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Evolutionary Narratives and American Ideological Tropes: The End of Progress

Agnieszka M. Soltysik

When we think of Darwin's impact on American social thought in the nineteenth century, we think of Social Darwinism and the racist anthropology it promoted and of the hierarchical model of social progress on which both of these discourses depend. Yet none of these ideas originated with Charles Darwin. European thought had cherished the idea of a racial hierarchy with European civilization on top since the advent of secular humanism, and since at least the eighteenth century, this hierarchy had been imagined as the culmination of a steadily progressing social evolution. Even Thomas Jefferson, amateur natural scientist, revolutionary, arm-chair abolitionist, and bedside enemy of racial purity, was not too proud or scientifically fussy to embrace a strict hierarchy of races, with the European white on top, the hopelessly unredeemable African near the bottom, and the noble, eloquent, and therefore perfectible Native American somewhere near the middle. As for the natural sciences, Erasmus Darwin, Charles's grandfather, already had a concept of biological evolution as early as 1794, and although it was theistic, Lamarckian, and lacked the idea of natural selection, it clearly laid the groundwork for Darwin's research.¹ Moreover, in 1793, Thomas Robert Malthus published his notorious *An Essay on the Principle of Population*, where he suggested that poverty, starvation, and disease were necessary checks on the exponential growth of populations. Though admittedly Darwin cites Malthus as a key influence on his development of the theory of natural selection, it

¹ For example, Erasmus Darwin asked in 1794: "Would it be too bold to imagine that, in the great length of time since the world began to exist, perhaps millions of ages before the commencement of the history of mankind . . . that all warm-blooded animals have arisen from one living filament, which the great First Cause endued with animality . . . and thus possessing the faculty of continuing to improve its own inherent activity and of delivering down these improvements by generation to its posterity, world without end?" (Hartung 71).

bears saying that a ruthless biological justification of social neglect of the disadvantaged did not need Darwinism in order to be conceived.

Nonetheless, Darwin's theory of natural selection, though frequently misunderstood, was an important presence in late nineteenth-century ideological and social thought. Richard Hofstadter, in his 1944 study *Social Darwinism in American Thought*, argues that Darwin had an important impact above all on social conservatism, buttressing and shoring it up intellectually. This is still a widely shared view, though it has been questioned in recent years, with some historians preferring to play down the personal impact of Charles Darwin, arguing instead that *laissez-faire* capitalism already had all the legitimization it needed in the legacies of Adam Smith, Benjamin Franklin, and other existing political discourses. Another revisionist account of Darwin's reception in the 1860s and 70s is that Darwin was a product of his age rather than a seminal influence on it. Charles Sanders Pierce, known to us as the founder of pragmatism, had already suggested this in 1902, when he argued that *The Origin of Species* "merely extends politico-economical views of progress to the entire realm of animal and vegetable life" (180). Furthermore, he attributed the "extraordinarily favorable reception" Darwin's work met with to "its ideas being those toward which the age was favorably disposed, especially because of the encouragement it gave to the greed-philosophy" (182). This brings us back to the Hofstadter thesis, since Darwinism is seen as promoting the political philosophy of *laissez-faire* capitalism as well as being derived from it. Issues of ideological influence are notoriously vexed and risk turning into a riddle of the chicken and the egg. What I will do in this essay, rather than arguing that Darwin influenced American ideological narratives or tropes directly, is to describe several points of contact between the two discourses, such as Turner's frontier thesis and the Chicago World Fair in 1893, the rhetoric of the eugenics movement, the pessimistic primatological narratives of the 1960s, and finally, the current transformations in our understanding of the "human" thanks to contemporary evolutionary and genetic research. The key concept that I focus on to link these "sites" of discursive interface is "progress," probably the most important and most frequently misunderstood term in Darwinian theory. Since the term "American ideological tropes" covers a wide range of cultural territory, I have tried to achieve a balanced sampling of sources by choosing both influential texts of American social theory and popular culture events such as world fairs and well-known films.

The best place to begin is by clarifying some terms that are particularly problematic in the history of Darwin's reception. For example, the two terms

