

A Civic Biology and eugenics

Grant Williams

Eugenics refers to a movement and social policy that was very influential up to the middle decades of the 20th century. Historically, eugenics was a study of improving human genetic qualities or the ‘scientific’ breeding of human beings. George Hunter, a biology teacher from New York’s DeWitt Clinton High School, designed a new biology curriculum for secondary students, and it was published as *A Civic Biology*. It became the best-selling text in its field, the centre of a probably the most famous court trial ever. In its section on eugenic belief, it revealed Hunter’s belief that reality could be interpreted exclusively in terms of human values and experience. Hunter in turn derived many of his arguments from the case studies of eugenicist Henry H. Goddard. These beliefs, which were heavily laden with evolutionary scientific racism of the day, were purported to be scientific and beyond reproach. This imprint of science-knows-best continues on today’s society.

The word ‘eugenics’ comes from the Greek εὖ (*eu*) meaning ‘well’ and γένος (*genos*) meaning ‘kind’ or ‘offspring’. The term was first coined by Charles Darwin’s first cousin, Francis Galton, who advocated this practice while claiming Darwinian inspiration.¹

‘The science of being well born is called *eugenics*’, states George William Hunter in his textbook *A Civic Biology*.² This was the popular science textbook that the state of Tennessee required high school teachers to use. In 1925 it became the centre of the Scopes (Monkey) Trial because it contained a section on evolution that violated the Butler Act that forbade teaching the evolution of mankind as a fact.

The gene pool would be improved, so stated Hunter in his text book, if we had ‘freedom from germ diseases which might be handed down to our offspring. Tuberculosis,³ ... epilepsy, and feeble mindedness are handicaps which it is not only unfair but criminal to hand down to posterity.’² Hunter’s assertive tone is apparent in this widely studied book that, at the time, was the forerunner in scientific study for secondary students. With fresh eyes, the erstwhile and archaic premises of eugenic belief are made explicit and, with the endorsement by the scientific establishment, it meant that eugenics was taught in schools as the leading thinking of the time. The incalculable harm that later manifested itself through the eugenics movement is here surveyed through what the students were taught and, as such, historically interpreted.

Pre-Darwinian anti-biblical racism

To highlight the need for action, Hunter presented broad and, what were then, well-known case studies of families ‘in which mental and moral defects were present in one or both of the original parents’.² The Jukes and the Kallikaks⁴ were pseudonyms for two families used as examples by Hunter in arguing that there was a genetic disposition toward anti-social behaviour or low intelligence. The arguments were used to reinforce the advancement of eugenics by demonstrating that traits alleging social inferiority could be passed down through the generations.⁵

Hunter proceeded to inform the student reader that the progeny of the ‘notorious’ Jukes family had cost New York State ‘over a million and a quarter of dollars’. This family was also to be found in the, ‘care of prisons and asylums [and their numbers were] considerably over a hundred feeble-minded, alcoholic, immoral or criminal persons’.⁶ As can be seen, the Jukes’ family in *A Civic Biology* represented inherited criminality.⁷⁻⁹

Next, Hunter drew a picture of the Kallikaks. Of a union between a Revolutionary War soldier and a ‘feeble-minded girl’ there came generations of which, ‘33 were sexually immoral, 24 confirmed drunkards, 3 epileptics, and 143 feeble-minded’.¹⁰ The eugenicist Henry H. Goddard¹¹ was the author of the study from which Hunter drew the information.¹² Goddard used the term ‘feeble-mindedness’—a catch-all early 20th century term—to describe various forms of mental retardation,¹³ learning deficiencies and mental illness. Goddard’s conclusion was that a variety of mental traits were hereditary and that it was important for society to establish a harness upon ‘unfit’ individuals’ reproduction, and not have ‘a line of mental defectives that is truly appalling’.⁹ The Vineland Training School for Feeble-Minded Girls and Boys in New Jersey, of which Goddard was Director of Research, soon became the leader of this human-reclamation operation.¹⁰

