

INTRODUCTION

"What a foolish idea seems to prevail in Germany on the connection between Socialism and Evolution through Natural Selection," wrote Darwin in consternation, supposing that his theory would be tarnished by the association.¹ Socialist Darwinism seemed a monstrous hybrid to him, and he was horrified to learn that his ideas were being heralded by revolutionary socialists as support for their political and social positions. Living in Down, England, on the accumulated wealth of his forebears and his own capitalist investments, he had little sympathy for socialist ideology.²

The German socialists' praise for Darwin and leading Darwinian biologists, however, was effusive. They considered his theory liberating, tearing down the last vestiges of the religious and static world views that had dominated society for so long.³ Wilhelm Liebknecht expressed a typical view when he asserted at Marx's funeral, "Science is the liberator of humanity. Natural science liberates us from God."⁴ Immediately after reading Darwin, both Marx and Engels had exulted that Darwin had finally banished teleology from nature, and this appealed to their anti-religious outlook.

Though historians of science have abandoned the view that science (including Darwinism) and religion have been in perpetual conflict or warfare, John Hedley Brooke--while himself rejecting the conflict thesis as overly simplistic--rightly warns against revisionists who overreact and paint too harmonious a canvas.⁵ Many German socialists adopted Darwinism because of its anti-religious implications, and Karl Kautsky, the leading Marxian theorist of the Second International, was converted to materialism through Darwinian naturalism. Socialists' zeal to publicize evolutionary theory was directly related to their antipathy for religion. Whatever

historians of science may say in retrospect, nineteenth-century German socialists certainly believed science and religion were in conflict, and they boldly enlisted science in their campaign against religion.

Darwinism was also a welcome confirmation of socialists' developmental view of society, backed up by scientific evidence. Of course, Darwinian biology was not the first scientific theory to replace stasis with movement in nature.⁶ Kant and Laplace had revolutionized cosmology in the eighteenth century with their nebular hypothesis, which had gained widespread approval by the early nineteenth century, so the universe was widely considered a product of eons of development rather than a sudden creation. Especially through Charles Lyell's influence, uniformitarian geology attained prominence in the mid-nineteenth century. Once again, a theory of slow, gradual development replaced the formerly dominant catastrophic thought.

Since Darwin and other scientists agreed that nature was not immutable, science--if extrapolated--seemed to offer hope for change, reform, and perhaps even revolution. Ironically, socialists admired leading Darwinists, such as Ernst Haeckel and Thomas Henry Huxley, despite these biologists' outspoken opposition and hostility to socialist doctrine. Socialist publishers and workers' libraries regularly featured Darwinian fare, which constituted the most popular non-fiction reading material among workers.⁷ Darwinism attracted socialists so strongly because they saw in it a corroboration of their ideology. One reason evolutionary theory became popular so quickly in the late nineteenth century among both socialists and non-socialists was because it correlated with some aspect of many people's presuppositions and world views, irrespective of its scientific merits or problems.

The German socialists' reception of evolutionary theory illustrates the mutual interpenetration of scientific and social thought in the late nineteenth century. Socialists were zealous to embrace the latest scientific theories and to parade them as evidence that their vision of society was scientific. As heirs of Enlightenment rationalism, they accorded science great authority and believed that advances in science and technology could improve society and banish superstitions and fruitless

speculations. Thus the socialists tried to appropriate Darwinism for their own purposes and considered it an important propaganda weapon. Though they often denied it in principle, their social outlook was sometimes colored by their understanding of biology. They were ultimately unable to extract themselves fully from the biologization of social thought, which was so prevalent in late nineteenth-century Germany.

On the other hand, though, socialist receptivity to Darwinism was conditioned by their social thought. It is commonly recognized that religious and moral philosophies influenced people's reactions to Darwinism in the late nineteenth century, but social thought also influenced how and to what extent Darwin's views were palatable to his contemporaries. Socialists' esteem for Darwin was based more on his role in making biological transmutation an acceptable hypothesis, rather than on the specific evolutionary mechanism he proposed--natural selection through the struggle for existence.⁸ For many socialists--especially Marxists--the Malthusian population principle, on which Darwin had based his theory, was anathema. They, like most of their contemporaries, used the term Darwinism very broadly to denote biological evolution in general, rather than the distinctively Darwinian mechanism of evolution. More often than not, they objected to Darwin's theory of natural selection, especially when applied to human society, since it contradicted their vision of social harmony and economic abundance. Social theory thus dictated the extent to which Darwinism was accepted in socialist circles. It also made them receptive to alternative theories of evolution corresponding more closely to their social outlook.