most often associated with Darwin, “evolution,” and “survival of the fittest,” come not from Darwin but from Herbert Spencer, the British philosopher, religious thinker, and founder of sociology. Evolution means “unfolding over time,” with an implied progressive movement forward, which Spencer explicitly embraced, and Darwin explicitly resisted, though he eventually adopted the term simply because it had become so popular and widely associated with his work after Spencer began to cite it as proof of his notion of “cosmic evolution,” a very different process, in which everything from galaxies to human societies is supposedly evolving to ever higher, better, and more complex states. Though apparently “optimistic” in theory, Spencer’s philosophy was the intellectual cornerstone of Social Darwinism, since its practical application meant a thoroughly *laissez-faire* policy toward the economy and social welfare. According to Spencer’s reasoning, helping the poor was unnatural and destructive both for them and for the human race in general. Since evolution meant survival of the fittest, a term Spencer coined in 1852, it helped no one to artificially help the “unfit” to survive. This argument found great favor in the latter decades of the nineteenth century, forming the ideological backbone of Social Darwinism, but had little to do with Darwin, who did not believe that progress was a necessary or inevitable function of the process that came to be known as evolution. Darwin understood natural selection to work as a function of local environmental circumstances, which were relative and changeable, and therefore, being adapted or “fit” was a relative and not an absolute characteristic. Nothing in Darwin’s understanding of evolution implied a gradual and inevitable movement forward, the way Spencer and Darwin’s many other popularizers assumed, which is probably why Darwin was personally never as popular in the United States as Spencer was, whose progressive evolution was easier to reconcile with a religious framework on the one hand, and with the ideological narratives that stressed progress as an inevitable fact of technological and social change, on the other.

Since progress was viewed as a self-evident fact of life, the main differences that existed in ideological applications of this apparent truth were based on questions of time-scale and method. For example, people who believed that progress was a slow and painstaking and inevitable process, like Spencer, objected to policies that helped the poor and so-called unfit on the grounds that they were either a waste of money or a menace to the human race. Andrew Carnegie’s famous essay on “Wealth” adopts this argument, along with the idea that “all progress from that barbarous day [of tribal “communism,” as exemplified by the Native American] to the present time”

has resulted from individualism, the right of the individual to accumulated wealth and private property through competition (128-9). While Carnegie did not object to private philanthropy, he regarded social welfare not only as destructive to the intended beneficiaries, but as an attack upon the "laws of civilization" itself (129).

If Spencerian Social Darwinists like Carnegie viewed inequality as an inevitable and even beneficent fact of life, other social thinkers, especially Progressives relying on principles loosely called Reform Darwinism, believed that society could and should be improved by means of policies and institutions devised by scientists, sociologists, and reformers. Many Reform Darwinists were actually Lamarckians and thus believed in accumulated improvements over generations rather than natural selection. Since they often assumed that the "improvement" towards which man was heading was the development of the "higher" qualities, such as altruism, intelligence, and cooperation, rather than cunning, strength, and ruthless competition, promoting these superior qualities through reform and social welfare could accelerate social evolution toward a better race of man.

The Harvard-trained lawyer and Herbert Spencer's tireless promoter, John Fiske, actually managed to turn Spencerian Social Darwinism into a doctrine of Christian benevolence and redemption. In 1899, Fiske wrote, "Below the surface din and clashing of the struggle for life we hear the undertone of the deep ethical purpose, as it rolls in solemn music through the ages, its volume swelled by every victory, great or small, of right over wrong, till in the fullness of time, in God's own time, it shall burst forth in the triumphant chorus of Humanity purified and redeemed" (Wilson 123). Through the combined aesthetic and scientific metaphors of an ascending scale and a mounting wave, Fiske seamlessly conflated a Christian teleology with an image of evolutionary progress. Similarly, the word "purified" here resonates in two completely different registers, the traditional Christian one and the new discourse of racial hygiene, which had emerged from anthropological and sociological discourses. This racial connotation is reinforced by Fiske's description of the process of civilization as one in which Man becomes "more and more clearly the image of God" as he evolves from the "primitive canoe to the Cunard steamship" (122). To sum up, although Darwinism was readily appropriated by conservatives and reformers alike, its application to racial narratives was considerably less ambivalent in its implications. No longer the "noble savages" of Romantic thought, Native Americans and other non-Europeans had become the children of humanity, anachronistic vestiges of an earlier stage of human development, locked into a

phase of social and spiritual arrested development, closer to gorillas than to God.

One common figure for this linear model of human civilization was the page of history, which assumes a sequential progress from beginning to end, the way a line of text must be read in only one direction. Frederick Jackson Turner's Frontier Thesis is a variation of this trope, which reads American history as the history of human civilization writ large across the North American Continent. In his famous 1893 address, "The Significance of the Frontier in American History," Turner argues that

the United States lies like a huge page in the history of society. Line by line as we read this continental page from West to East we find the record of social evolution. It begins with the Indian and the hunter; it goes on to tell of the disintegration of savagery by the entrance of the trader, the pathfinder of civilization; we read the annals of the pastoral stage in ranch life; the exploitation of the soil by the raising of unrotated crops of corn and wheat in sparsely settled farming communities; the intensive culture of the denser farm settlement; and finally the manufacturing organization with city and factory system. (186)

