

Racism Taught in Biology Textbooks for Decades

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Abstract

Textbooks are a major means of imparting not just facts, but also beliefs. One concept often included in books supporting Darwinism published before 1960 was the belief that there exist “Caucasian” and “Negroid” races, now commonly called the “white” and “black” races. The view that whites were “superior,” and blacks “inferior” and more “apelike” was commonly taught in science texts and even scholarly academic books published in the Western world from the middle 1800s to around 1960, and a few after this date. A few typical examples were examined to illustrate how racism was once taught. This paper compares textbooks used in America and Nazi Germany, documenting the fact that their coverage of evolution and eugenic topics was similar. Although all of the examples examined for this paper were published in the USA and Germany, most of these textbooks were translated into Spanish, French, and other languages and used throughout the world.

Introduction

Eugenics and racism were widely taught in school textbooks in America and Germany dating back to the very first book Darwin wrote on his theory. Darwin’s racist views were unequivocally clear in his *The Descent of Man and Selection in Relation to Sex*. This 1871 work helps us to understand the meaning of the title of Darwin’s most famous work, *The Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, often abbreviated to *The Origin of Species* (1859). As to

Darwin’s subtitle, *The Preservation of Favoured Races*, it is clear that he was concerned with races of animals, but “it is also clear ... that he thought of races of men in the same way” (Morris, 1973, p. 158).

Textbooks were critical in the goal of Darwinizing society in both America and Nazi Germany. This is indicated by a statement attributed to Hitler: “Let me control the textbooks and I will control the state” (Klicka and Harris, 1992, p. 89). Hitler insured that Darwinism was taught in the textbooks

for the reason that “Darwinian theory became important truths in Hitler’s ideology” (Blackburn, 1985, p. 22). Furthermore, the Nazi government insured that not only all teachers and professors were Darwinists committed to “Hitler’s racial doctrines” but also that all textbooks must be revised to conform to this goal (Shirer, 1960, p. 249). The educators insured that the Nazi conception of the certainty of the “Darwinian struggle for existence ... a battle ... waged without end” was openly reflected in the textbooks (Blackburn, 1985, pp. 21–22). German educators, though, were forced to refine “Hitler’s crude militaristic and social Darwinist ideas and made them somewhat more palatable to the educated” (Blackburn, 1985, p. 127).

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Fig. 339. — Apollo Belvidere.⁵⁵³



Fig. 341. — Negro.⁵⁵⁴



Fig. 343. — Young Chimpanzee.⁵⁵⁵



Fig. 340.⁵⁵⁶



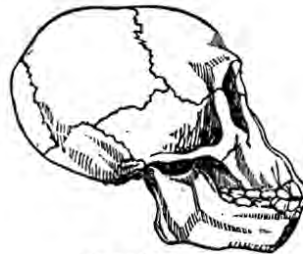
Greek.

Fig. 342.³⁵⁷



Creole Negro.

Fig. 344.⁵⁵⁸



Young Chimpanzee.

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Darwinism Influences Racism in Textbooks

Many authors and professors have written articles and books advocating racism, and some have been far more racist than Darwin's own writings. For example, Count Arthur de Gobineau in his 1854 book (reprinted as late as 1966) argued that the "Aryans" were not only superior to all other races but also were primarily responsible for civilization's major advances (Burleigh and Wippermann, 1991, p. 28).

Gobineau (1966) even claimed that when Aryans (i.e., northern Europeans) intermarried with the racially inferior (especially Jews and Negroes), civilization declined. He claimed that the inferior "mixed races" that resulted rebelled against the ruling class, resulting in the fall of great nations. His work influenced primarily German and European racists, many of whom synthesized his ideas with those of Darwin, as well as Professors Fischer, Schemann, Woltmann, and others. In contrast, although Darwin devoted major sections of his 1871 work to ideas supporting human racism, Darwin was personally opposed to slavery and was concerned about reducing poverty.

Until Darwin published his 1871 book, his major focus was on the evolution of plants and small animals. Yet it was Darwin, not Gobineau, who had a major influence on the racist ideology that developed after both Darwin and Gobineau had died. One of the reasons for this was that Gobineau's work was largely ignored and appealed to only a "handful of reactionaries," whereas Darwin's writing "enjoyed massive success" and both widespread acceptance and influence (Burleigh and Wippermann, 1991, p. 28). Darwin wrote numerous books supporting evolution, many of which were bestsellers and are still in print today. The idea of a never-ending struggle for survival that was achieved only by the stronger individuals and races, including human races, legitimized racism and put it on a scientific

Figure 1. Illustrations of the highest evolved men, the Greeks, and the primitive ape-men, the "negro" compared to the ape. Note the Creole Negro skull is far more apelike than the modern man skull. Adapted from Morton (1854, p. 458).



Figure 2. Comparisons of Negroes and apes. Note the similarity depicted between the Orang-Outan and the Hottentot Negro and the Chimpanzee and the Hottentot Negro. Adapted from Morton (1854, p. 459).

foundation propagated more by Darwin than any other person in history.

Darwin's influence through his writing was soon reflected in science textbooks, spreading what turned out to be catastrophic effects throughout

the Western world. Larson (1989) concluded, "Public high schools were teaching evolution decades before the anti-evolution crusade [in the 1920s], with the presentation seeming to grow more dogmatically Darwinian over time"

(Witham, 2002, p. 153, brackets added). Furthermore, school biology textbooks "presented Darwin's theory with great certainty, though field scientists still were fiercely debating its particulars" (Witham, 2002, p. 153). Even many nonbiology textbooks included racism. In a discussion of race, a leading nineteenth-century geography book concluded, "The White race is superior to all the others in intelligence and civilization" (Steinwehr and Brinton, 1881, p. 13).

A typical example of the racism once common in textbooks is the most widely used life-science textbook in America at the turn of the century, written by George Hunter and titled *A Civic Biology* (Witham, 2002, p. 153). Under the subtitle "The Races of Man," the text stated that there exists "five races or varieties of man, each very different from the other ... to an extent, in structure." The five races were then ranked and at the inferior end was the Negro originating in Africa, "the Mongolian or yellow race, including the natives of China, Japan and the Eskimos; and finally, *the highest type of all*, the Caucasians, represented by the civilized white inhabitants of Europe and America" (Hunter, 1914, p. 196, emphasis added).

The text concluded that the Caucasians are "higher" developed specifically in terms of "instincts, social customs, and ... [physical] structure" (Hunter, 1914, p. 196, brackets added). This book also advocated the now-discredited eugenics theory for which Nazi Germany became infamous. Eugenics was taught under the subtopic "Improvement of Man." The text noted that domesticated animals can be improved, and, likewise, "the health and vigor of the future generations of men and women on the earth" can be "improved by applying to them the laws of selection," and concluded that in this "improvement of the future race ... we as individuals may play a part" (Hunter, 1914, p. 26).

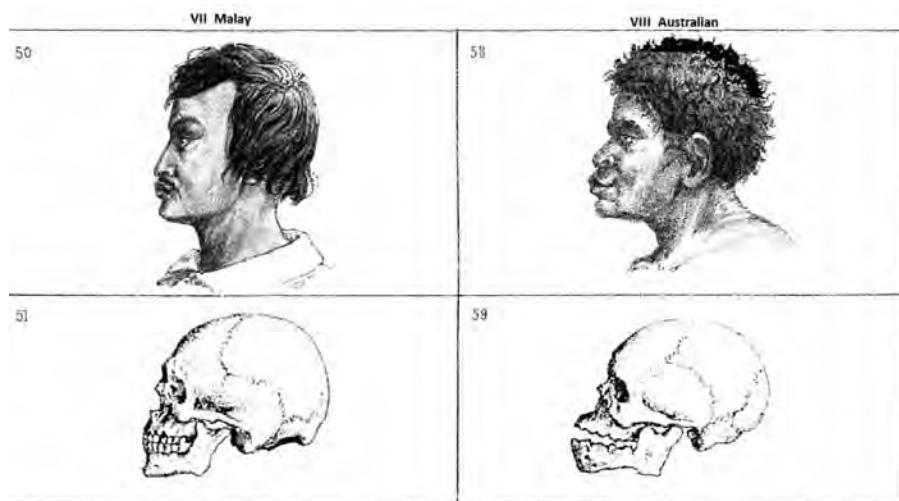


Figure 3. Malay and native Australian men profiles and their skull profile. Note how apelike the skulls are pictured. Adapted from Morton (1854, p. lxxvi).

Under the subtopic “eugenics,” “the science of being well born,” the text stated that when people marry “the individual as well as the race should demand ... freedom ... [from] germ diseases which might be handed down to the offspring. [and] ... epilepsy, and feeble-mindedness are handicaps which it is not only unfair but criminal to hand down to posterity” (Hunter, 1914, p. 261). Most of the diseases people were sterilized for by eugenicists for many reasons are not passed down to posterity, thus eugenic sterilizations ended up punishing innocent people for no valid reason.

This book, widely used in American public high schools for over thirty years, was the same textbook that John Scopes supposedly used as a substitute biology teacher when convicted of violating the law against teaching human evolution in public schools (Tontono, 2008). William J. Bryan recognized the nature of the book, thus his “overarching concern was the threat to society posed by extrapolations of evolutionary doctrine—namely social Darwinism and eugenics” (Tontono, 2008, p. 121). Contemporary

evolutionists tend to ignore the blatant racial statements of this book when they commemorate the trial.