Not only socialists, but also Darwinists opposing socialism, were heavily influenced by their social status and presuppositions. They were often as interested in rescuing Darwinism from its disreputable association with socialism as they were in destroying socialism. Since they marshalled scientific arguments to refute socialism, they forced socialists to distinguish more sharply between scientific and social theory than they probably would have done otherwise.

As Kurt Bayertz has demonstrated, there was a tendency among late nineteenth-century socialists to synthesize intellectual concepts to construct complete world views, and this included a synthesis of natural science and socialist theory. Bayertz further argues that the tendency among socialists was to stress the unity between nature and society and thus to naturalize society.⁹ However, though this impulse was never entirely overcome, the leading theorists of the German Social Democratic Party exhibited a countervailing tendency to separate society from the natural realm because of their Marxian social theory. Thus socialist Darwinism--unlike social Darwinism--was not the application of Darwinism to society so much as the socialist interpretation of Darwinism. It was the integration of socialism and Darwinism (and even more so non-Darwinian evolutionary theories) into a coherent world view, in which the socialist ideology usually remained the dominant force.

Two main forms of socialist Darwinism developed in late nineteenth-century Germany: a non-Marxian and a Marxian variety. The former emerged first and embraced the Darwinian theory of natural selection, including the application of the Malthusian population principle to human society. The chief proponents of this view, Friedrich Albert Lange, Ludwig Büchner, and Arnold Dodel (also Karl Kautsky in the 1870s, before his conversion to Marxism), forthrightly applied Darwinism to society, but drew socialist conclusions from it. Lange and Büchner were leading voices in the socialist movement, though neither participated in the German Social Democratic Party (Lange died in 1875, the year it was formed). Along with the botanist Dodel, they were among the leading popularizers of Darwinian theory in nineteenth-century Germany, especially among socialists.

The non-Marxian variety of socialist Darwinism was repugnant to Marx and his disciples, who vehemently rejected the validity of Malthus' population theory. They continually objected to the application of the laws of natural science (including Darwinism) to social theory, since they insisted that humans are qualitatively different from animals. Thus they denied Darwin's claim that human evolution was fundamentally the same as animal evolution and that the development of social

institutions could be understood in light of biological principles, such as natural selection.

However, while formally distinguishing between natural and social laws, Marx and his followers did not always find it easy to keep the two separate. Although Marx's and Engels' social theory was developed prior to the publication of Darwin's theory, they were both eager to point out parallels between Marxism and Darwinism and to use Darwinian and scientific rhetoric to propagate their ideas. Kautsky was an ardent Darwinist before converting to Marxism, but as he moved toward Marxism, his Darwinian social theory receded into the background and became subsidiary to his Marxist social theory. Although he never entirely overcame his early views that placed society and history in a Darwinian framework (despite his later adoption of neo-Lamarckian evolutionary theory), it was clear by the mid-1880s that Marxism was the driving force in his world view and Darwinism and natural science were ancillary. Eduard Bernstein, a leading theorist in the Social Democratic Party who later became famous for his revisionism, never attempted to bring Darwinism into discussions of social theory during his orthodox Marxist phase. Even after breaking with orthodox Marxism, he maintained that natural science could not legitimately be applied to society. Nevertheless, evolutionary theory shaped the rhetoric if not the content of his revision of Marxism. Thus, although Marxists—including Marx—did not achieve complete consistency on this score, Marxism did militate against the Darwinizing of society, and Marxist theoreticians remained much more impervious to biological social theories than did other social theorists, including non-Marxian socialists.

Socialists elsewhere in nineteenth-century Europe were eager to incorporate Darwinism into socialism, too. The Fabian socialists in Britain were excited about evolutionary theory and felt an affinity with Darwinian gradualism, though they were repulsed by Spencer's philosophy of individualism. Therefore they ignored the idea of individualist struggle in Darwin's theory and instead emphasized his discussion of animal and human sociability.¹⁰ The anarchist Peter Kropotkin in Mutual Aid (1902)

was even more insistent that the struggle for existence was an erroneous concept; he considered cooperation more important in the evolutionary process.¹¹ Many French socialists also dispensed with Darwin's struggle for existence in their zeal to link evolutionary theory and socialism, portraying Darwin as an advocate of the "association for life" among humans.¹² The Italian socialist Enrico Ferri, on the other hand, did not deem it necessary to rid Darwinism of the human struggle for existence in his attempt to harmonize socialism and Darwinism.¹³