While this description of the history of civilization did not rely on Darwinism directly, Turner's thesis also implied that the American is a product of a kind of accelerated micro-evolution, which takes the European back to the earliest stage of civilization and fast-forwards him through the stages of social development so that he is reborn, or re-evolved, as an American. This process alludes to the Darwinian notion of adaptation, since Turner imagines that the American "environment is at first too strong for the man. He must accept the conditions which it furnishes, or perish, and so he fits himself into the Indian clearings and follows the Indian trails," thereby demonstrating the capacity to adapt and proving his "fitness." Then, Turner proceeds to appropriate the best of both worlds for his hypothetical American, because once he has proved his fitness by adapting to his new environment, he proceeds to transform it according to his needs, while at the same time being transformed by it into "a new product that is American." Thus, the American frontier, the site of a "recurrence of the process of evolution in each western area reached in the process of expansion," is a kind of evolution factory, where the speeded-up process transforms Europeans into successive generations of reborn and improved Europeans called Americans (185).

Turner's thesis is not very clear on the status and role of African Americans and other non-Europeans in this narrative of progress, but another trope that was universally circulated at that time was much clearer and more brutal

in its classification system, and that was the racial ladder. This iconic representation of what was supposed to be human social development, a hierarchical ladder of human populations with the European always on top, was based on at least two misunderstandings. The first was a confusion between phylogenetic and ontogenic development, which conflated the history of human history with individual human maturation, so that technologically lower-ranking human populations were regarded as more child-like than technologically higher-ranking populations. The idea of non-white races as childlike had already been mobilized against American blacks during the ante-bellum period. There, the trope of the plantation as family had been deployed to represent slaves as children to the paternalistic plantation master, in whose care they were supposedly placed for their own good.² However, there was no implication that they would ever grow up, individually or as a people, nor that their position could ever be anything other than servitude and dependence. Post-Civil War racism was a combination of this kind of ante-bellum condescension with Reconstruction hostility, shored up with anthropometry and pseudo-Darwinism. The racial ladder trope relegated African Americans to the bottom of the ladder and continued to attribute childlike features to them, but added the brutality, sensuality, and moral insensibility associated with animals. The idea that non-whites were less "mature" than Europeans and Americans, individually as well as a people, was now extended to include a broad range of populations, including Native Americans and Latin Americans (who were regarded as racial hybrids of the already inferior Spanish race with indigenous Indian or African slave populations). Michael Hunt has studied how these images were used to manipulate public opinion about U.S. foreign policy toward Latin American countries during and after the Spanish-American War. For example, the three principal tropes used to represent Latin Americans in political rhetoric and cartoons were all variations on the idea of Latin American as child. One was a direct extension of the Southern pro-slavery iconography and featured the Latin American as an undisciplined black child. Another image figured the Latin American as half-breed brute and was invoked to justify American aggressiveness or aloofness, as need be, according to Hunt. The third figured

² A typical example of this argument can be found in George Fitzhugh's *Sociology for the South; or, the Failure of Free Society* (1854), where he explicitly compares blacks to children and suggests that the plantation master stands in *loco parentis* to his slaves.

the Latin American as a young woman, who either needed the protection of the gallant Uncle Sam or the big sisterly help of Miss Columbia.³

The second misunderstanding related to the racial ladder icon concerned the term "race." The semantic meaning of race as in "human race" had a tendency to become confused with the mythical category of "Anglo-Saxon," as opposed to African, Oriental, Mediterranean, Slav, or other.⁴ This misapplication of the term had deployments as insidious and complex as the first. Although Darwin himself had opposed slavery and insisted that racial differences were not as significant as many of his contemporaries claimed, his work did little to challenge the prevailing hierarchy of races, and the misleading subtitle to *The Origin of Species*, which referred to the "preservation of favoured races in the struggle for life" did little to dispel the myth of race as scientific fact. The most dangerous aspect of the conflation of race as species with race as human population was the interpretation of the term "survival of the fittest" to mean a struggle between races, as between blacks and whites, or Native Americans and Europeans. Whenever the term "race" was understood in this way, it spelled disaster for the people viewed as threat, obstacle or simply biological second class. A study published in 1896 by the American Economic Association, "Race Traits and Tendencies of the American Negro," written by a statistician named Frederick L. Hoffman, argued that blacks were doomed to extinction due to social inefficiency and declining fertility. Invoking Social Darwinist reasoning against welfare to the poor, Hoffman cast the argument in racial terms: "To aid the least fit in the struggle for life is only an impediment to the progress of the stronger race" (191). What the weaker race needs, according to Hoffman, is to be left alone to progress or perish as it will according to the principle of natural selection.⁵ Helping poor foreign populations such as in the Caribbean represented a "wasting of resources of the richest of the earth through the lack of the elementary qualities of social efficiency in the races possessing them" (192). Here Hoffman alludes to America's growing imperial interest in its

³ According to craniometry and related discourses, adult women were closer to children than to adult males. The racial ladder of human development situated them somewhere between white men and blacks, sharing with the latter the childlike qualities of emotionalism, capriciousness, sensuality, and moral unaccountability. All three images are discussed and illustrated in Hunt's chapter on "The Hierarchy of Race."