The example Hunter (1914, p. 261) used to prove eugenics is the infamous (and now completely discredited) Jukes’ family history—which he calls a “notorious example” of a family “in which mental and moral defects were present in one or both of the original parents.” The text claims that the mother of the Jukes’ family was “the mother of criminals,” whose progeny cost the state over a million dollars, “besides giving over to the care of prisons and asylums considerably over a hundred feeble-minded, alcoholic, immoral, or criminal persons” (Hunter, 1914, pp. 261–262). To add weight to his argument, Hunter discusses yet another case, that of the Kallikak family, which has been traced to the marriage of Martin Kallikak and a “feeble-minded” woman. They had an alleged “feeble-minded” son whom the researchers counted had 480 descendants, of which 33 were labeled

sexually immoral, 24 confirmed drunkards, 3 epileptics, and 143 *feeble-minded*. 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 [sic], with *no* cases of feeble-mindedness. The evidence and the morals speak for themselves! (Hunter, 1914, pp. 262–263)

From this dubious example, it appears that social factors and Kallikak’s son’s wife were the cause of the putative feeble-mindedness, not Kallikak himself. Hunter claimed under the subheading “Parasitism and its Cost to Society,” that hundreds of families like the Jukes exist today, “spreading disease, immorality, and crime to all parts of this country,” and parasitic families “not only do harm to others by corrupting, stealing, or spreading disease.... They take from society, but they give nothing in return” (Hunter, 1914, p. 263).

Hunter then concluded that eugenics was the remedy to crime, poverty, and most other social problems, adding that if people like the Kallikaks:

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 ... 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. (Hunter, 1914, p. 263)

He concluded that eugenics has shown that “blood tells” inferiority (Hunter, 1914, p. 263).

Another widely used text in a chapter titled “Heredity, Eugenics, Euthenics: Some Family Histories,” repeats the Kallikak and Jukes family histories but adds Jonathan Edwards’s family as an example of “a superior family, the founder of which had sterling character and high mental ability” (Sanders, 1947, p. 435). This family produced a long line of doctors, professors, lawyers, authors, and other highly educated persons.

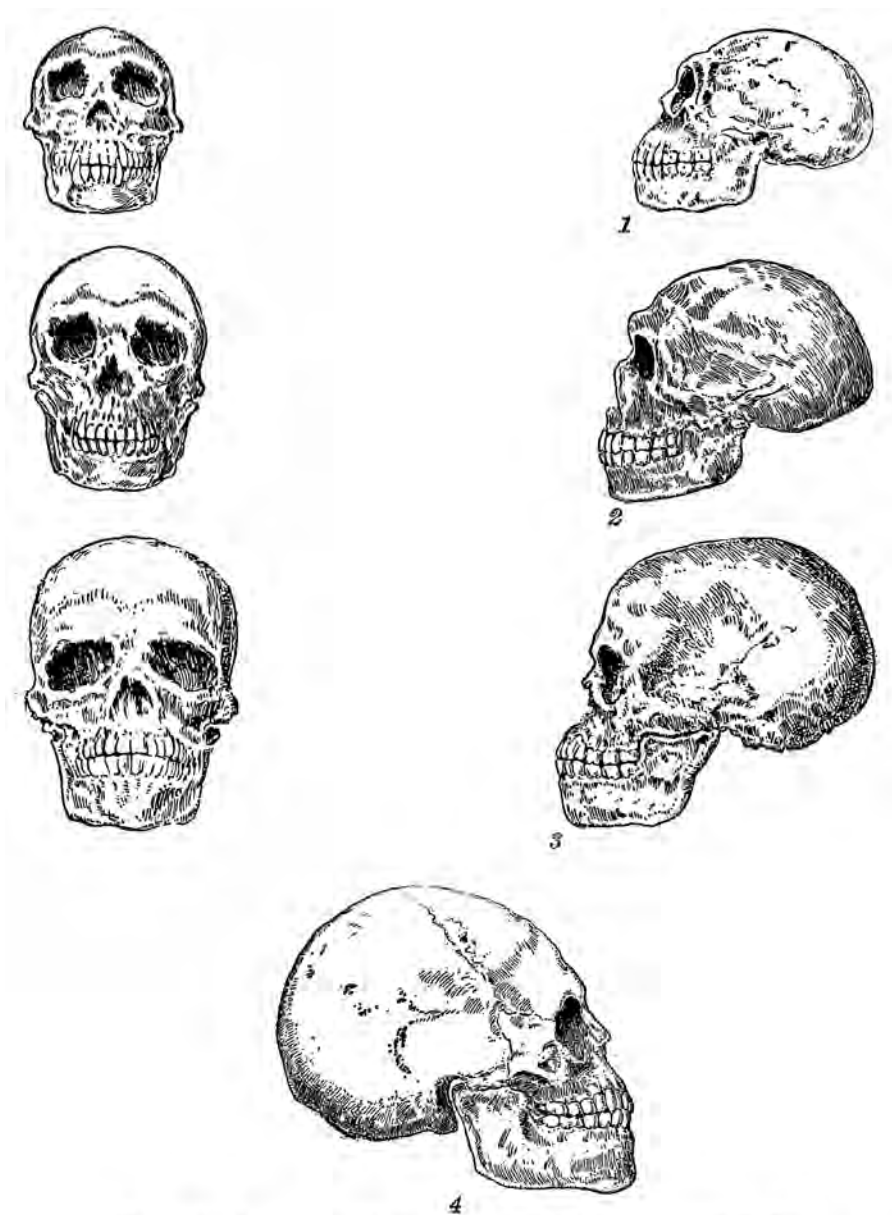


FIG. 256. Ancestors of man represented by remains of skulls

1, *Pithecanthropus erectus*, the "erect ape-man" of Java; 2, the Neanderthal man; 3, the negroid man of Laussel; 4, Nebraska glacial man. These four types represent successive advances in the evolution of the human races, although we must not think of them as a straight series of our ancestors. Compare the size of the brain at different stages of development: Pithecanthropus, 850 cc.; Piltdown, 1300 cc.; Neanderthal, 1600 cc.; modern man, 1500-1800 cc.

Figure 4. An early picture of the now disproven progression from apes to man. Figure 1 shows "Java Man," figure 2 Neanderthal man, figure 3 "Negroid man," and figure 4 "Nebraska man." The caption gives the brain size of Pithecanthropus as 850cc, Piltdown as 1300cc, Neanderthal as 1600cc and modern man as 1500-1800cc. Piltdown man has been proven to be a hoax and Neanderthal man and "Negroes" fully modern. Adapted from Gruenberg (1924, p. 493).

Some textbooks, such as *Evolution, Heredity and Eugenics* by University of Chicago professor John Coulter, were more tactful. This text noted that "destruction of the unfit" may be a more accurate summary of Darwinism than the more positive "survival of the fittest" (Coulter, 1916, p. 39).

A Half-Century of Indoctrination

Understanding the influence of textbooks on beliefs requires knowledge of the views of teachers on evolution. Some claim that as a result of the Scopes trial few teachers taught Darwinism or eugenics. For example, Branch claimed that after the Scopes trial "under the pressure of legislation, administrative decree, and public opinion, evolution quickly disappeared from textbooks and curricula across the country" (Branch, 2005, p. 5).

Unfortunately, few good studies were completed in the United States before and after the Scopes trial to determine what effect the trial actually had on evolution teaching. One of the largest studies was a 1942 survey that indicated the situation was very different than G. S. Simpson's (1997, p. 369) claim that "one hundred years without Darwin are enough," as well as Dobzanski's (1973) claim that "nothing in biology makes sense except in the light of evolution."

The survey was mailed during 1939-40 to teachers at nearly 16,000 secondary schools throughout the United States. The 59-item questionnaire was designed to evaluate biology instruction in America, and a major focus was to determine how evolution and eugenics was taught in the nation's high schools. The schools surveyed included all schools except those that had small or no biology science programs. Of the surveys sent 3,183 usable questionnaires were obtained, 2,900 from public schools, 99 from parochial, and 184 from private schools (Miller, 1942, pp. 7-8).

Eugenics

The survey authors stressed that it is critically important for both “social and political” reasons to teach “the genetic inequality of human beings” in biology classes (Riddle et al., 1942, p. 66). Riddle bemoaned the fact that teaching eugenics is “banned in communist Russia” and stressed that in a free society this important principle should be widely taught.

The study’s authors lamented the fact that eugenics and nontheistic evolution are not as widely taught as fact as they should be. They found that a mere 39 schools *emphasized* evolution, and only 31 emphasized eugenics. Subjects most emphasized were health and hygiene (N= 397) and physiology (N= 263).

A total of 2,191 schools taught “the genetic inequality of human beings” (Riddle et al., 1942, p. 66), compared to only 360 schools that did not. The “genetic inequality of human beings is taught by 85.9 percent of public, 64.7 percent of parochial, and 87.1 percent of private school teachers” (Riddle et al., 1942, p. 76). Religious schools were less likely to accept eugenics, evidently discouraged by belief in the biblical teaching that all humans descended from Adam and Eve.

The authors were encouraged by the percent of schools that *do* teach eugenics but concluded that its teaching is not very effective. As a result, biology instruction in America does not succeed in teaching “our youth this scientific truth of prime importance to social and political thinking” (Riddle et al., 1942, p. 67).

