

CHAPTER VI
KARL KAUTSKY: APOSTLE OF SOCIALIST DARWINISM

Few contributed as much to the dissemination of Darwinism and evolutionary theory in socialist circles as Kautsky, the leading theorist of the German Social Democratic Party in the pre-World War I period. When Kautsky founded *Die neue Zeit* in 1883, he intended it not only as a theoretical journal promoting Marxian socialism, but also as a vehicle to disseminate Darwinism. He asked Engels to contribute an article on Darwin to appear in the first issue, since "I cannot think of a better introductory article for a popular monthly magazine than one about Darwin. The name alone is already a program."¹ Kautsky also invited the Darwinian botanist Arnold Dodel to submit scientific articles to his forthcoming journal, explaining, "We want to devote special attention to natural science and specifically to Darwinism and in each number, if possible, carry a scientific article."² Dodel's prompt compliance delighted Kautsky, especially since the article was on Darwin's life and work, and Kautsky urged him to continue writing for *Die neue Zeit*.³ In explaining the purpose of the new journal to its readers, Kautsky emphasized the importance of natural science, which, he maintained, was producing a greater revolution than any of the previous political revolutions.⁴ In 1883-84 Kautsky himself wrote articles heavily relying on Darwinian theory, and thereafter--though concentrating more heavily on economics, politics, and history in his own writings--he continued to feature articles on evolutionary theory by his friends and colleagues, most notably Edward Aveling, Paul Lafargue, Heinrich Cunow, Eduard Bernstein, Kurt Grottewitz, and Gustav Eckstein.

Kautsky's enthusiasm for Darwinism harked back to his student years in Vienna in 1874-75, when he first became acquainted with Darwin's and Haeckel's writings. In his memoirs Kautsky looked back on this time as the most critical period

in the formation of his materialist world view, and Darwinism was a crucial factor in this development.⁵ In addition to reading Haeckel's *Natürliche Schöpfungsgeschichte* and Darwin's *Origin and Descent*, he also imbibed Büchner's *Kraft und Stoff* and Henry Thomas Buckle's *History of Civilization in England*, all of which contributed to his adoption of scientific materialism. Haeckel captivated the young Kautsky even more than Darwin, because the German biologist was bolder and less cautious than his older English colleague. Büchner won Kautsky's approval not only through his bold materialist stance, but also because his political views were radical and sympathetic to socialism.⁶ Kautsky later called natural science the first love of his youth, and this was no hyperbole.⁷ His entire conception of nature was transformed by Darwinian theory, which also deeply influenced his social thought.⁸

Before entering the University of Vienna in the fall of 1874, Kautsky had decided to study history. He only read Haeckel and other Darwinian literature shortly after beginning his studies, though he read Buckle the preceding summer. His enthusiasm for evolution and his penchant for scientific explanations carried over into his historical studies. He--like Buckle--sought to make history more scientific by trying to discover a theory or principle to explain the historical process. Discontented because his history professors did not provide such a theory, he--at age 21!--took upon himself the task of writing a universal history that would satisfactorily explain historical phenomena in the framework of an overarching theory of development. He gave up this overambitious project after writing a short sketch in 1876 outlining his views. "My theory of history," Kautsky wrote, reflecting back on his views in the mid-1870s, "was nothing other than the application of Darwinism to social development." Kautsky's conception of history as the product of the struggle for existence between tribes, peoples, and races reflected Darwin's views in *Descent* and anticipated the theory of the Austrian sociologist Ludwig Gumplowicz in his book, *Rassenkampf* (1883). Gumplowicz had argued that the struggle for existence in human society was primarily between races (defined culturally, not biologically) rather than individuals, and resulted inevitably in wars and conflicts between different ethnic

groups.⁹ By 1883, though, Kautsky had abandoned this theory in favor of another principle--Marx's materialist conception of history.¹⁰

Kautsky's move toward socialism proceeded simultaneously with his reception of Darwinism. He had grown up in an atmosphere pervaded with the democratic and nationalistic ideals of 1848 and with a hatred of the Austrian regime.¹¹ His sympathy for the Paris Commune initiated an interest in socialism, and he gradually became acquainted with socialist literature. In January 1875 he joined the Austrian socialist party. Although Kautsky read Marx's *Capital* in late 1875 and referred to Marx occasionally in his articles in the 1870s, he was anything but a Marxist at that time. By his own admission, he did not understand *Capital* when he first read it, and his sympathies lay more with John Stuart Mill, Albert E. F. Schäffle, and Lange than with Marx and Engels.¹² His socialism was highly eclectic, and his attempts to articulate his views were often confused and contradictory.