⁴ For a discussion of "Anglo-Saxonism" see Hofstadter 172-184 and Hunt 77-91.

⁵ Booker T. Washington said he felt as if he had just read his "own funeral sermon," when he finished the book, but acknowledged that he basically agreed with Hoffman's philosophy of economic self-help (11 January 1896, *American Economic Association Papers*). Quoted in Bannister 192.

neighbors. He predicts that when the white race reaches a stage where "new conquests are necessary, it will not hesitate to make war upon those races who prove themselves useless factors in the progress of mankind."⁶ Hoffman's work not only reveals the late nineteenth-century presumption that the white race was on the forefront of human evolution while darker races were laggards and even a burden to humanity; it seems to provide an ominous Darwinist justification for imperialistic aggression.

Though we might find Hoffman's arguments extreme, they were thoroughly within the mainstream of racial ideology at the turn of the century (Bannister 194). The 1893 Chicago World's Columbian Exposition, celebrating four centuries of colonial presence in North America, offers a powerful demonstration of these ideas in the realm of popular culture.⁷ One of the central attractions of the fair was a strip of land nearly a mile long called the Midway Plaisance, which was conceived of as a didactic spectacle of living ethnography and which consisted of exhibits of people from all over the world, in villages or habitats that reconstructed their "native environments" as much as possible, crowded in between restaurants and concession stands. According to historian Robert Rydell, the Midway Plaisance was organized into a racial hierarchy that mirrored what one contemporary visitor, the literary critic Denton Snider, identified as "the sliding scale of humanity" (Rydell, *All the World's a Fair* 65). Nearest to the White City, the building that housed monuments to American and European art and culture, were the Teutonic and Celtic races as represented by two German and two Irish villages. The center of the Midway represented the Arab world, West Asia, and East Asia. At the farthest end were what Snider referred to as the "savage races, the African . . . and the North American Indian." Snider suggested that the "best way of looking at these races is to behold them in the ascending scale, in the progressive movement; thus we can march forward with them starting with the lowest specimens of humanity, and reaching continually upward to the highest stage." "In that way," he suggested, "we move in harmony with the thought of evolution, and not that of the lapse or fall" (Rydell, *All the World's a Fair* 65). The fact that contemporaneous human populations could be seriously regarded as instances of different diachronic stages of an evolutionary process testifies to the power of cultural prejudice to override even common sense when assisted by simple and effective rhetorical images such as the racial ladder.

⁶ Quoted in Bannister 191-2.

⁷ The Exposition had been originally scheduled for 1892, to coincide with the 400th anniversary of Columbus's discovery of America, but was delayed until 1893 due to organization problems.

Snider's reference to the Biblical narrative of human history also reminds us that religion was still an important presence in American cultural life, though the progressive and theistic evolutionary philosophies of Spencer and Fiske clearly enjoyed greater currency than lapsarian Calvinism. The Fair even organized a Congress on Evolution to make sure that visitors understood its larger lessons about the "Progress of Mankind" and the reconciliation of the theory of evolution with the teachings of Christianity. An important number of scientists and religious thinkers participated in the Congress, the principal message of which was summed up by the Reverend James Bixby: "Evolution from lower to higher, from the carnal to the spiritual, is not merely the path of man's past pilgrimage, but the destiny to which the future calls him, for it is the path that brings his spirit into closest resemblance and most intimate union with the divine essence" (Rydell, *All the World's a Fair* 68). The extent to which the fair was regarded as a success in bringing together the discourses of science and religion, as well as representing America's progress from wilderness to industrial splendor, is suggested by Henry Adams's comment in his *Education* (1907) that "Chicago was the first expression of American thought as a unity" (343).

