the Carnegie's biological funding alone, Table 2 shows that the ERO's operating budget for the period 1918–1939 averaged approximately 16 percent of that for the Station for Experimental Evolution. Note also that over the years the annual percentage tended to drop, starting from a value of 29 percent in 1918 and dropping to 13 percent by 1939. It is clear from the start, then, that the ERO's budget rarely exceeded 25 percent of the budget for genetics and evolution as a whole at Cold Spring Harbor. Nonetheless, over the years the Carnegie did pump over half a million dollars into the ERO for direct operating expenses.

For comparisons outside of biology, some figures from Daniel J. Kevles's *The Physicists* are helpful. In 1906 two Princeton alumni gave, as initial expenses, \$200,000 to equip a laboratory for the study of electron emission; ten years later the total annual operating expenses for the Princeton physics department came to only \$1,600. In 1916 the entire operating budget for the Ogden School of Science at the University of Chicago was \$14,531, while for all the Carnegie years the ERO's operating budget averaged approximately \$20,000 annually. By contrast, a government agency such as the National Bureau of Standards had a budget of \$350,000 in 1910 and \$700,000 in 1915. In 1919, when the California Institute of Technology was founded, George Ellery Hale convinced one philanthropist to pledge \$4 million toward endowment; at the same time Robert A. Millikan had operating expenses of approximately \$100,000 per year for the Division of Physics. Finally, the endowment of the Carnegie Institution of Washington itself amounted to \$10 million at its founding in 1902, a sum equal to the endowment of Harvard and greater than the endowment for research in all other American universities combined.⁹³ What these comparative figures suggest is

⁹³ Daniel J. Kevles, *The Physicists* (New York: Knopf, 1978). For some more generalized trends and figures, see Spencer Weart, "The Physics Business in America, 1919–1940: A Statistical Reconnaissance," in *The Sciences in the American Context: New Perspectives*, ed. Nathan Reingold (Washington, D.C.: Smithsonian Institution Press, 1979), pp. 295–358.

that, on the scale of research money available in the early twentieth century, the ERO fell in roughly the median range for total operating expenses and in the lower bracket for endowment. Leaving out the funding for Caltech, the ERO fared better than average at the time.

Thus, it would seem that the funding afforded to eugenics during the years 1910–1940 was not insignificant. It was also not the product of a fringe of eccentric philanthropists. Indeed, eugenics received its funds from mainstream philanthropic sources of the day. This evidence implies that, at least for a period, the ERO enjoyed considerable respect and offered significant hopes among the wealthy, philanthropic elites for improved scientific management and control of social policy.

CONCLUSION

In an age that saw the decline of *laissez-faire* economic, political, and social philosophy and the concomitant rise of theories of scientific planning and social control, eugenics emerged as an efficient panacea for a variety of social ills. While eugenic solutions were not so prominent as to be a cornerstone of Progressive thinking, they were very much in the mainstream of the Progressive Era. Eugenics was the scientific management of human evolution, and as such it brought human society and culture into line with biological realities hitherto ignored or too easily dismissed. Eugenics was the perfect biological theory of society in an era that was rapidly accepting notions of scientific management and control (1900–1930), just as social Darwinism had been the appropriate theory for an earlier generation committed to classical economic and social policies of *laissez-faire* (1870–1900). I do not suggest that as economic and social theories changed biological theories changed in direct and conscious response. However, it would be folly to ignore such a patent parallel shift in views of both economics and society on the one hand and biological models of society on the other. Although it is difficult to demonstrate directly, I suggest that the primary and driving force for the initial founding and continued support of the ERO came from the new economic environment of planned capitalism, designed to insure more effective economic and social control. Funding from such major philanthropic sources as the Harriman family and the Rockefeller and Carnegie foundations formed a part of the new concern of the business community with planning for order and stability. The funding of research in the medical, biological, and social sciences was part of the new (“progressive”) view of approaching problems rationally and seeking long-range solutions. The Harriman, Carnegie, and Rockefeller philanthropies had their own styles, advisers, and agendas. But they were all generated by large capitalist enterprises in the latter part of the nineteenth century and were subject to the same problems of economic and social stability—the same perceived fragmenting of society. The attempt to bring order into various spheres of economic and social life, including scientific research and the planning of human evolution itself, was a common response to a common set of problems.