Teaching Organic Evolution

The study’s authors were also concerned about what they considered inadequate teaching of organic evolution. Of the public schools, 458 taught organic evolution as fact, 109 omitted teaching evolution entirely, and only 15 openly taught that evolution was false. In addition, 1,374 schools taught evolution as a “principle underlying plant, animal, and

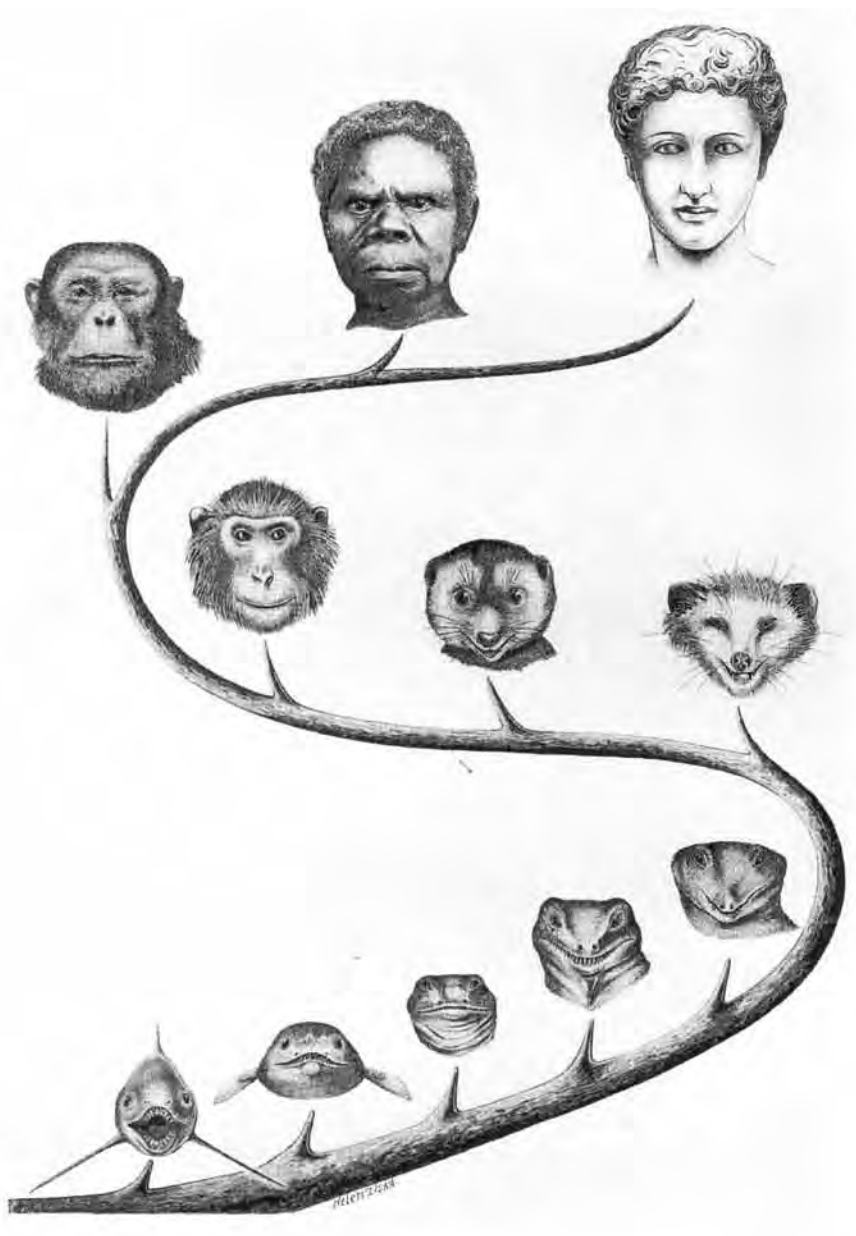


Figure 5. The Negro pictured between a chimpanzee and a white man. Adapted from Gregory (1929, Frontispiece).

human” origins (Riddle et al., 1942, p. 70). Only 79 teachers taught evolution as applying only to subhuman organisms, 892 as a scientific *hypothesis*, and 418 as an inference only. Thus, over half of the teachers surveyed taught evolution as the source of plant, animal, and human origins (Riddle et al., 1942, p. 71).

This indicates the falsity of the common claim that evolution was often not taught after the Scopes trial, at least until evolution was reintroduced after the embarrassing Soviet space program feats. The data imply that evolution was taught as fact by the majority of schools in the 1940s. Gallup polls over the last

40 years show that around half of all Americans do not accept the evolutionary explanation of origins, indicating that most people are not convinced by evolutionary teaching.

Although the authors admitted the questionnaire was flawed and that the low return rate was a problem, the study nonetheless revealed that a significant portion of schools taught evolution as

fact, especially in larger cities. They also concluded that these results were not as impressive as they appear because naturalistic evolution was, in their words, often “adulterated with theism.” For example, some teachers taught human-animal evolution “plus Divine Creation,” a response the author did not believe was science but theology. Only pure evolutionary naturalism was accept-

able. For this reason, they concluded that the principle of evolution (defined as atheistic or nontheistic evolution where God had no role in the process) is now taught “in notably less than half of the high schools in the United States” (Riddle et al., 1942, p. 75).

The most common reason evolution was not taught was due to community opposition. The second most common reason was due to the biology teachers’ personal beliefs (208 out of 843 teachers did not teach evolution according to Riddle’s definition), indicating they were creationists, and 381 did not teach evolution for other reasons.

Several respondents claimed that they did not teach evolution due to their study of science. Others saw no reason for introducing evolution, which they consider a “controversial subject” or “unimportant until more scientific ‘facts’ are produced.” A number of teachers felt that the time could be better used to teach in other areas: “Who cares about evolution, my students don’t; other topics are more important” (Riddle et al., 1942, p. 74). One teacher stated “if taught as hypothesis and not fact [there] would be little opposition anywhere,” and another noted that “controversial subjects are dynamite to teachers” (Riddle et al., 1942, p. 74). Also, 11 percent felt that it was not important, and 7 percent doubted the validity of evolution (Riddle et al., 1942).

One teacher noted the reason was because a “teacher’s place is not to break down what homes and churches have taught; besides it’s only a theory, not a fact” (Riddle et al., 1942, p. 74). Others stated that they do not teach evolution due to “bigoted ignorance of parents” (Riddle et al., 1942, p. 74). Many of the same reasons are given today. The authors concluded that those who stated they doubted the “truth of evolution” possessed “inadequate biological training.”

The authors concluded that “the principle of organic evolution [is] seri-

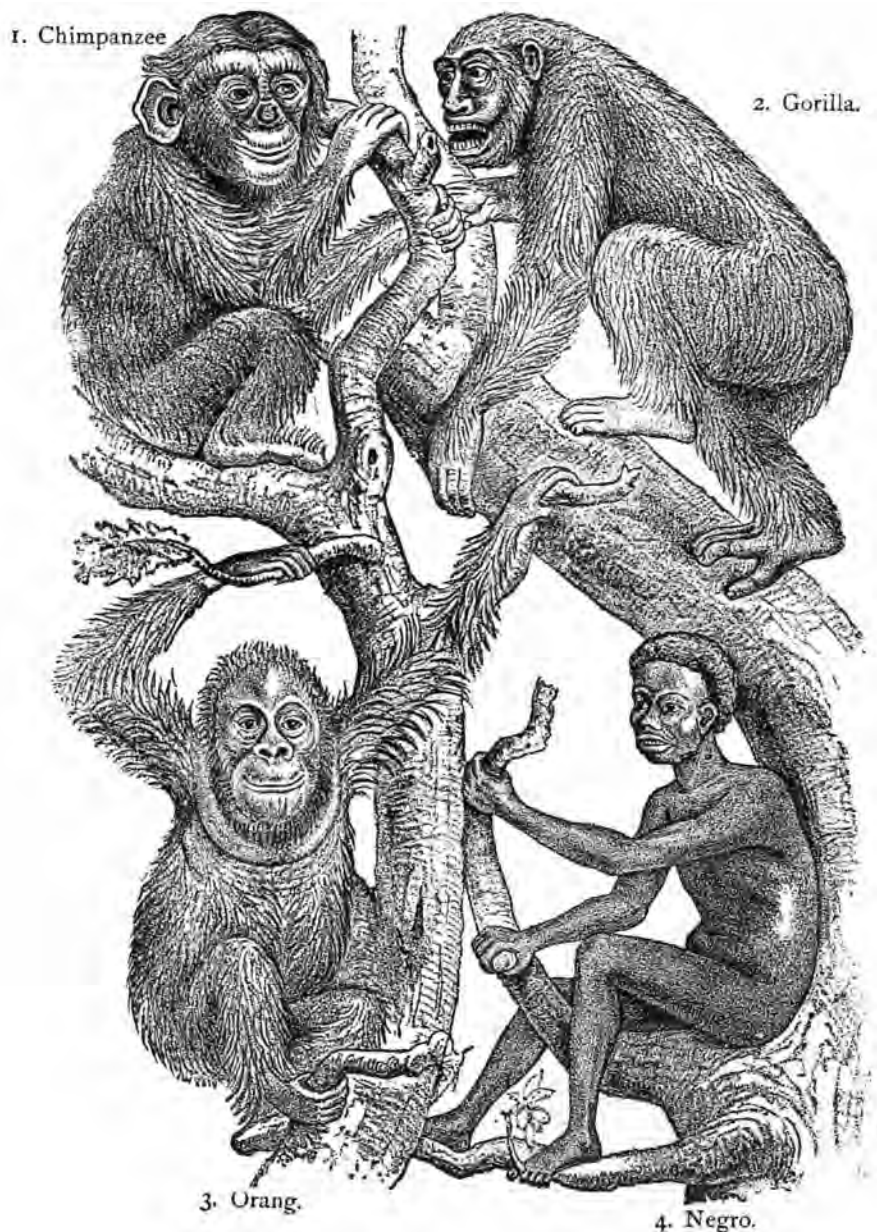


Figure 6. A Negro pictured next to an Orang, a Chimpanzee, and Gorilla. The racist implications are obvious. Adapted from Haeckel (1879, frontispiece).

ously [adversely] affected and restricted by the religious views of individuals and communities, is taught to one or another extent by about 50 percent of the teachers who replied to this questionnaire” (Riddle et al., 1942, p. 76). They argued that teaching nontheistic evolution is “essential” to effective biological instruction and encouraged teachers, administrators, and others to remedy what they considered a serious problem.