Adams's remark raises an issue that was becoming increasingly important in American thought at the beginning of the century, and that was the question of American national cohesion and what could be done to advance it in the future. One of the principle sources of anxiety was the large influx of immigrants from Eastern and Southern Europe, who came at a rate of almost a million per year in the years leading up to the First World War and who seemed to differ from earlier immigrants in being overwhelmingly Catholic and Jewish as well as poor, illiterate, and unskilled (Degler 52). The first decades of the century also saw a rising concern about the assimilability of African Americans, coupled with paranoid concerns over the superior birth rate and competitiveness of the so-called "dark races." The principal spokesman for this position was an Englishman, Charles Pearson, who in 1893 predicted the decline of the Aryan race and Christian faith as "we get elbowed and hustled, and perhaps even thrust aside by people we looked down upon as servile, and thought of as bound always to minister to our needs."⁸ Although this sort of apocalyptic pessimism was much less common in the United States than in the tired and waning British Empire, an equivalent fear of racial decline emerged in the form of the Yellow Peril between 1905 and 1916, and in the themes of "race decadence" and "race

⁸ Quoted in Hofstadter 186.

suicide,” which were sounded by Theodore Roosevelt and others, who warned of a declining white population in the United States (Hofstadter 189).⁹

Nevertheless, social scientists were increasingly critical of the biological notions of race in the first decades of the twentieth century, and most serious social thinkers turned their attention to culture and psychology instead. Yet, even as biology and social Darwinism were being squeezed out of sociology, they found new life in the eugenics movement and a new focus in the category of intelligence. Proponents of eugenics shared the earlier social Darwinists' view of the unfitness of the lower classes and a concern for the preservation of white “racial stock,” but they rejected the earlier *laissez-faire* arguments and insisted on the need to enact state programs to ensure the improvement of the population, including intelligence testing and sterilization of so-called social defectives like the “feeble-minded” and criminals. Ironically enough, eugenics was not just a social program of conservatives and racists but emerged from Progressive and leftist thought as well. It reached its apogee in the first decades of the century, with the foundation of the American Breeder's Association in 1903 (renamed the American Genetic Association in 1913), the passing of sterilization laws in twelve states by 1915, the National Conference on Race Betterment in 1914, and the First International Congress on Eugenics in 1912 in London, with the president of Harvard University serving as vice president (Degler 43). The Second International Congress was held in New York City in 1921 and opened with the declaration that “the selection, preservation, and multiplication of the best heredity is a patriotic duty of first importance” (Rydell, *World of Fairs* 44). The Congress was held at the American Museum of Natural History, where a room called Darwin Hall offered the visitor eighteen booths that defined and explained eugenic principles and urged visitors to perform a “careful pedigree analysis” and select mates who would “produce offspring of the most highly talented and fertile nature” (Rydell, *World of Fairs* 46). In the teens and twenties, many state and national fairs also had eugenics exhibits, which purported to educate the public as well as examine it for physical and mental fitness.

In 1933, the Chicago Century of Progress Exposition included a laboratory run by Harvard physical anthropologists, who measured visitors and told them they would lead the world to perfection (Rydell, *World of Fairs* 104). The point of the fair, as is evident from its name, was to emphasize

⁹ “A Letter from President Roosevelt on Race Suicide,” [*American*] *Review of Reviews* 35 (1907): 550-557.

how far and how magnificently America had progressed (in spite of the contrary evidence of the raging Depression). A publicity release expressed the blend of capitalist and racial ideology that was intended to reassure the visitor that America was on the right track:

The General Motors tower rises, a bright orange tribute to Modernism, over the wigwams and teepees and hogans of the oldest Americans, "What a distance we have come," is the theme of the World's Fair, but nowhere does it come home so sharply to the visitor as when he attends the Indian ceremonials. (Rydell, *World of Fairs* 104)

According to Donna Haraway, this mixture of business and race ideology is typical of the rhetoric of psychobiology of the 1930s. In *Simians, Cyborgs, and Women*, she argues that the primate research developed by Robert Yerkes¹⁰ from 1924 till 1942 directly corresponded to the human engineering discourse being developed by economists and corporate managers. Yerkes's solution to the conflict between social classes was a scientific study of human physical and mental traits in order to find the correct "fit" between persons and their place in society. In this brave new world of social harmony, science would be the key to creating co-operation rather than competition in order to further human adaptive evolution.

However, by the end of the 1930s, Yerkes's influence had much declined, and post-war America had little interest in biological arguments about human nature. The 1940s and 50s were dominated by psychoanalytic and developmental discourses that focused on the individual rather than the species or race. When Americans discussed their collective identity, they tended to draw on the newly invented notion of a Judeo-Christian heritage, which stressed their religious and supposedly cultural unity rather than biological or evolutionary narratives. The idea of scientific progress had also been irreversibly compromised by the discovery and deployment of the atom bomb, and the political entente known as Mutually Assured Destruction (M.A.D.).

The 1960s brought a revival of evolutionary research with the publication of several groundbreaking studies.¹¹ This new Darwinism was signifi-

¹⁰ One of the developers of the Army Intelligence Tests during W.W.I.