A Civic Biology then told the student that, ‘The man who started this terrible line of immorality and feeble-mindedness later married a normal Quaker girl. From this couple a line of 496 descendants have come, with no cases of feeble-mindedness.’ On this ‘normal’ or ‘good’ side of the Kallikak family tree, the children ended up intelligent, prosperous, and morally righteous and ethical. Amongst their ranks were lawyers, doctors and clergy. Goddard’s conclusion was that intelligence, sanity, *and* morality were hereditary. Thus, the ‘feeble-minded’ should be excluded from becoming parents and these traits would be genetically dissolved. This line of thought, argued Goddard, was best for all and Hunter stated in his science text, ‘The evidence and the moral speak for themselves!’¹⁴

Hunter labels these families, and ones just like it, ‘parasites’:

‘Hundreds of families such as those described above exist to-day, spreading disease, immorality, and crime to all parts of this country.’¹³

A Civic Biology pronounces that these families—generations of them—are ‘corrupting, stealing or spreading disease’ then expounds that ‘the poorhouse and the asylum exist’ almost purely for them.¹³

The eugenic answer?

Under the assertive heading, ‘The Remedy’, *A Civic Biology* enounces:

‘If such people were lower animals, we would probably kill them off to prevent them from spreading. Humanity will not allow this, but we do have the remedy of separating the sexes in asylums or other places and in various ways preventing intermarriage and the possibilities of perpetuating such a low and degenerate race. Remedies of this sort have been tried successfully in Europe and are now meeting with success in this country.’¹³

Hunter was an evolutionist and may have taken many of his ideas from his iconic leader, Darwin. In Darwin’s *The Descent of Man*, the very principles espoused in *The Origin of Species* are apportioned to humanity:

‘At some future period ... the civilized races of man will almost certainly exterminate and replace throughout the world the savage races. At the same time the anthropomorphous [*Having or suggesting human form and appearance*] apes ... will no doubt be exterminated. The break will then be rendered wider, for it will intervene between man in a more civilized state, as we may hope ... the Caucasian, and some ape as low as a baboon, instead of as at present between the negro or Australian and the gorilla.’¹⁵

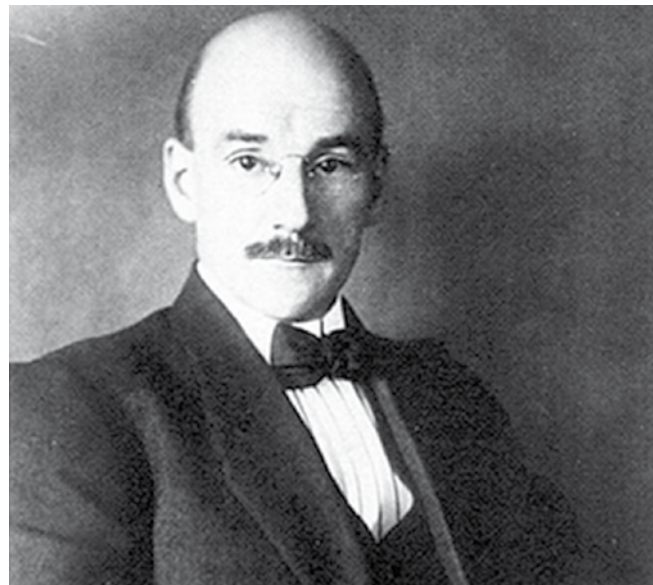
Darwin’s eugenic beliefs were akin to Hunter’s in proposing that the ‘good’ breed more and have the most offspring. Darwin was saddened by the fact that ‘progress’ had kept so many—who should have died—alive:

‘We must, therefore, bear the undoubtedly bad effects of the weak surviving and propagating their kind’, and ‘... but excepting in the case of man himself, hardly any one is so ignorant as to allow his worst animals to breed.’¹⁶

This comparatively ‘undemanding’ version of eugenics that Darwin espoused, and that Hunter likewise advocated, ultimately ‘evolved’ into the direct method that emerged in the extermination camps of Nazi Germany.^{17–20}