American socialists were also captivated by evolutionary theory, which, according to Mark Pittenger, dulled their revolutionary edge.¹⁴ Pittenger's claim that evolutionary theory adulterated Marxian historical materialism and caused socialists to conflate nature with society is remarkably similar to charges mistakenly levelled by many socialists--especially those of a more radical, revolutionary persuasion--at Kautsky and other German socialist leaders (sometimes even Engels). They argued that the infiltration of evolutionary biological ideas into socialist thought in the late nineteenth century robbed Marxism of its revolutionary edge in two ways. First, Darwinism fostered a mechanical, non-dialectical materialism, which came to supplant the dialectical component of Marxism in German socialist thought. The abandonment of revolutionary praxis accompanied the disappearance of the dialectic on which it had been based. Secondly, Darwinism was a gradualist theory of evolution and accustomed people to think of change as slow, requiring eons. If this mode of thinking crept into socialist thought, it would enervate Marx's saltatory theory of social development.¹⁵ Pittenger differs from these German critics by ascribing an important role to Spencer in the shift away from Marxian revolutionary praxis. On the German scene, though, Spencer was not nearly as influential as he was in Britain and the United States, and even Germans supporting *laissez faire* rarely appealed to Spencer's ideas.

Socialists were not the only ones trying to apply Darwinism to the study of society. Almost as soon as Darwinism reached Germany, biologists and social theorists started applying Darwinism to social development as well as to biological

questions. The soil was well-prepared for this endeavor, having been cultivated by both the Enlightenment and its antithesis, the Romantic movement. The Enlightenment had emphasized the rationality of society, and what was more rational than natural science? Organic analogies of society also gained currency in the early nineteenth century through the influence of the Romantic movement. Darwinian social theorists were often able to weave these two strands together in their attempt to create a science of society.¹⁶

Apart from socialists, most of those wrestling with the connection between Darwinism and society were liberals, since conservatives were far less likely to embrace Darwinism, and if they did, their religious and moral persuasion made them unlikely to apply it to society. German liberals in the 1860s and 1870s were generally concerned with freedom--including economic freedom--and national unity, the twin goals of the Revolutions of 1848 in the German states. They were thus generally sympathetic with laissez-faire economics and nationalism. They also supported militarism, especially in the wake of Bismarck's success in unifying Germany through blood and iron, and many encouraged imperialism and racial competition as well.¹⁷

When it came to applying Darwinism to society, most Darwinian biologists and social theorists in Germany applied the struggle for existence to society as an inevitable law ensuring competition and progress by eliminating the weaker, less fit members of society. It included both individual economic competition within societies and collective competition such as wars and national economic rivalries. These social Darwinist ideals were preached by leading biologists, ethnographers, geographers, sociologists, economists, and even theologians, such as Ernst Haeckel, Wilhelm Preyer, Friedrich von Hellwald, Friedrich Ratzel, Albert E. F. Schäffle, Ludwig Gumplowicz, Max Weber (in the 1890s), and David Friedrich Strauss. Social Darwinism was a vibrant movement in late nineteenth-century Germany, despite numerous voices of protest.¹⁸

Socialists in late nineteenth-century Germany were thus engaged in incorporating Darwinian or non-Darwinian evolutionary theories into their world

views in a hostile intellectual environment. Many biologists and social theorists committed to Darwinism regularly summoned Darwinian biology to demonstrate the impossibility of socialism. Thus the very persons revered by socialists for striking against the status quo of religion and aristocracy were arrayed against them in social theory. Socialists had to confront their social Darwinist arguments, while retaining the elements of evolution dear to them.