¹¹ The first of these breakthroughs was V.C. Wynne Edward's work on intra-species competition, published in 1962, demonstrating that individuals are always competing with each other, not with other species; the next important book was George Williams's *Adaptation and Natural Selection* (1966), which proved that individuals never act for the good of the species if it is at their own expense; William Hamilton's "The genetic evolution of social behavior" in *The Journal of Theoretical Biology* (1964) was the source, along with George Williams's work, of the

cantly different from its predecessor in a number of crucial ways. For example, the concept of race played little or no role in the new studies, while sexual difference and sexual selection took on a new and central importance. The concept of progress was even less present than in Darwin's original work, and the rhetorical register of the new research was no longer human engineering and adaptivity, but communication, systems theory and optimization, which eliminated linear progressivity altogether.¹²

Even popularizers of the new research focused not on progress but, oddly enough, on regression. The image that emerged most forcefully was of man as monkey, with an emphasis on the continuities rather than differences between the human species and other primates. Typical of this trend was Desmond Morris's extremely popular best-selling book, *The Naked Ape* (1967), which begins with the announcement, "I am a zoologist and the naked ape is an animal" (9). He then divides his chapters into ethological issues like "sex, rearing, exploration, fighting, feeding," etc. His conclusion is a long apocalyptic reminder that "despite our grandiose ideas and our lofty self conceits [and our 'great technological advancements'], we are still humble animals, subject to all the basic laws of animal behavior" (209). Moreover, our civilized behavior is a thin veneer beneath which seethes our "raw animal nature" with all its "aggressive and territorial feelings" and "sexual impulses" (210). This was a theme that echoed the Freudian psychological commonplaces of the 1950s and provided a rich source of narratives and tropes throughout the 1960s. An explicit allusion to the theme of man as ape is made as early as 1960 in *Inherit the Wind*, the film version of the Scopes trial of 1925, where the local population burning the young science teacher in effigy prompts the journalist H.L. Mencken, played by Gene Kelly, to say that the evolutionists are wrong after all, because "man is *still* an ape" or already on the "backwards march" to his primitive state. The idea that violence was natural to human nature and lurked just beneath the surface was a common theme in American cinema in the 1960s, culminating in the unprecedented violence of the so-called "New American Cinema" of the late

"selfish gene" theory popularized by Richard Dawkins, which emphasized the "agency" of genes in human evolution and behavior over the organism itself. Matt Ridley calls these discoveries a "revolution in biology" and a "humiliating blow to human self-importance" (*The Origin of Virtue* 17, 19).

¹² Donna Haraway's article "The Biological Enterprise: Sex, Mind, and Profit from Human Engineering to Sociobiology" (*Simians, Cyborgs, and Women* 43-68) analyzes the different rhetorical fields of pre-W.W.II and post-W.W.II evolutionary biology; my comparisons are partly indebted to her work.

sixties, such as Arthur Penn's *Bonnie and Clyde* and Sam Peckinpah's *The Wild Bunch* (1969).

The danger of "regression" was accompanied by another fear, that of extinction. The *Planet of the Apes* film series (1968-1973) played on both ideas. While post-nuclear holocaust humans had regressed to a more primitive ape-like state, losing language and civilization in the process, apes had taken over the world, developed a sophisticated science and technology, and regarded the few human beings still running around as just so much fodder for their laboratories and chain gangs. Never before had our existence as a species appeared so precarious as it did in the late 60s and 70s (not even the threat of nuclear holocaust which haunted the 50s had seemed so grim). It is no coincidence that Desmond Morris ends his book with a warning about not one, but *two* potential human apocalypses, one based on the nightmare scenario of overpopulation 260 years from now ("a seething mass of 400,000 million naked apes crowding the face of the earth"), and the other triggered by the "suppression" of our "biological urges," which will "build up and up until the dam bursts and the whole of our elaborate existence is swept away in the flood" (211). Significantly, the threat is not imagined as coming from another species, but from our own animal nature, either breeding ourselves out of existence, or exploding in some anarchistic outburst of violence after too much repression and control.

If Desmond Morris was one of the most accessible and popular science writers of the late 60s, the figure most commonly associated with modern evolutionary biology is Edward O. Wilson, the famous (and notorious) author of *Sociobiology* (1975) and *On Human Nature* (1978). Wilson, originally an entomologist, wrote *Sociobiology* as a compendium of the latest evolutionary research as it applied to animal behavior, specifically in populations and "societies." His controversial final chapter called "Man: From Sociobiology to Sociology" earned him criticism from colleagues and laymen alike. Wilson's extrapolations from animal and insect behavior to human beings were denounced for being reductionist to the extreme, and radicalized students denounced him as a sexist, racist, and "prophet of Right Wing Patriarchy."¹³ Yet, even more than Morris, Wilson believed that mankind had been steadily progressing toward ever greater mental capacity and technology (296). Nevertheless, like Morris, Wilson saw this progress as precarious and easily disrupted. Specifically, he warned against population drift and the promiscuous flow of genes outside of local populations and