The reason they concluded it was critical to teach evolution was because the theory has significant social implications. Obviously referring to eugenics, they emphasized that “in an advanced country, in the twentieth century, there is incongruity and shame in the fact that many educational doors are locked against its intelligence, its personal, and its social implications” (Riddle et al., 1942, p. 75). More recent surveys are needed to determine what changes have occurred during the past sixty years. Very few teachers, if any, would support the teaching of eugenics today, yet the attitudes toward teaching evolutionary naturalism would probably be very similar to those in the 1940s.

Racism in Textbooks

Racism in College Biology Textbooks

Racism was also common in college textbooks. One major heredity text published both in English and German claimed that

compared with the European races, the Negroes certainly lack foresight. In general, a Negro is not inclined to work hard in the present in order to provide for wellbeing in a distant future. The Negro is more strongly influenced than Europeans by the immediate impressions of the senses, and is therefore much more strongly attracted by gewgaws ... he vacillates between a cheerful indifference and a hopeless depression.

E. Fischer writes of the Negro: “He is not particularly intelligent ... and above all he is devoid of the power of mental creation, is poor in imagina-

tion, so that he has not developed any original art and has no elaborate folk sagas or folk myths.” (Baur et al., 1931, pp. 628–629)

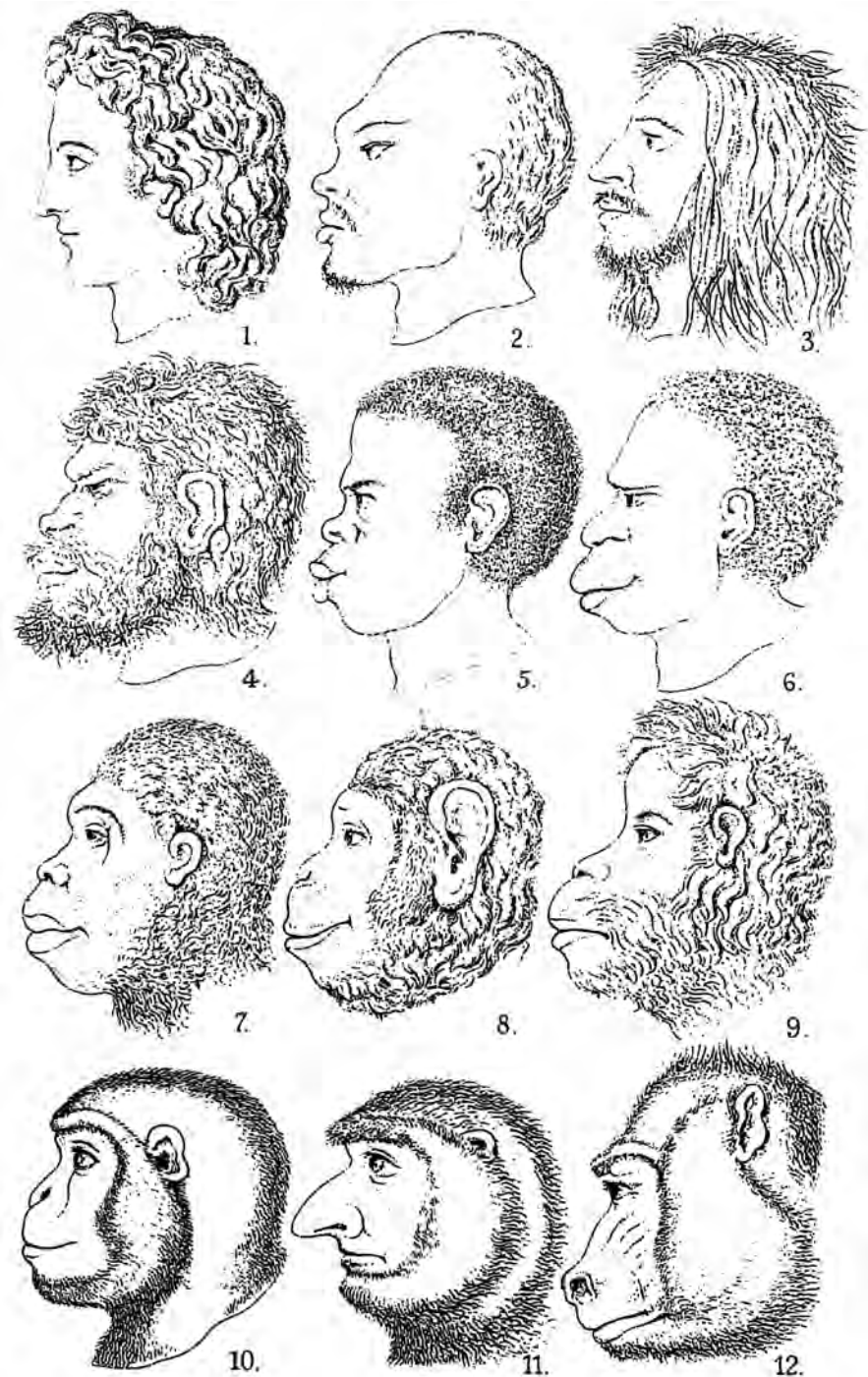


Figure 7. The illustration shows 6 human and 6 ape faces showing the gradual evolution of humans from apes. Note that the first human (number 6) is very similar to the most evolved ape (number 7). Adapted from Haeckel (1868, frontispiece).

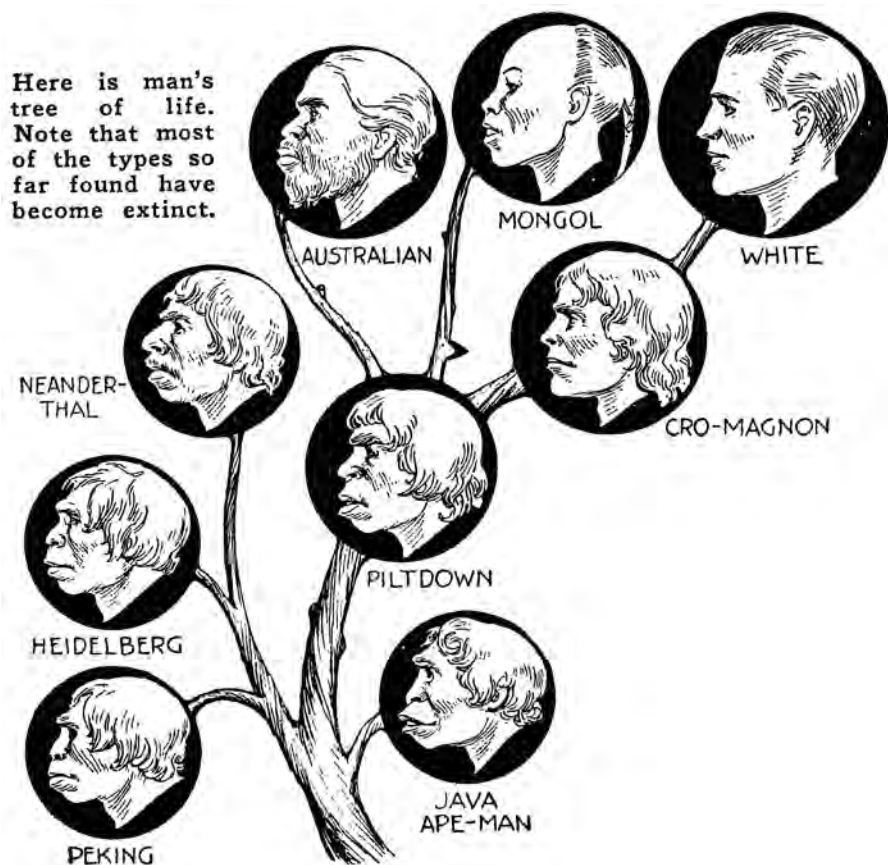


Figure 8. A human evolution "tree" showing the then common racist hierarchy. Whites are shown as being descended from Cro-Magnon and Mongols and Australians from Piltdown man, the latter now proven to be a hoax. The "negroes" are unexplainably absent from the tree. Adapted from Gregory and Mok (1931, p. 23).