‘Genetics determines intelligence’

The evidence seemed irrefutable. The popular response was widespread and positive to Goddard’s work. Here was cutting edge science showing that genetics was the determinant of intelligence. It was illustrated with photos



Henry H. Goddard (1866–1957), promoter of eugenics. He strongly advocated for society to impede the reproduction of ‘unfit’ individuals, especially those labelled ‘feeble-minded’.

of an actual family from New Jersey, so the student reader could view what to be ‘feeble-minded’ looked like. Through Hunter’s text the ‘good’ and ‘bad’ inheritance was read by many students and the ‘logical’ outcomes were posited. *A Civic Biology* had many reprints and the work of Goddard was lauded. The evolutionary-inspired eugenics movement rolled on attempting to prevent ‘undesirable breeding’, sterilizing those who were ‘socially inadequate’, moving towards ‘racial hygiene’.²¹ Was this an irresistible combination?

Goddard and his colleagues had shown that the rural/country folk in his study were defective but the probability of substandard genes from other countries entering the United States was also quite alarming. He established an intelligence testing program on Ellis Island and IQ testing was undertaken on the newly arrived immigrants.²² He was pleased to be able to show that the numbers of potential immigrants being turned back to their original countries, because of feeble-mindedness, had grown because of the advent of the IQ testing he had initiated.

Goddard deduced that the quality of immigration must be deteriorating. Foreign countries, he complained with anxiety, were sending to the United States ‘the poorest of each race’.^{9,23} Goddard was propelled to the status of one of the nation’s top experts in using psychology in policy, affecting beliefs and actions which have a residual effect on the United States of today.

Testing times for eugenic methodology

Thankfully, the methodology and conclusions drawn from work like Goddard’s has been irrefutably denied. The data, the motives, and the ‘science’ behind eugenics

was scrutinised and criticised from a variety of fields. The eugenicists were shown to be less precise in their procedures than was required for scientific study, and others were accused of exploiting genetics for political ends. To this point, the situation in Hitler's Germany showed the logical ends of eugenic belief.¹⁸ One telling quote from the United States comes from a psychiatrist named Abraham Myerson who had been studying Massachusetts families. He reported that 'even among these "worst" families there were normal branches producing worthwhile persons'. More pertinently, though, he stated, that one would need 'supernatural revelation' by which

... the potentialities of any person's germ plasm in the succeeding generations may be ascertained. There are fine people springing from the most unlikely parents, and the finest parents may bring forth the wildest and most inadequate progeny.²⁵

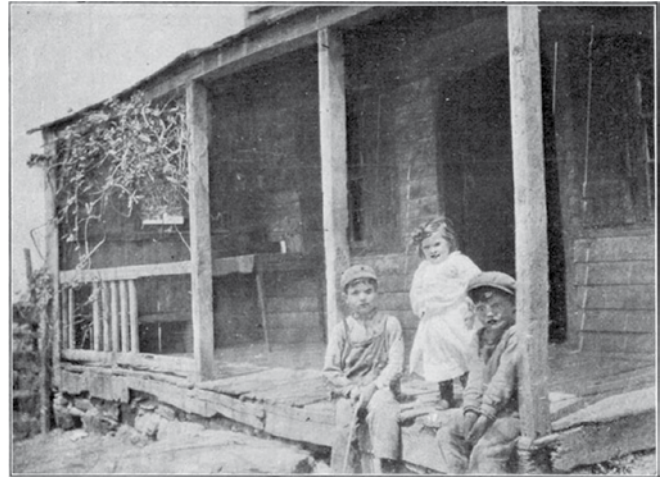
As an example of the non-rigorous method employed, the majority of Goddard's data was collected by young, insulated girls of well-to-do families from nearby colleges. When approaching the 'bad' Kallikak family members it was no surprise that their distaste for what was entirely foreign to them was described at once as 'feeble-mindedness'.