¹³ See Degler 226, and Wright 345-6, and illustration between pp. 276 and 277.

around the world, reducing the relatedness of individuals to each other in local populations, which would result in an “eventual lessening of altruistic behavior” (300). In short, globalization and emigration were leading toward more obsolete and destructive behavior, aggression, domination, and violence. Attempts to genetically alter these tendencies might have even worse consequences, since genes often control more than one trait. Therefore, Wilson warns, “If the planned society – the coming of which seems inevitable in the coming century – were to deliberately steer its members past those stresses and conflicts that once gave the destructive phenotypes their Darwinian edge, the other phenotypes might dwindle with them. In this, the ultimate genetic sense, social control would rob man of his humanity” (300). Unlike Morris, whose apocalyptic warnings gestured toward a vague future 250 years from now, Wilson brought the date up closer by a hundred and fifty years. He predicted that mankind would reach an ecological steady state by the end of the 21st century, at which point the biological and social sciences would have converged toward their goal of total knowledge, and, quoting Albert Camus, Wilson prophesied that man would become an alienated stranger in a world divested of illusions and the “hope of a promised land” (301). Again, the danger is entirely internal, emerging from a combination of mankind’s primitive nature and social evolution towards scientific knowledge and control. Both Morris and Wilson assumed that progress of some kind was characteristic of animal and human evolution, and curiously, both versions of human linear development lead to dead-ends or catastrophes that result in the extinction or genetic disappearance of the species we call *homo sapiens*.

While the evolutionary biology of Morris and Wilson is haunted by the ecological and political pessimism of the 1970s, the newest generation of evolutionary research, produced in the 1980s and 1990s, strikes a distinctly more neutral or even optimistic tone. The researchers associated with the latest developments in evolutionary theory¹⁴ all consistently lack both the presumption of progress and the melancholy that seems to accompany it.¹⁵

¹⁴ E.g., Richard Dawkins, Stephen Pinker, Leda Cosmides, John Tooby, Stephen Jay Gould, Daniel Dennet, Helen Fisher, Lionel Tiger, Robin Fox, Donald Symons, and Steve Mithen.

¹⁵ An example of how irrelevant the notion of progress is in contemporary evolutionary biology is the trope of the Red Queen, the term that evolutionary scientists have adopted for themselves to help express the new consensus (coined in 1973 by American biologist Leigh Van Valen). The Red Queen is the character in *Through the Looking Glass* who runs as fast as she can in order to remain in the same place, since the landscape is moving as fast as she is. Richard Dawkins uses the term “arms race” and emphasizes that there is “absolutely zero progress in the success *rate* on both sides of the arms race [between prey and predator], while there is very

In fact, the scientist best known for his tireless critique of the notion of progress in evolution, Stephen Jay Gould, who has taken his message about the role of contingency in evolution to popular journals, talk shows, and public radio, has also done the most to promote a sense of awe and wonder in the vision of natural history and reality produced by scientific discourses.¹⁶ The very title of the book in which he sets out to disprove the notions of progress and increasing complexity, *Life's Grandeur* (1997), reveals how far Gould is from the dreary apes and insect colonies that peopled Morris's and Wilson's scientific imaginations. Though Gould insists that progress is an illusion created by iconographic conventions and sloppy thinking, he also emphasizes the complexity, diversity, beauty, and richness of natural history.

Without going into detail about the research being produced by the new evolution-related fields, including evolutionary psychology, social ecology, evolutionary genetics, etc., it bears pointing out that the new research differs from its predecessors most radically in that the organism is no longer the unit of selection that matters. It is the gene which is regarded as the unit of self-reproduction; the organism's morphology *and behavior* appear merely as its "extended phenotype" (to quote one of Richard Dawkins's titles), or even more crudely, its vehicle. Naturally, the real picture is vastly more complex, and we are not mere robots of selfish, scheming genes (not least because attributing such motives and agency to genes would be to fall into an anthropomorphic fallacy), but the emphasis on genes and DNA as the biological essence of the human has not been lost on the public at large and on popular culture in general.

Just as the newest generation of evolutionary theorists are less interested in the so-called primitive animal nature of human beings, being much more impressed by the one million years of anatomically modern humanity, not to mention the at least 100,000 years of mentally modern humanity, and are therefore much more concerned with what they call our "species-specific" nature, popular culture in the past decade or more has also taken up the question of species in a great many ways. While newspapers report advances in cloning and genetic engineering and medical schools and research institu-

definite progress in the *equipment* for success on both sides" (*The Blind Watchmaker* 193). Dawkins's choice of the term "arms race" is a telling artifact of the Cold War, which was memorable above all for having produced the apocalyptic deterrent called Mutually Assured Destruction, itself perhaps the clearest sign in post-war culture that mankind had reached a teleological and technological *cul-de-sac*.