As is obvious today, most all of these claims are false and without foundation. One college zoology text, which otherwise avoided discussing evolution, listed the average brain capacity of various races. For Caucasians it claimed to be 91 to 92 cubic inches; for Africans, 85, and for Australian aborigines, 75 to 79. The author then described the various apelike traits of "Negros" such as "prognathism" (a jutting ape-like jaw), and concluded that "the black and Australian races are slightly nearer the apes than civilized peoples" (Packard, 1894, pp. 309, 313). Packard (1894, p. 313) then claimed that in "civilized man the legs are one half the height of the body, but in the South Africans, Hottentots,

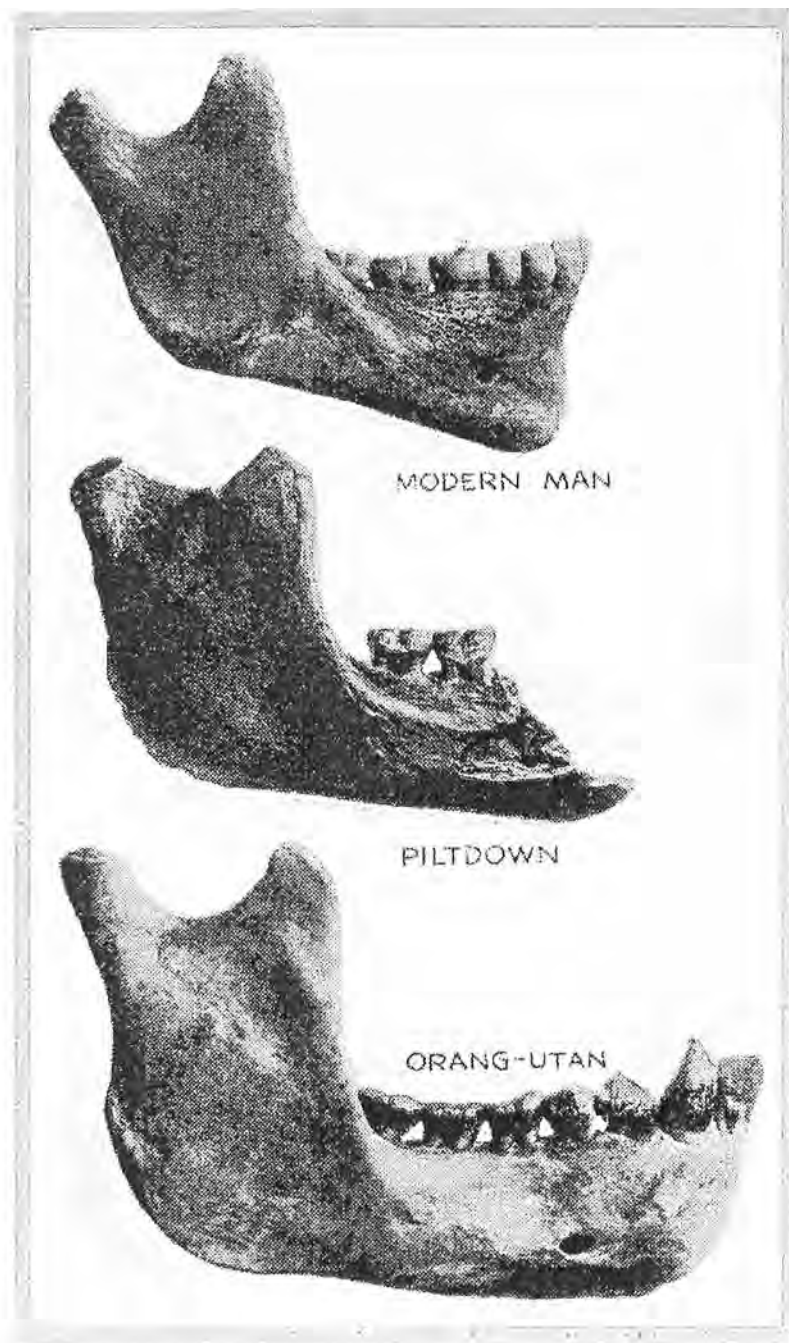
and Bushmen the legs are a little less than half the height, and the thigh-bone is flattened from side to side, as in the gorilla." He then covers the so-called *facial angle* that measures how far "the lower part of the face protrudes, as in the Negro, the face is said to be *prognathous*; where the facial angle is high, and the face straight, as in the more intellectual [life] forms, the cranium is said to be *orthognathous*" (Packard, 1894, p. 314).

One college anthropology text included several chapters on the extensive measurements of various human traits that unambiguously resulted in a ranking putting whites on top and blacks on bottom. The data show the brain size was 1230cc for Neanderthals, 1295cc

for Australians (noted as the most primitive living race), 1340cc for Negroes, 1452cc for Chinese, and 1500cc for the highest type, the Swedes (Wilder, 1926, pp. 212, 356). The author includes a phylogenetic tree of human race evolution (Wilder, 1926, p. 361).

Professor Newman, author of *Evolution, Genetics, and Eugenics*, defines evolution as "racial change," and concludes that "races are the *evolutionary units of life*" and "If there is no variation there can be no evolution" (Newman, 1932, pp. 190, 539; emphasis in original). He concludes that the human races are not equal, and racial equality is "supremely undesirable from the purely evolutionary point of view, because ... organic evolution ... depends upon the struggle between creatures possessing various variations and the consequent selection of those variations which constitute their possessors best adapted or fitted to the particular environment," i.e., the survival of the fittest (Newman, 1932, p. 539). Such claims are common in publications that focus on, or even discuss, Darwinism. He also included a chapter in his text by the infamous eugenist, Alfred Wiggam (1932).

Racism in today's biology books may be less pronounced than the examples quoted above, but the implications are clear. As late as 1957, University of Michigan professor Alfred Elliott (1957, p. 639) included a laudatory discussion of eugenics, which he defined as "the study of race improvement," in his widely respected zoology text. He claimed that if we ignore eugenics, "by the year 2000 the percentage of the population with an IQ of 115 or better will have been reduced from the current 12 percent to 7 percent, and the present 2 percent below 70 (moron, etc. group) will have doubled" (Elliott, 1957, p. 639). This prediction has failed. He also discussed the specific "dysgenic practices," which he concluded were contributing to this projected decline of human intelligence. One example



From top to bottom, jaw of a modern man, Pilt-down man, and orang-utan. A study of these shows how the ape jaw is shortened and slightly lightened in the Pilt-down specimen and has been reduced and given a chin in modern man.

Figure 9. The jaws from Orang-utan, also once believed to be the closest common ancestor to modern man, bridged by Pilt-down man, now proven to be a hoax. Adapted from Gregory and Mok (1931, p. 22).

was modern warfare, noting that in past centuries

the strongest, cleverest, and most intelligent men went into battle and the best of these survived to come home and become the fathers of the next generation. This was natural selection at work. Since the advent of gunpowder and subsequent deadly weapons, the strong and able are cut down equally with the less well endowed (Elliott, 1957, p. 641).

He added that modern militaries select the best men to operate the

complicated instruments of modern warfare, but these same men are also the best stock we have and their chances of becoming the parents of the next generation are much reduced when in service as compared to life at home. For the past several hundred years, then, we have been following a policy that is definitely contrary to natural selection and undoubtedly has had its influence in reducing the quality, not the quantity, of our stock (Elliott, 1957, p. 641).

In other words, he claimed that war prunes off the best, resulting in devolution (backwards evolution). In his text humans are called “stock,” as in livestock, and the “quality” of the stock is defined in animal terms.

Racism in School Reference Books

Typical of the views of the leading American educators at this time is an 1898 *Encyclopaedia Britannica* article that, under the heading “Negro,” stated “the nearly unanimous consent of anthropologists” is that Negroes occupy “the lowest position in the evolutionary scale.” As evidence for this conclusion, the author argued that the brain’s cranial sutures “close much earlier in the Negro than in other races.” This “premature ossification” prevented “further development of the brain.” Furthermore “many pathologists have attributed the inherent mental inferiority of the blacks, an

inferiority which is even more marked than their physical differences” to this putative “premature ossification.” The article concluded:

No full blooded Negro has ever been distinguished as a man of science, a poet, or an artist and the fundamental equality claimed for him by ignorant philanthropists is belied by the whole history of the race. (*Encyclopaedia Britannica*, 1898, p. 318)

Up until at least the 1903 edition, the *Encyclopaedia Britannica* also claimed that the world has never produced any “great” Negroes.

Racism in Textbook Illustrations

Textbook drawings depicting our supposed immediate ancestors, such as *Homo erectus* and *Homo habilis*, typically have very pronounced Negroid race characteristics—dark skin, kinky hair, and Negroid facial features. Modern

man (*Homo sapiens*), though, is often pictured as having light skin, straight hair, a flat forehead, a narrow nose, and small lips (Howell, 1965, pp. 157–158). Most of the drawings of “ape-men” and early or prehistoric humans show very pronounced Negroid traits (e.g., Constable, 1973, pp. 21, 29–31; White and Brown, 1973, pp. 8, 66; and the cover of the April, 1984 issue of *Science* 84).

The fact that certain Negroid facial features are closer to the facial characteristics of some primates (the flat nose, large lips, and sloping forehead, as well as the cheek and jawbone construction) than to white humans has lent superficial support to this contention. The fact that other Negroid features are less similar to primates than certain traits common among whites is often ignored. For example, most primates have white skin, straight hair, and large amounts of body hair as do many Caucasian

groups—whereas many blacks usually have dark skin, kinky hair, and a small amount of body hair.