Just like most German liberal social scientists in the nineteenth century, Marx and his followers wanted to construct a nomothetic social science.¹⁹ However, by drawing a distinction between the human and animal realms, they opposed the reduction of social laws to natural laws that was so characteristic of abstract materialism and positivism. Like neo-Kantianism--an important ideology of the late nineteenth century that was a response to and rejection of both Hegelian idealism and philosophical materialism--Marxism created a dualism to avoid the reductionist tendencies of both monistic idealism and monistic materialism. However, as ontological materialists, most Marxists blurred the natural science/social science dichotomy to a far greater extent than most neo-Kantians (especially the later ones), who rejected a nomothetic model of social science in favor of an ideographic model.²⁰

The persons covered in this study were leading theorists and propagandists in the German socialist movement who grappled with the problem of synthesizing Darwinism and socialism. I have omitted some significant socialist leaders, such as Ferdinand Lassalle, because Darwinism was not particularly significant in their thought. I have included some figures less important to the socialist movement--Lange and Büchner--since they were so influential in promoting Darwinism in socialist ranks. The other leaders covered--Marx, Engels, Bebel, Kautsky, and Bernstein--were some of the most important leaders and thinkers in late nineteenth-century socialism, not only in Germany, but in the whole world, and all interacted significantly with evolutionary theory.

In this work I will use the term Darwinism to mean the theory of evolution stressing natural selection as the primary--though not exclusive--mechanism

accounting for change, just as Darwin himself had theorized. It is necessary to distinguish between Darwinian and non-Darwinian theories of evolution, since both forms were widely debated and discussed in the late nineteenth and early twentieth centuries. Socialists were not the only ones leaning toward Lamarckian and other non-Darwinian explanations for evolution in the late nineteenth century, for numerous non-socialist biologists questioned the role of natural selection in the evolutionary process.²¹ Socialists were enamored with Lamarck's stress on the inheritance of acquired characteristics, because it was more consistent with their vision of social progress.²² They, along with some liberal biologists like Oscar Hertwig, hoped for peaceful progress through environmental (i.e., economic and social) transformations with abundance for all, rather than Darwin's conception of evolution (and perhaps progress) through competition brought on by population pressure and scarcity.²³

The connections between socialism and evolutionary theory in the late nineteenth century help illustrate that the religious, political, and social philosophies that people held not only influenced whether or not they were receptive to the idea of biological evolution, but also disposed individuals who did adopt evolution to some particular form of evolutionary theory. It is important to grasp this, for much of the recent literature on social Darwinism emphasizes the distance between scientific and social thought. According to this view, science and its heroes, particularly Darwin, share no responsibility for the social applications of their theories, since the social and political implications are not inherent in the science. Strangely, this view has received widespread currency despite the fact that many Darwin scholars have ably demonstrated the social and economic influences on the construction of Darwin's theory.²⁴ The current emphasis on the varieties of social Darwinism has undermined the formerly dominant view that Darwinism did tend toward particular social views, i.e., laissez faire, racism, and militarism. Thus Darwinism could supposedly be interpreted in ways consistent with all sorts of political and social ideologies and never developed into a coherent doctrine of social Darwinism.²⁵

What often vitiates these analyses is that they--like many writers in the nineteenth century--fail to distinguish between strict Darwinism and non-Darwinian evolutionary theories. Thus they neglect to ask if the reason that evolutionary theory could be applied to society in so many different ways was because there were different evolutionary theories. My research suggests that Darwinism (and Lamarckism as well) did lend support to specific social views after all, even if it did not entail them. The relationship between evolutionary theory and social thought in the late nineteenth century was complex, to be sure, but there were many correlations between specific biological theories and the social and political positions of their proponents.