¹⁶ Even the French television journal *Telerama* featured an article with the title "L'Homme est un accident de l'histoire," which included an interview with Gould on the question of progress as "préjugé culturel" (8 October 1997).

tions form bio-ethics committees and courses, American cinema has produced an impressive cycle of films dealing with questions of the human as a species confronted with other species who are genetically superior in some way; not necessarily more intelligent, or more technologically advanced, or even bigger, but simply biologically or genetically superior. I would include in this list *Jurassic Park* (1993), *Godzilla* (1998), *Outbreak* (1995), *Twelve Monkeys* (1995), *Independence Day* (1996), *Mimic* (1997), *Species 1* and *2* (1995, 1998), *The X-Files* (1998), the entire *Alien* series (1979, 1986, 1992, 1997), and even the asteroid apocalypse films like *Deep Impact* (1998) and *Armageddon* (1998), because they threaten species extinction to humans, but not necessarily to all terrestrial life forms. In short, it seems to me that these films betray a new and unprecedented anxiety about our "fitness" as a species. The old complacency about being top of the evolutionary ladder has been displaced by a fear that a superior species could appear at any time, either by mutating from an existing virus, returning from the past, being created in a laboratory, or intruding from outer space. Its intentions do not even need to be explicitly hostile; it will simply overrun, outbreed, unintentionally destroy, or biologically colonize us.

Ironically, this anxiety is out of step with the tone of evolutionary research at the moment, which is completely indifferent to the question of human interaction with other species, and wholly focused on issues of intra-species sociability and behavior, with the latest research indicating that we are actually much more socially complex, interdependent, and altruistic than previously believed. In fact, the picture emerging from evolutionary science is brighter than any previous Darwinian narrative, including Fiske's swelling waves of Christian goodness (which were not due to burst forth for a long time yet, according to the state of industrial America at the time of his writing). So this anxiety about the human species is curious. On the one hand, it seems to suggest a solidarity among Americans of different races and backgrounds based on a societal common front against a common threat. Even though whites still monopolize the principal roles, these large-budget Hollywood films *do* tend to favor multicultural casts.¹⁷

On the other hand, can we take these films simply at face value? We tend to agree nowadays that the sci-fi monster movies of the 1950s were frequently really "about" the threat of Communist invasion. The 1956 film *In-*

¹⁷ One less idealistic explanation would be in terms of marketing strategy; since disaster movies are expensive, they need to appeal to the widest possible audience. "Wide-coverage" casting is one way to cross demographic boundaries, just as sensationalism is a way of appealing to the emotional lowest common denominator.

vasion of the Body Snatchers, in particular, is regarded as an elegant metaphor for the anxiety about invisible communist infiltrators, who quietly take over American towns by substituting real Americans with emotionless, collective plant-like people. It is naturally easier to read the popular culture of earlier eras than our own, or at least to think that we see a coherent cultural problematic. My question is, if the recent species disaster films represent something other than themselves, what would it be? One possible answer is suggested by Mike Davis's latest study of Los Angeles, *The Ecology of Fear* (1998), which includes an analysis of a hundred years of apocalyptic local fiction where L.A. is destroyed or is threatened with destruction. Davis's argument is that much of the anxiety mobilized by these scenarios of natural disaster is actually racial in origin. White Angelenos are more afraid of being overrun by racial minorities than of almost anything else, according to Davis.

Would it be too farfetched to wonder if the species disaster movies of recent years are related to American anxieties about the ability of Americans to compete and survive in an environment of genuine globalization and free trade, especially with Asian countries and Asian workers? I use this example because of the anxiety in the United States about Asian students and Asian-Americans as the model minority. When I was a student at UCLA, I learned that a local joke about the school was that the letters actually stood for "University of Caucasians Lost among Asians." I raise this issue mainly because it seems to me that globalization and multiculturalism are issues that still need to be understood in the context of a post-Cold War world in which progress as well as apocalypse seem to be out of date. However, I admit that looking for racial meanings for the "species" films may be a bit simplistic. We are undoubtedly in the middle of a great sea-change in our understanding of what it means to be human. Perhaps without the complacency of progress we can finally begin to think seriously about what it means to be a species that has evolved to be what we are now, but with no necessity, teleology, or Panglossian perfection implied in that evolutionary history. Perhaps this can open the door to social studies that allow for some non-totalizing universalism as well as a recognition of the diversity of populations, genders, and identities constantly being assembled, transcribed, and re-combined in this genetically mutable world.

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