Nazi-Sanctioned Textbooks

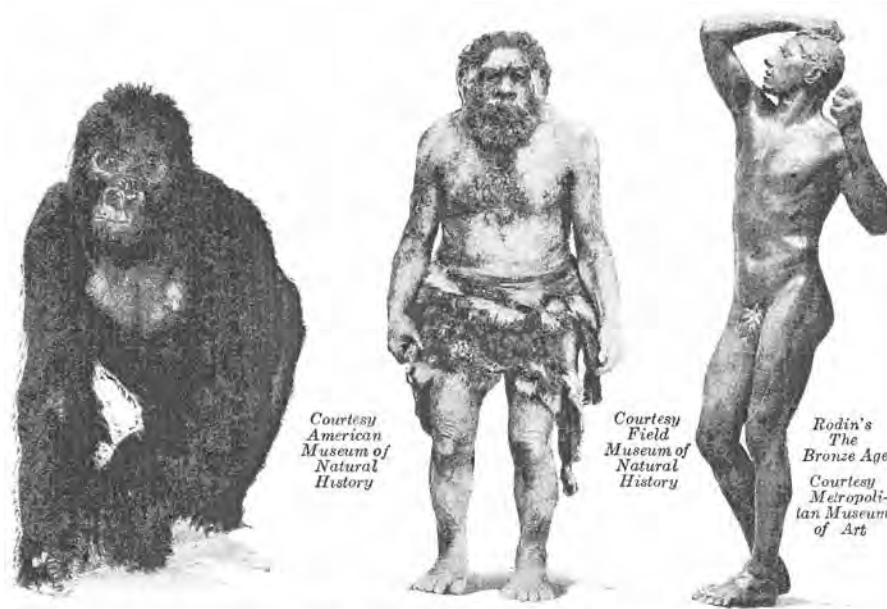
Darwinism Permeates Nazi Biology Textbooks

Numerous similarities related to teaching Darwinism also existed in Nazi Germany biology textbooks. After the Nazis took over Germany, biology instruction and textbooks rapidly became saturated with Darwinian evolution (Bendisoli, 1939; Wolf, 1944). In 1938 the Ministry of Education published an official school curriculum handbook that included a chapter on biology requirements (Linder and Lotze, 1938). The biology goals were developed by the Nazi Teachers’ League, which emphasized evolution, including the evolution of the human races.

The biology curriculum included teaching plant and animal evolution in grades three and four, and human evolution in grade five. The topics required for biology instruction in the upper grades included human evolution and the origin of human races (Linder and Lotze, 1937, pp. 239–246).

The guidelines repeatedly stressed that evolution was central to both the Nazi worldview and the biology curriculum. The curriculum specifically mandated a detailed coverage of evolution, including the evolution of human races by “selection and elimination” of the less fit races. It stipulated that students must accept as “self-evident this most essential and most important natural law of elimination [of the unfit] together with evolution” (Linder and Lotze, 1938, pp. 148–149). Eugenics, although introduced in geography and history, was

developed much further in biology. The teaching of racial studies and eugenics soon was required in designated classes. This order was



Three stages of evolution—the gorilla, nearest approach to man among animals, mounted by Carl Akeley; Neanderthal cave man, reproduced by Blaschke, and modern man depicted by Rodin.

Figure 10. Picture of a gorilla, then widely believed to be our closest living common evolutionary ancestor, to Neanderthal, now recognized to be another race of modern man, to modern man, as shown by French sculpture Rodin. Modern man is obviously a Caucasian. Adapted from Armstrong (1929, p. 19).

a bonanza for the extremists whose eugenics texts had gone unread for years. Hundreds of books and pamphlets were published for all levels of instruction. Written in turgid and propagandistic prose ... the books, after providing minimal introductions to genetics and prehistory, were dedicated almost entirely to a totally [we recognize now] unscientific definition of races and their supposed characteristics (Nicholas, 2005, pp. 84–85).

Teachers in the fifth grade were required to cover the emergence of primitive human races “in connection with the evolution of animals” (Linder and Lotze, 1938, p. 141). Eighth-grade students were taught evolution in far more detail, including the worldview of Darwin, and its political implications, as well as the origin and evolution of the human races. The material stressed that while the individual “is temporary, the life of the species to which it belongs is lasting,” and is ruled by the laws of evolution (Linder and Lotze, 1938, pp. 157).

Textbooks Mix Darwinism, Nazism, Racism

The close connection between Nazism and Darwinism was explained in detail in many of the Nazi biology textbooks (Kramp and Benl, 1936). One text, written for fifth-grade girls, after explaining that all life is “in a continual battle for survival,” added that the animal that does

not secure sufficient territory and guard it against other predators, or lacks the necessary strength and speed or caution and cleverness will fall prey to its enemies.... The battle for existence is hard and unforgiving, but is the only way to maintain life. This struggle eliminates everything that is unfit for life, and selects everything that is able to survive.... The laws of nature are built on a struggle for survival (Wiehle and Harm, 1942a, p. 168).



FIG. 258. Three stages in human development

Restorations to suggest the probable appearance of primitive types of human beings. From left to right, *Pithecanthropus erectus* (Java), *Homo neanderthalensis* (Germany), and the “Man of Cro-Magnon,” *Homo sapiens* (France). These photographs are of figures molded by Professor J. H. McGregor on the basis of fragments of primitive man discovered from time to time in various parts of the world

Figure 11. The evolution of man showing Java man, Neanderthal man, and modern man. Adapted from Gruenberg (1924, p. 495)

The implications of these ideas to Nazi war policy are obvious. The text then gave a set of examples to support the above claim, concluding that

every creature has to fight for its survival ... summarized in the principle: Each individual wants to maintain its existence in the struggle for survival (self-preservation instinct, fighting will, individuality) (Wiehle and Harm, 1942a, p. 168).

The text then added, “Mankind, too, is subject to these natural laws, and has won its dominant position through struggle” (Wiehle and Harm, 1942a, p. 169). Furthermore, each person must fight for his place in his community, and those who do not survive in the Darwinian

struggle for survival ... will perish. Our Führer tells us: “He who wants to live must fight, and he who does not want to fight in this world of perpetual struggle does not deserve to live!” (Wiehle and Harm, 1942a, p. 169, quoting *Mein Kampf*)

In part II the authors continue, noting that all living things that are successful

in the struggle for survival are not satisfied merely with existence, but seek to preserve their species as well. Here too is a drive that corresponds to natural law. Without this drive, species would long since have vanished.... Maintaining the species also is a struggle. The deer ruts in the fall and offers battle to other deer in competition for females. The stronger and cleverer deer passes on his inheritance. The rooster defends his status and his hens courageously. The battle for females selects the fittest (Wiehle and Harm, 1942a, pp. 169–170).

Furthermore, the “drive for maintaining the species is stronger than the instinct for self-preservation” (Wiehle and Harm, 1942a, p. 171). The text then details the importance of sacrificing one’s life for the Nazi state and evolution. Examples provided to support the Nazi goal of sacrificing one’s life for the Nazi state include the fact that a female rabbit defends her

young against hawks, often at the cost of her own life. A fox risks its life to secure food for its young.

The life of the individual can be sacrificed to assure the continuation of the species (The law of the species is stronger than that of the individual!) (Wiehle and Harm, 1942a, pp. 171–172).

This text then claims that among all living creatures a natural law exists: the production of numerous offspring. Nowhere on earth exists a life-form that produces only one or two offspring because that “would inevitably lead to extinction.” Therefore a

large number of offspring are an important means in the struggle for survival of the species. The house mouse can resist the field mouse simply through its larger number of young. In such instances, one can speak of a battle of births (Wiehle and Harm, 1942a, p. 172).

This argument was used by the Nazis to instigate their policy of encouraging German women by propaganda and awards, such as money and honors, to have large families. The Nazis also justified their wars for territory by Darwinism.

Each species strives to conquer new territory. The species goes before the individual. History provides us with enough examples to prove that mankind, too, is under this law. In the midst of their prosperity, the Romans lost the desire to have children. They sinned against the law of maintaining the species. Their state was undermined and overcome by foreign peoples.... Our nation, too, once hung in the balance. National Socialism restored to the German people the will to have children, and preserved our people from certain decline, which would have been inevitable under the law of species and the law of the greater number of offspring.

Here, too, we can recall the Führer’s words: “Marriage, too, cannot be an end in itself, but rather it must have the larger goal of increasing and maintaining the species and the race.

That only is its meaning and its task.” ... The goal of female education must be to prepare them for motherhood (Wiehle and Harm, 1942a, p. 172, quoting *Mein Kampf*).

In part III the text again stresses that humans “do not live as individuals like animals” do, but as a society that has “come together as ethnic states,” adding that

the individual has only one purpose: to serve the whole group. Major accomplishments are possible only by the division of labor. Each bee risks its life without hesitation for the whole. Individuals who are not useful or are harmful to the whole are eliminated. The species is maintained by producing a large number of offspring. It is not difficult for us to see the application of these principles to mankind: ... The ethnic state must demand of each individual citizen that he does everything for the good of the whole, each in his place and with his abilities.... “He who loves his people proves it only by the sacrifices he is prepared to make for it.”

If a person acts against the general interest, he is an enemy of the people and will be punished by law. A look at our history proves that we as a people must defend our territory to preserve our existence. “The world does not exist for cowardly nations” ... Military service is the highest form of education for the Fatherland. “The task of the army in the ethnic state is ... to serve as the highest school for education in service of the Fatherland” (Wiehle and Harm, 1942a, p. 173, quoting *Mein Kampf*).

The text concluded by stating that every “citizen of the nation must be ready to do all for the good of the whole, for the will of the Führer, even at the cost of sacrificing his own life.... The good of the nation goes before the good of the individual” (Wiehle and Harm, 1942a, p. 174). Furthermore, these

natural laws are incontrovertible; living creatures demonstrate them by their very survival. They are unforgiving. Those who resist them will be wiped out. Biology not only tells us about animals and plants, but also shows us the laws we must follow in our lives, and steels our wills to live and fight according to these laws. The meaning of all life is struggle. Woe to him who sins against this law: “The person who attempts to fight the iron logic of nature thereby fights the principles he must thank for his life as a human being. To fight against nature is to bring about one’s own destruction” (Wiehle and Harm, 1942a, p. 174, quoting *Mein Kampf*).