It wasn't, as such, a genetic disposition they were witnessing but rather the outworking of poverty. The poor nutrition of these families weighed heavily upon their ability to live a normal life, and with poverty comes a raft of pressing issues that unfortunately may lead to crime. The disenfranchised don't always have what is required to become full citizens in their own country, let alone fit in to the pronouncements of what is 'acceptable' to people undertaking such 'scientific' studies.²⁴

Goddard's book is revealing, but it may be in the arena of human virtues and weaknesses (of the compilers) that it has most to offer. To be completely detached from one's personal and cultural convictions is no mean feat, and the eugenicist scientists of the past were no exception in failing in this important methodology.

What does 'eugenics' really mean?

A Civic Biology was a cruel social Darwinist tome parroting the 'truth' of Darwinian-based science. How many teachers popularised eugenic scientific inquiry, using such texts²⁵, with equally horrifying applications? Did the inflammatory, insulting and white supremacist attitude and language influence the thinking of the youth of then and, logically, spill on to the culture of their families?²⁶ Those young teachers, who eagerly began their careers in the days of the Scopes Trial, were imprinted with the beliefs outlined in their texts they taught and many would have imparted these lessons to students well into the 1960s. One's beliefs can span generations.



'Kallikak' children. Was it hereditary defectiveness or the outworking of poverty that was present in the familial lines of the Kallikak family? (From Goddard¹²).

Although eugenics was the darling of 'society's science' back then, the logical outworking of this philosophy became apparent to most by World War II. The disengagement between ideas which involve letting the unhealthy, poor and degenerate classes *die* (deemed as textbook social Darwinism) and breeding a better humanity by *sterilizing* the unhealthy, poor and degenerate (eugenics), is a fine line that Hunter, through his science textbook, ardently presented to the eager student.

On this point of student learning, Hunter reminds teachers in the sister text, *Laboratory Problems in Civic Biology* that 'the child is at the receptive age and is emotionally open to the serious lessons here involved'.²⁷ Such are poignant words.

The society that eugenicists conceptualised preserved and maintained middle and upper class ideals and power. Eugenicists felt that their work would enable society to perform better and be better. The western world had the capacity to 'manufacture' humanity, and some of the complex issues that society faced could be expunged through this scientific breeding program.

Although eugenics embraced well-considered notions, such as education about the human reproductive system, a focus on more sober and assiduous preparation for marriage, and a focus on public health, it also was prominent in promoting the sterilisation of the mentally ill, racial separation and restricting foreign immigration along westernised middle-class lines.

Criminality and 'feeble-mindedness' were ultimately biological in origin, the eugenicists claimed, and it was for the good of all that the alleged 'bad' genes were not mixed with the 'good' and wholesome genetic stock. Humanity was regarded as the central element in the universe, but eugenicists believed that humans had a mandate to be better and eliminate all that decried our group potential.

These ‘progressive’ ideas in the early twentieth century were unenlightened and displayed how delusional scientific methodology, based on human perception, could devastate society rather than build it.

Conclusion

It has been 80 years since Hunter’s biology text book, *A Civic Biology*, was the centre of the famous trial. Although eugenics was not the focus, nor mentioned, in the trial it must be remembered that this text book disparaged the poor and saw only contempt for people with disabilities. The views and values of the author on issues, such as white supremacy, were presented as fact. This book was a valuable resource and it was held highly enough by the defendants in the Scopes trial to have it central to their case.

This is a point worth remembering. What is taught in a science text is only as good as the science on which it relies. Ideas become common wisdom and these can profoundly penetrate into practices, into school texts and into the mind set of the reader. *A Civic Biology* is not, as such, a scientific defence of Darwinism but implicitly outlines the social implications of Darwinism. As such, evolution validated the eugenics movement by giving it what it needed: scientific legitimacy. The influence of such a false philosophy, as reflected in *A Civic Biology*, was deep and deadly, and impacted the world in lamentable ways.