ENDNOTES

1. Darwin to Dr. Scherzer, 26 December 1879, in *The Life and Letters of Charles Darwin*, ed. Francis Darwin (NY, 1919), 2:413.
2. A good treatment of Darwin's social and political milieu is Adrian Desmond and James Moore, *Darwin* (London, 1991).
3. Kurt Bayertz, "Naturwissenschaft und Sozialismus. Tendenzen der Naturwissenschaft-Rezeption in der deutschen Arbeiterbewegung des 19. Jahrhundert," *Social Studies of Science* 13 (1983): 355-94.
4. Quoted by Friedrich Engels, "Das Begräbnis von Karl Marx," *Marx-Engels Werke* (henceforth *MEW*; Berlin, 1959ff.), 19:338; see also Peter Jäckel, "Die Wirkung der philosophisch-naturwissenschaftlichen Arbeiten von Karl Marx, Friedrich Engels und den Führern der deutschen Sozialdemokratie auf die Arbeiterbewegung (1870-1900)," (diss., University of Dresden, 1972), 86.
5. John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge, 1991), 2-5, 32-33, 42; David C. Lindberg and Ronald L. Numbers, eds., introduction to *God and Nature: Historical Essays on the Encounter between Christianity and Science* (Berkeley, 1986), 1-18 (see also ch. 14 on Darwinism).
6. On the introduction of historical thinking into biology in the pre-Darwinian period, see Wolf Lepenies, *Das Ende der Naturgeschichte. Wandel kultureller Selbstverständlichkeiten in den Wissenschaften des 18. und 19. Jahrhunderts* (Munich, 1976), 52-77, 115-130.
7. Hans-Josef Steinberg, "Lesegewohnheiten deutscher Arbeiter," in *Beiträge zur Kulturgeschichte der deutschen Arbeiterbewegung, 1848-1918*, ed. Peter von Räden (Frankfurt, 1979), 264-68, 277.
8. Edward Aveling, "Charles Darwin und Karl Marx: Eine Parallele," *Die neue Zeit* 15,2 (1896-1897): 751; Kurt Bayertz, "Darwinismus als Ideologie. Die Theorie Darwins und ihr Verhältnis zum Sozialdarwinismus," in *Darwin und die Evolutionstheorie*, ed. Kurt Bayertz et al. (Cologne, 1982), 109.
9. Bayertz, "Naturwissenschaft," 355-94, esp. 364-66; see also James Farr, "Marx and Positivism," in *After Marx*, ed. Terence Ball and James Farr (Cambridge, 1984), 224.
10. Greta Jones, *Social Darwinism and English Thought: The Interaction between Biological and Social Theory* (Sussex, 1980), 69-77.
11. Peter Kropotkin, *Mutual Aid: A Factor in Evolution*, ed. Paul Avrich (NY, 1972).
12. Linda L. Clark, *Social Darwinism in France* (University, AL, 1984), ch. 5.
13. Enrico Ferri, *Socialism and Modern Science (Darwin-Spencer-Marx)* (NY, 1904).
14. Mark Pittenger, *American Socialists and Evolutionary Thought, 1870-1920* (Madison, 1993), 3-8, 248.
15. Dieter Groh, *Negative Integration und revolutionärer Attentismus. Die deutsche Sozialdemokratie am Vorabend des Ersten Weltkrieges* (Frankfurt, 1973),

57-58, 186-87, 209; Roger Fletcher, *Revisionism and Empire: Socialist Imperialism in Germany, 1897-1914* (London, 1984), 17; Karl Korsch, "Die materialistische Geschichtsauffassung. Eine Auseinandersetzung mit Karl Kautsky," *Archiv für die Geschichte des Sozialismus und der Arbeiterbewegung* 14 (1929): 181, 201-5; Erich Matthias, "Kautsky und der Kautskyanismus. Die Funktion der Ideologie in der deutschen Sozialdemokratie vor dem ersten Weltkriege," *Marxismusstudien* 2 (1957): 160, 185, 192; Leszek Kolakowski, *Main Currents of Marxism: Its Rise, Growth and Dissolution*, trans. P. S. Falla (Oxford, 1978), 2:56-57, 113; Hans-Josef Steinberg, *Sozialismus und deutsche Sozialdemokratie. Zur Ideologie der Partei vor dem I. Weltkrieg* (Hanover, 1967), 56-58; Massimo Salvadori, *Karl Kautsky and the Socialist Revolution, 1880-1908*, trans. Jon Rothschild (London, 1979), 23; Dick Geary, "Marx and the Natural Sciences: The Case of Karl Kautsky," in *Internationale Tagung der Historiker der Arbeiterbewegung. Sonderkonferenz (1983). Marxismus und Geschichtswissenschaft* (Vienna, 1984), 405; Dick Geary, *Karl Kautsky* (Manchester, 1987), 11, 86, 94-95, 106, 111; Martin Jay, *The Dialectical Imagination: A History of the Frankfurt School and the Institute of Social Research, 1923-1950* (Boston, 1973), 42.

16. Gunter Mann, "Medizinisch-biologische Ideen und Modelle in der Gesellschaftslehre des 19. Jahrhunderts," *Medizinhistorisches Journal* 4 (1969): 5.

17. James J. Sheehan, *German Liberalism in the Nineteenth Century* (Chicago, 1978), passim; Theodore S. Hamerow, *The Social Foundations of German Unification, 1858-1871*, vol. 1: *Ideas and Institutions* (Princeton, 1969), 135-80. On the connection between liberalism, science, and the social sciences, see Woodruff D. Smith, *Politics and the Sciences of Culture in Germany, 1840-1920* (NY, 1991), ch. 1.