Government Darwinian Indoctrination

One of the leading authorities on biology pedagogy during the Third Reich was Paul Brohmer, a professor at Kiel Teachers College (Brohmer, 1933). His book *Der unterricht in der Lebenskunde (Instruction in the Life Sciences)* was part of a series devoted to “National Socialist Pedagogy in School Instruction” (Brohmer, 1943). Brohmer wrote that Nazi ideology was based on the laws of biology. After glorifying Darwin for inaugurating a “new, more fruitful era of biology,” he criticized Darwin for the individualism inherent in some of his writings because it reflected English liberalism. He believed that evolution should stress holism and collectivism rather than individualism. Brohmer stressed, however, that this criticism was not directed against evolution, which he fully accepted, just against certain parts of Darwin’s writings.

Another instructor of biology teachers, Ferdinand Rossner, in a book approved by the Nazi Ministry of Education, also pressed for extensive coverage of evolution and eugenics in all biology classes (Rossner, 1937, p. 100).

After the Nazis had sufficient time to revise the curriculum to correspond

to their ideological agenda, all higher-level German biology texts in the late 1930s and early 1940s included extensive discussion of evolution, including evolution of the human races and the biological ranking that evolution produced. The fourth volume of the 1942 edition of the officially endorsed textbook, *Biologie Für Oberschule und Gymnasium*, contained an entire chapter on evolution and its importance for the Nazi worldview (Graf, 1942, pp. 320–348).

Dr. Graf went beyond Darwinian evolution, stressing that evolution has proven humans were not specially created but rather are just another animal and that evolution, furthermore, substantiates the Nazi teaching of human inequality. In chapter 10, titled “Racial Science” (Graf, 1942, pp. 349–394), fifteen pages are devoted to human evolution and the common ancestors of humans and apes. He included illustrations of our racial lineage as documented by the evolution of the human skull (Graf, 1942, pp. 354–355). The text included much discussion of the Jewish “race” in contrast to the superior Aryan “race” (Graf, 1942, pp. 372–382).

In another biology text published in 1934, Europeans were

divided into five main racial types: Nordic, Dinaric, Alpine, Mediterranean, and Eastern/Baltic. Photographs and charts illustrated and compared physical characteristics. Needless to say, the best-looking and best-groomed were the Nordics. Eyes were compared, as were lips, chins, noses (Nordic—thin; Mediterranean—curved; Dinaric—quite fleshy; Eastern—thick, not curved; and so on), faces, heads, and body shapes. To this were added spiritual and intellectual qualities that ... naturally, demonstrated the superiority of the Nordic race (Nicholas, 2005, p. 85).

A leading biology text for *Mittelschule* with the official imprimatur of the Reich Ministry of Education gave extended attention to human evolution

(Wiehle and Harm, 1942b). Of the ten main chapters, two were on evolution and one was devoted exclusively to human evolution. The human evolution chapter alone comprised over 14% of the main part of the text.

One text that covered evolution and the origin of humans in detail recommended that students visit a zoo to view primates so as to reinforce what the text claimed was the close similarity between humans and apes (Wiehle and Harm, 1942b, p. 132). As this text made clear, all Third Reich German school children were to be taught that some lower primate was their evolutionary relative.

The Nazi Ministry of Education also published lists of books recommended for school libraries, and many of them taught Darwinism. One approved book by University of Berlin zoologist Richard Hesse, titled *Abstammungslehre und Darwinismus (Evolutionary Theory and Darwinism)*, was devoted to proving evolution. The 1936 edition contained a chapter titled “Evolutionary Theory is Valid Even for Humans” (Hesse, 1936b, pp. 48–55).

Later the same year, the Ministry of Education approved *Rassenpflege und Schule (Racial Care and School)*, wherein medical professor Martin Staemmler taught neo-Darwinian evolution of human races by mutation and natural selection. He also expounded on the racial struggle for survival and the important role of *Lebensraum* (the need for more living space to allow the Aryan race to expand) in that struggle (Staemmler, 1937, pp. 13, 32–36).

A separate section of many texts discussed Jews as an inferior race, “not a ‘pure’ race,” but rather a “complicated mixture of Oriental and Middle Eastern peoples” that “could easily be distinguished from the latter by their even fleshier noses” (Nicholas, 2005, p. 85).

The Meyer Text

A leading biology book published in Nazi Germany at about the same

time that Hunter’s book was in print, *Lebenskunde-Lehrbuch der Biologie für Höhere Schulen* (Life-Sciences-Biology textbook for high schools) (Meyer et al., 1940; Meyer et al., 1942), came to the same conclusion as the texts by Hunter, Coulter, and Sanders. Instead of “Negroes” it focused on “Jews” and “Gypsies” as examples of “inferior races.” This text concluded that “primitive races” that live in remote areas were “physically, as well as mentally, far behind the highly developed races ... The most highly developed races are the master races; greater aptitude enabled them to found superior cultures and civilizations” (quoted in Liebster, 2000, pp. 388–390).

The authors then claim that although all humans “are subject to the iron law of natural selection” and, in the past, natural selection had

exterminated men ill with severe inherited weaknesses; however, in modern culture these are retained and not prevented from proliferating.... Modern culture has worked against nature. It has chiefly perpetuated the survival and propagation of the weakly and sick to the detriment of the ... [race] (quoted in Liebster, 2000, pp. 288–390; italics in original).

Darwin made the same claim in his 1871 book.

The textbook also claimed that the Jews are “a racial mixture of parasitic nature” and that the “disharmony of the Jewish racial mixture” is proved by the frequency of certain diseases among Jewish-Gentile offspring. The authors then argue that the “most repugnant features of the Jewish people” are rooted in their mental

craftiness, physical and mental uncleanness, cruelty, greed, a distaste for physical labor, particularly the vocation of farmer or soldier. ... It is therefore right to view Jews as a parasitic nation or a racial mix of parasitic characteristics that causes its host nation only disadvantage and

spells disaster (quoted in Liebster, 2000, pp. 388–390).

Furthermore, the text author stressed that

it is our sacred and civil duty to protect our blood from being contaminated with alien blood, especially Jewish blood. No greater shame can be inflicted on the honor of the German nation than the breaking of this law (quoted in Liebster, 2000, pp. 388–390).

In addition, the “Gypsy nation is also a foreign body and consequently has to be rejected” (quoted in Liebster, 2000, pp. 388–390). The authors then agree that “racial reinvigoration of German blood” requires drastic action and that Nazi Germany recognizes the

mortal danger facing civilized nations due to a violation of fundamental laws of life, [and] has therefore as a consequence adjusted its policies toward armed combat of these dangers.... After the assumption of power by the National Socialism, our first concern was to protect the German nation from further increase of hereditarily ill individuals.... The passing in 1933 of the *Law for the Prevention of Hereditarily Diseased Offspring* stems from this desire (quoted in Liebster, 2000, pp. 388–390, italics in original).

The text concludes with the amazing statement that this new German “law is an immense blessing because it “removes the calamitous results in the absence of natural selection within modern culture and serves us with the aid of advanced science to keep our race clean in a humane way” (quoted in Liebster, 2000, pp. 388–390).

Many, if not most, German biology textbooks of the Nazi period came to similar conclusions. This is a major reason for the high level of the German people’s support for Nazism. Another reason for teaching Darwinism was that Hitler’s goal of “total militarization” required “acceptance of war as an inte-

gral part of a life of Darwinian struggle” (Blackburn, 1985, p. 117).

Conclusions

The texts reviewed above illustrate the typical racist ideas widely found in textbooks for close to a century after Darwin introduced his 1871 watershed work on human evolution. Many worse examples exist, as do a few that presented less objectionable discussion of race. It was a small leap from the ideas commonly found in these textbooks to the overt racism as practiced by the Ku Klux Klan, the Aryan Nation, and other hate groups during the period that these texts were widely used in public and in many private schools throughout the Western world. Many of these texts are still quoted by the Ku Klux Klan and in the literature from similar racist groups.

These texts have influenced millions of students, some of whom would become government officials, professors, judges and ministers. As a result, even some religious books, no doubt influenced by these widely used texts, contained racist overtones. In a book written for popular consumption to defend his views, Moser (1974, p. 51) used Scripture to support his conclusion that “it is only that Negro that has a mixture of white genes in his system that has risen to the level where he has produced on the level with the white race.” In a modern example, Ku Klux Klan leader David Duke used Darwinism to support his racist views, quoting well-known scientists to attempt to “harmonize” his religious views with science (Bergman, 2005).

This fact stresses the relevance of these old references in understanding our contemporary social problems. It will never be fully known how greatly these books influenced racist policies and attitudes during the turbulent period in America when racism was expressed in everything from blocked job opportunities to lynchings. Fortunately, less racism exists than otherwise might

because, after the Scopes trial, some textbooks reduced or eliminated all coverage of Darwinism (Witham, 2002). It is clear, though, that Darwinists made a major contribution to racism in America and Germany and other Western nations, just as later books refuting those racist ideas have had a major influence in the opposite direction.

The Nazis aggressively pushed the teaching of Darwinism in the schools during the entire time that they ruled Germany, just as is now being done in America and other nations (Klicka and Harris, 1992). In Germany, Darwinism indoctrination was part of the process to ready the population for the elimination of the Jews and other putative inferior races to achieve the goal of producing a superior race.

Racism, especially anti-Semitism, was a major Nazi policy, and Darwinism was part of the strategy the Nazis used to achieve this social goal (Wegner, 2002). Clearly, “Darwinism provided support for Nazi propaganda campaigns warning of the threat of Jewish blood to [the] German population” (Wegner, 2002, p. 71). They failed, and we today view their attempt as one of the worst acts of inhumanity in history; yet the West is pursuing a Darwinian indoctrination policy today that is very similar to that of Nazi Germany.