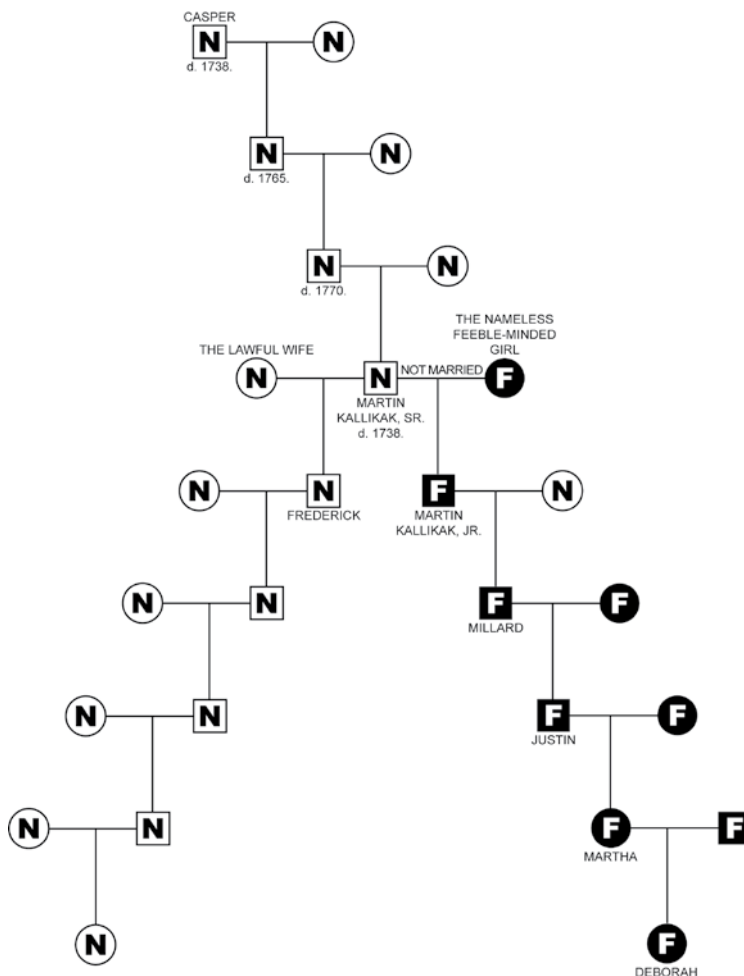
Although the 19th and 20th century application of eugenics is condemned to the world of pseudoscience, it is interesting to note that it may still, by approximation, be applied to describing human activity in which the goal is directed at improving the gene pool, and as such remains in today’s public consciousness. Pre-emptive abortions, reprogenetics²⁸ and designer babies have been referred to, by some, as modern-day eugenics. In modern scientific literature one reads about selection pressures that have resulted in different intelligence ‘bell curves’, ‘smart genes’ and ‘novelty seeking’ genes. These are all controversial.

It is interesting to think that the eugenics model of the last century was highly praised by the scientific literati, only to become unstuck when thoughtfully analysed. This resurgence of eugenic-style interpretations will also have to be scrutinised with scholarly rigor. Would eugenics have continued its intellectual ascendancy without the obvious ramifications of it being brought into view, analysed and dissected? How does this apply to the science and thought of today?²⁹

The words of the wise should be noted:

‘Science without conscience is but death of the soul’ (Michel de Montaigne [1533–1592]).

‘As a dog returns to its vomit, so a fool repeats his folly’ (King Solomon [Proverbs 26:11]).



Henry Goddard’s Kallikak lineage, from which he argues for ‘feeblemindedness’ being largely hereditary. (After Goddard¹²).