18. Richard Weikart, "The Origins of Social Darwinism in Germany, 1859-1895," *Journal of the History of Ideas* 54 (1993): 469-88.

19. W. D. Smith, *Politics*, passim; Wolf Lepenies, *Between Literature and Science: The Rise of Sociology* (Cambridge, 1985), 1-15.

20. Wilhelm Windelband, a neo-Kantian, formulated the nomothetic-ideographic distinction. On neo-Kantianism, see Thomas E. Willey, *Back to Kant: The Revival of Kantianism in German Social and Historical Thought, 1860-1914* (Detroit, 1978), and Klaus Christian Köhnke, *The Rise of Neo-Kantianism: German Academic Philosophy between Idealism and Positivism*, trans. R. J. Hollingdale (Cambridge, 1991).

21. Peter Bowler, *The Eclipse of Darwinism: Anti-Darwinian Evolution Theories in the Decades around 1900* (Baltimore, 1983). Bowler underemphasizes too much the extent of the reception of natural selection among biologists; see also *The Non-Darwinian Revolution: Reinterpreting a Historical Myth* (Baltimore, 1988).

22. Gerald Runkle's claim that Marxists "all over the world" were disenchanted with Lamarckism and enthusiastic for Weismann's theory is certainly not true of German Marxists; see Runkle, "Marxism and Charles Darwin," *Journal of Politics* 23

(1961): 113; David Joravsky's denial that any connection between Marxism and Lamarckism existed before 1917 is unpersuasive; see *The Lysenko Affair* (Cambridge, MA, 1970), 231 and passim.

23. Paul Weindling, *Darwinism and Social Darwinism in Imperial Germany: The Contribution of the Cell Biologist Oscar Hertwig (1849-1922)* (Stuttgart, 1991), 11-12, 15-16, 254-71.

24. Silvan S. Schweber, "Darwin and the Political Economists: Divergence of Character," *Journal of the History of Biology* 13 (1980): 195-289; Robert Young, "Darwinism Is Social," in *The Darwinian Heritage*, ed. David Kohn (Princeton, 1985), 609-38; John C. Greene, "Darwin as a Social Evolutionist," in *Science, Ideology and World View: Essays in the History of Evolutionary Ideas* (Berkeley, 1981), 95-127; James Moore, "Socializing Darwinism: Historiography and the Fortunes of a Phrase," in *Science as Politics*, ed. Les Levidow (London, 1986), 38-80; Silvan S. Schweber, "The Wider British Context in Darwin's Theorizing," in *The Darwinian Heritage*, ed. Kohn, 37-38; Desmond and Moore, *Darwin*; Elliot Sobor, "Darwin on Natural Selection: A Philosophical Perspective," in *The Darwinian Heritage*, ed. Kohn, 869. See also Richard Weikart, "Laissez-Faire Social Darwinism and Individualist Competition in Darwin and Huxley," *The European Legacy* (forthcoming 1998); and Weikart, "A Recently Discovered Darwin Letter on Social Darwinism," *Isis* 86 (1995): 609-11.

25. Robert C. Bannister, *Social Darwinism: Science and Myth in Anglo-American Social Thought* (Philadelphia, 1979); Jones, *Social Darwinism*; Donald C. Bellomy, "'Social Darwinism' Revisited," *Perspectives in American History* n.s. 1 (1984): 1-129; Clark, *Social Darwinism*; Alfred Kelly, *The Descent of Darwin: The Popularization of Darwinism in Germany, 1860-1914* (Chapel Hill, NC, 1981), ch. 6; Gertrude Himmelfarb, "Varieties of Social Darwinism," in *Victorian Minds* (NY, 1968), 314-32; Peter J. Bowler, *Charles Darwin: The Man and His Influence* (Oxford, 1990), 196-98; Howard E. Gruber, *Darwin on Man: A Psychological Study of Scientific Creativity*, 2nd ed. (Chicago, 1981), 70, 240-41; James Allen Rogers, "Darwinism and Social Darwinism," *Journal of the History of Ideas* 33 (1972): 280; Howard L. Kaye, *The Social Meaning of Modern Biology: From Social Darwinism to Sociobiology* (New Haven, 1986), 18-19; Alexander Alland, Jr., *Human Nature: Darwin's View* (NY, 1985), 19-23. A more recent work that ably argues a more convincing position is Mike Hawkins, *Social Darwinism in European and American Thought, 1860-1945* (Cambridge: Cambridge University Press, 1997).