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References

- Armstrong, O. 1929. Beating the evolution laws. *Popular Science Monthly*. 115(3):17–19, 134–135.
- Baur, E., E. Fischer, and F. Lenz. 1931. *Human Heredity*. Macmillan, New York, NY.
- Bendiscioli, M. 1939. *Nazism versus Christi-*

- anity. Skeffington & Son, Ltd., London, England.
- Bergman, J. 2005. Darwinism's influence on modern racists and white supremacist groups: the case of David Duke. *Journal of Creation* 19(3):103–107.
- Blackburn, G.W. 1985. *Education in the Third Reich: A Study of Race and History in Nazi Textbooks*. State University of New York Press, Albany, NY.
- Brohmer, P. 1933. *Biologieunterricht und völkische Erziehung*. Verlag Moritz Diesterweg, Frankfurt am Main, Germany.
- Brohmer, P. 1943. *Der Unterricht in der Lebenskunde*, 4th ed. A.W. Zickfeldt, Osterwieck-Harz, Germany.
- Branch, G. 2005. The battle over evolution: how geoscientists can help. *The Sedimentary Record* 3(3):4–8.
- Burleigh, M., and W. Wippermann. 1991. *The Racial State: Germany 1933–1945*. Cambridge University Press, Cambridge, UK.
- Constable, G. 1973. *The Neanderthals*. Time-Life Inc, New York, NY.
- Coulter, J.M. 1916. *Evolution, Heredity, and Eugenics*. School Science, Bloomington, IL.
- Darwin, C. 1859. *Origin of Species*. John Murray, London, UK.
- Darwin, C. 1871. *The Descent of Man*. John Murray, London, UK.
- Dobzhansky, T. 1973. Nothing in biology makes sense except in the light of evolution. *American Biology Teacher* 35:125–129.
- Elliott, A. 1957. *Zoology*, 2nd ed. Appleton-Century-Crofts, New York, NY.
- Encyclopaedia Britannica*. 1898. Negro. *Encyclopaedia Britannica*, 17:316–318. The Werner Co., New York, NY.
- Gobineau, A., de. 1966. *The Inequality of the Races: The Pioneering Study of the Science of Human Races*. Translated by Adrian Collins. Noontide, Los Angeles, CA.
- Graf, J. 1942. *Biologie für Oberschule und Gymnasium*, vol. 4: Ausgabe für Knabenschulen. J.F. Lehmanns Verlag, Munich, Germany.
- Gregory, W. 1929. *Our Face from Fish to Man: A Portrait Gallery of Our Ancient Ancestors and Kinfolk Together With a Concise History of Our Best Features*. G.P. Putnam Sons, New York, NY.
- Gregory, W., and M. Mok. 1931. How Man-Apes became men. *Popular Science Monthly*. 119:22–24 134–135.
- Gruenberg, B. 1924. *Elementary Biology*. Ginn and Company, Boston, MA.
- Haeckel, E. 1868 *Natürliche Schöpfungsgeschichte*. Georg Reimer, Berlin, Germany.
- Haeckel, E. 1879. *The Evolution of Man: A Popular Exposition of the Principal Points of Human Ontogeny and Phylogeny*. D. Appleton, New York, NY.
- Hesse, R. 1936a. Verzeichnis der zur Beschaffung für Schulbüchereien (Lehrer- und Schülerbüchereien) geeigneten Bücher und Schriften. *Deutsche Wissenschaft Erziehung und Volksbildung: Amtsblatt des Reichsministeriums für Wissenschaft, Erziehung und Volksbildung und der Unterrichtsverwaltungen der Länder* 2:515.
- Hesse, R. 1936b. *Abstammungslehre und Darwinismus*, 7th ed. B.G. Teubner, Leipzig, Germany.
- Howell, F.C. 1965. *Early Man*. Time-Life Books, New York, NY.
- Hunter, G.W. 1914. *A Civic Biology*. American Book Co., New York, NY.
- Kramp, P., and G. Benl. 1936. *Vererbungslehre, Rassenkunde und Rassenhygiene: Lehrbuch für die Oberstufe Höherer Lehranstalten* 2 vols. Leipzig, Germany.
- Klicka, C., and G. Harris. 1992. *The Right Choice: The Incredible Failure of Public Education and the Rising Hope of Home Schooling*. Noble Publishing Associates, Gresham, OR.
- Larson, E.J. 1989. *Trial and Error: The American Controversy over Creation and Evolution*. Oxford University Press, New York, NY.
- Liebster, S. 2000. *Facing the Lion*. Grammaton Press, New Orleans, LA.
- Linder H., and R. Lotze. 1937. Lehrplanentwurf für den biologischen Unterricht an den höheren Knabenschulen. Bearbeitet im Auftrag des NSLB. Reichsfachgebiet Biologie. *Der Biologe* 6.
- Linder H., and R. Lotze. 1938. *Erziehung und Unterricht in der Höheren Schule: Amtliche Ausgabe des Reichs- und Preussische Ministeriums für Wissenschaft, Erziehung und Volksbildung*. Weidmannsche Verlagsbuchhandlung, Berlin, Germany.
- Meyer, E., and K. Zimmermann. 1940. *Lebenskunde: Lehrbuch der Biologie für höhere Schulen*, vol. 2. Kurt Stenger, Erfurt, Germany.
- Meyer, E., K. Zimmermann, and W. Ditrach. 1942. *Lebenskunde-Lehrbuch der biologie für Höhere Schulen (Life-Sciences-Biology Textbook for High Schools)*. Kurt Stenger, Erfurt, Germany.
- Miller, D.F. 1942. In Riddle, O., F.L. Fitzpatrick, B. Glass, B.C. Gruenberg, D.F. Miller, and E.W. Sinnott. *The Teaching of Biology in Secondary Schools of the United States: A Report of the Results from a Questionnaire*. The Committee on the Teaching of Biology of the Union of the American Biological Societies. Published as amount and nature of biology teaching in secondary schools: data from a questionnaire. *The American Science Teacher* 4(5):150.
- Morris, H.M. 1973. *Evolution and Modern Racism*. Impact Series No. 7. ICR, San Diego, CA.
- Morton, S.G. 1854. *Types of Mankind*. Lipincott, Grambo, Philadelphia, PA.
- Moser, M.L. 1974. *The Case against Integration*. The Challenge Press, Little Rock, AR.
- Newman, H. 1932. *Evolution, Genetics, and Eugenics*. University of Chicago Press, Chicago, IL.
- Nicholas, L.H. 2005. *Cruel World: the Children of Europe in the Nazi Web*. Alfred A. Knopf, New York, NY.
- Packard, A.S. 1894. *Zoology*, 6th ed. revised. Henry Holt, New York, NY.
- Riddle, O., F.L. Fitzpatrick, B. Glass, B.C. Gruenberg, D.F. Miller, and E.W. Sinnott. 1942. *The Teaching of Biology in Secondary Schools of the United States: A Report of the Results from a Questionnaire*. The Committee on the Teaching of Biology of the Union of the Ameri-

- can Biological Societies. Published as Amount and nature of biology teaching in secondary schools: data from a questionnaire *The American Biology Teacher* 4(5):150.
- Ridley, M. (editor). 1997. *Evolution*. Oxford University Press, New York, NY.
- Rossner, F. 1937. *Der Weg zum ewigen Leben der Natur: Gegenwartsfragen der biologischen Lebenskunde*, 2nd ed. Verlag von Julius Beltz, Langensalza, Germany.
- Sanders, E. 1947. *Practical Biology*. D. Van Nostrand, New York, NY.
- Shirer, W. 1960. *The Rise and Fall of the Third Reich*. Simon and Schuster, New York, NY.
- Simpson, G.G. 1997. One hundred years without Darwin are enough. In Ridley, M. (editor), *Evolution*, pp. 369–378. Oxford University Press, New York, NY.
- Staemmler, M. 1937. *Rassenpflege und Schule*, 3rd ed. Hermann Beyer und Söhne, Langensalza, Germany.
- Steinwehr, A., and D.G. Brinton. 1881. *Intermediate Geography with Lessons in Map Drawing*. Van Antwerp, Brag & Co., New York, NY.
- Tontono, M.J. 2008. The Scopes Trial revisited: social Darwinism versus social gospel. *Science as Culture* 17(2):121–143.
- Wegner, G. 2002. *Anti-Semitism and Schooling Under the Third Reich*. RoutledgeFalmer, New York, NY.
- White, E., and D. Brown. 1973. *The First Men*. Time-Life, New York, NY.
- Wiggam, A.E. 1932. Does heredity or environment make men? In Newman, H., *Evolution, Genetics, and Eugenics*, pp. 491–507. University of Chicago Press, Chicago, IL.
- Wiehle, H., and M. Harm. 1942a. *Lebenskunde für Mittelschulen. Fünfter Teil. Klasse 5 für Mädchen*. Hermann Schroedel Verlag, Halle, Germany.
- Wiehle, H., and M. Harm. 1942b. *Lebenskunde für Mittelschulen*, vol. 6: Klasse 6 für Jungen Hermann Schroedel Verlag, Halle a.d. Saale, Germany.
- Wilder, H.H. 1926. *The Pedigree of the Human Race*. Henry Holt, New York, NY.
- Witham, L. 2002. *Where Darwin Meets the Bible*. Oxford University Press, New York, NY.
- Wolf, A. 1944. *Higher Education in Nazi Germany*. Methuen, London, UK.