References

1. Grigg, R., Eugenics ... death of the defenceless, *Creation* 28(1):18–22, 2005.
2. Hunter, G.W., *A Civic Biology: Presented in Problems*, American Book Company, New York, p. 261, 1914.
3. ‘An infection caused by a species of *Mycobacterium* ... Tuberculosis is transmitted from person to person by an aerosol of organisms suspended in tiny droplets that are inhaled.’ <canerweb.ncl.ac.uk/cgi-bin/omd?query=tuberculosis&action=Search+OMD>, 3 July 2006.
4. The name Kallikak is a pseudonym derived from the Greek καλός (*kalos*) and κακός (*kakos*) meaning ‘good’ and ‘bad’.
5. Case studies such as *The Jukes and the Kallikaks* were often used as comparative pieces with similar generational family studies from the 19th and 20th centuries, such as the Zeros, the Nams, the Happy Hickories, the family of Sam Sixty (named for Sam’s IQ), and the Doolittles, *High School Bioethics Curriculum Project*, Chapter 4: The Rise and Fall of Eugenics (sample), <www3.georgetown.edu/research/nrcbl/hsbioethics/units/unit4_4.html>, 3 July 2006.
6. Hunter, ref. 2, p. 262.
7. Richard L. Dugdale, *The Jukes: A Study in Crime, Pauperism, Disease and Heredity*, 1877.

8. <emmaf.isuisse.com/base/ctlessons.html>, 16 June 2006—A significant number of American scholars favoured the non-Darwinian form of Lamarckian evolutionism in the later years of the 19th century. They believed that traits learned by one generation could be passed on through heredity to the next. Richard L Dugdale applied the theory to such behaviours as criminality, drunkenness and laziness. Parents involved in these behaviours passed them on to their children proving that criminality ran in families.
9. Physiognomy, <www.albany.edu/museum/wwwmuseum/criminal/checklist/>, 3 July 2006—‘According to degeneration theorists, self-abuse and excess lead to degeneration, a weakened physical condition that in turn weakens one’s moral capacity and thus leads to crime and other social problems. However (these theorists continued), by obeying the laws of good health and morality, even degenerates can reverse their downward slide and begin to regenerate physically and ethically. In other words, degenerationists did not view inheritance as fixed and immutable. They put forth a biological and hereditarian theory of crime, yet they believed that people can reverse the course of bad heredity.’ As such, *The Jukes* was not a eugenic text because Richard Dugdale did not advocate such breeding practices to people, as did the eugenicists. He wrote, ‘... the cure for unbalanced lives is a training which will effect the cerebral tissue, producing a corresponding change in career ...’, thus informing the reader that physiological disorders were the chief cause of social ills. Dugdale unfortunately used a broadly, ill-defined term—‘Juke Blood’—that pooled the congenital, somatic, and genetic sources of physiological disorders together in a study of hereditary, so this idea was eagerly set upon by eugenicists to complement their own studies. Hunter’s *A Civic Biology* is a case in point.
10. Hunter, Ref. 2, pp. 262–263.
11. ‘Goddard coined the term ‘moron’ to describe those whose defective gene caused them to test with a mental age between 8 and 12 on the Binet scale. Below the moron was the ‘imbecile’, while those with the lowest IQ scores he labelled ‘idiots’. As Goddard saw it, the threat of the ‘moron’ or ‘high-grade defective’ was that, unlike more seriously impaired individuals, such people might dare to survive on their own and to propagate themselves. Since their deficiency was presumed to be hereditary and intractable, Goddard preached that there was only one way to prevent the genetic debilitation of the American population: identify these ‘mental defectives’, monitor them carefully, institutionalize them if possible, and prevent America from drowning in faulty gene pools.’ The IQ Fallacy, Part II, <www.autcom.org/iq2.html>, 2003.
12. Goddard, H. H., *The Kallikak Family: A Study in the Heredity of Feeble-Mindedness*, 1912, <http://psychclassics.yorku.ca/Goddard/index.htm>, 3 July 2006.
13. ‘Mental retardation’ is also called, in different countries, ‘mental handicap’, ‘mental impairment’ or ‘intellectual disability’. These are often used with qualifiers such as ‘mild’, ‘severe’, etc.
14. Hunter, Ref. 2, p. 263.
15. Charles Darwin, *The Descent of Man*, 2nd ed., A.L. Burt Co., New York, p. 178, 1874.
16. Darwin versus Compassion, <creationontheweb.com/compassion>.
17. Black, E., *War against the Weak*, Four Walls Eight Windows, New York/London, 2003.
18. Weikart, R., *From Darwin to Hitler: Evolutionary Ethics, Eugenics, and Racism in Germany*, Palgrave Macmillan, New York, 2004.
19. Sarfati, J., America’s evolutionists: Hitler’s inspiration? (review of Black, Ref. 16), *Creation* 27(2):49, 2005; <creationontheweb.com/content/view/1898/>.
20. Sarfati, J., The Darwinian roots of the Nazi tree (review of Weikart, Ref. 17), *Creation* 27(4):39, 2005; <creationontheweb.com/weikart>.
21. Wieland, C., The lies of Lynchburg, *Creation* 19(4):22–23, 1997; <creationontheweb.com/lynchburg>.
22. Plucker, J., Henry Herbert Goddard, 2003, <www.indiana.edu/~intell/goddard.shtml>, 3 July 2006.
23. What, though, might have the IQ tests revealed? Low scores, of course, could be due to the testing conditions, to language or cultural barriers, to confusion or even fear. Many immigrants had never before held a pencil so an IQ test was certainly a cultural barrier to hurdle!
24. Goddard had reversed many of his early opinions by the late 1920s. He attested in many public forums that he had been critically misguided in many of his most famous conclusions (Zenderland, L., *Measuring Minds: Henry Herbert Goddard and the Origins of American Intelligence Testing*, Cambridge University Press, Cambridge, MA, pp. 324–326, 1998). The validity of the tests that were used to detect ‘morons’ he openly questioned, and he stated unequivocally that his former belief that ‘morons’ could not be educated satisfactorily was wrong. He also frequently voiced his new opinions that ‘feeble-minded’ people should be allowed to have children if they so chose to do so, and that the concept of segregation colonies had been a misplaced conviction. Esping, A., Dakwa, K. and Plucker, J., *The Kallikak Family*, 2002, <www.indiana.edu/~intell/kallikak.shtml>, 3 July 2006.
25. Examples of multiple-edition high school biology textbooks that presented eugenics as a bona fide science into the 1950’s and 60’s were: Smith, E.T., *Exploring Biology*, 4th Edition, Harcourt, Brace and Company, New York, 1954; Moon, T.J., Mann, P.B. and Towle, A., *Modern Biology*, Henry Holt and Company, New York, 1963.
26. ‘By 1928, eugenics was a topic in 376 separate college courses, which enrolled approximately 20,000 students. A content analysis of high school science texts published between 1914 and 1948 indicates that a majority presented eugenics was as legitimate science.’ Selden, S., *Eugenics popularization*, <www.eugenicsarchive.org/html/eugenics/essay6text.html>, 3 July 2006.
27. Hunter, Ref. 2, p. 184.
28. ‘Reprogenetics’, a term coined by Lee M. Silver, Princeton University ‘bioethicist’, in his book *Remaking Eden: Cloning and Beyond in a Brave New World*, William Morrow, 1997, refers to the merging of reproductive and genetic technologies. It focuses on the ability to harvest large numbers of embryos and reinsert said embryos into host mothers. According to Silver, the end result is that affluent parents will be able to pick out the genetic characteristics of their own children. Through ‘reprogenetics’, Silver believes humanity will eventually separate into two classes or kinds of people, the ‘genrich’—or genetically enhanced class—and the ‘naturals’.
29. ‘In the 1990s, with large grants from the National Institutes of Mental Health, prominent researchers, largely in departments of psychiatry and psychology around the United States, have revived the argument that there is a genetic basis for criminality, pointing especially to the possibility that low levels of a neurotransmitter, dopamine oxidase, may be at the root of uncontrolled (‘feebly-inhibited’) behavior. At the moment, however, the status of such studies remains unconfirmed by independent research teams.’ <www.eugenicsarchive.org>, Topic: Criminality, 3 July 2006.

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