By 1880, when he moved to Zurich, Kautsky was uneasy about the hodgepodge of social ideas in his head: "For my economic and historical thinking I strove toward overcoming my previous eclecticism and toward unified thinking." Together with and under the influence of his new friend Bernstein, he converted to Marxism after studying Engels' *Anti-Dühring*. Kautsky remembered the early 1880s in Zurich as "that time that gave my scholarly work the definitive stamp of a consistent Marxism freed from all eclectic supplements. My economic as well as my historical works were pursued from now on strictly according to the Marxist method."¹³ By late 1882 Kautsky announced to Engels that his forthcoming journal would stand squarely on Marxism and would not tolerate reform socialism.¹⁴ From that time on, Kautsky considered himself an orthodox Marxist and with good reason. He enjoyed the approbation of Engels, Bebel, and--until 1909--almost all European Marxists, including Lenin and Rosa Luxemburg.¹⁵

While Kautsky remained unwavering in his Marxist stance, his position vis-a-vis Darwinism altered considerably after 1885. In the preceding ten years, Darwinism had been a consuming passion, but from 1885 to 1905 he only occasionally broached the subject in his writings. More importantly from a theoretical standpoint, around

the turn of the century Kautsky abandoned a strict Darwinian evolutionary theory in favor of neo-Lamarckism. This shift in his thinking probably came gradually, as he intimates in the preface to *Vermehrung und Entwicklung in Natur und Gesellschaft* (1910, *Propagation and Evolution in Nature and Society*), a book discussing his new position on biological evolution.¹⁶ After embracing neo-Lamarckism, he also published *Ethik und materialistische Geschichtsauffassung* (1906, translated as *Ethics and the Materialist Conception of History*) and a summation of his entire life's work, *Die materialistische Geschichtsauffassung* (1927, *The Materialist Conception of History*), in which evolution plays an major role.

The Role of Darwinism in Kautsky's Conversion to Materialism

According to Kautsky, not his conversion to Marxism, but his conversion to materialism constituted the most fundamental and significant intellectual transformation in his life. By adopting Marxism, he was only building on the materialist foundation already laid down, not altering the entire structure of his world view. Indeed, he opened the section of his memoirs entitled "Materialismus" with the assertion: "As with [my adoption] of socialism and internationalism, so in my entire Weltanschauung I came essentially to the ground on which I still stand today in the years between the Paris Commune and 1874." By Weltanschauung Kautsky did not mean a comprehensive philosophy, but merely a method of viewing the world.¹⁷ Although he only later adopted Marx's and Engels' dialectical materialism, he considered this a small step rather than a giant leap from his previous materialism: "Between the materialism of my beginnings and that of my final stage no such difference exists, that it could signify a break."¹⁸

When Kautsky as a young man began to confront philosophical problems, the chief question in his mind was the existence of God. Darwinian literature was decisive in convincing him that all the arguments used to support the existence of God were sorely lacking. If Darwin and Haeckel were correct, no creator was necessary to explain the diversity and harmony of the organic world. Even more significant,

though, in winning Kautsky to materialism was Darwin's argument in *Descent* for the non-supernatural origin of human ethics, for he had previously considered the existence of ethics a strong argument in support of idealism: "This knowledge," wrote Kautsky concerning the Darwinian view of ethics, "affected me like a revelation. It removed one of the last hindrances from materialistic thinking in me."¹⁹

Based on his own experience with Darwinism, Kautsky naturally regarded it as a weapon in the struggle against religion and a powerful tool to promote a materialist world view. In an 1880 article he applauded Darwinism for having undermined belief in a creator and having struck the final and decisive blow to the medieval Christian world view. Darwinism, according to Kautsky, was contributing powerfully to the emergence of a new world view in which becoming would replace being.²⁰ He inserted a short notice in an early issue of *Die neue Zeit* not only explaining that Darwin had personally renounced Christianity, but implying that Darwin's agnosticism was kin to Büchner's atheism.²¹ In his fight against idealism, Kautsky was especially zealous to promote Darwin's theory of the origin of ethics, writing numerous articles and an entire book on the subject.

He placed great importance on demonstrating that human institutions evolved from animal origins, since this contradicted the prevailing view of the divine origin of human social forms. In 1882 he completed a work on the origin of marriage and the family, intending to show "that marriage, as in its origin, so also in its further development, is subject to the fundamental principles of natural evolution, just like all other things having come into existence."²² He submitted this work to Haeckel with the request that it be accepted as a dissertation, despite the fact that he had never studied under Haeckel, nor was he prepared to be examined in biology. He explained, however, why he thought it appropriate to send his dissertation to a Darwinian zoologist:

Although essentially ethnological, it [the dissertation] is based completely on the Darwinian theory, with which it stands or falls. But on the other hand it occupies itself with a task which can be regarded as a continuation of the Darwinian theory: to prove that marriage as

well as the family, is not an implanted, but a mechanically arising, spontaneously evolving instinct, and that its roots already lie in the animal world.²³

Kautsky further argued that ethnology and anthropology were appropriate fields for a zoologist, and especially for Haeckel, since he had touched on these subjects in *Natürliche Schöpfungsgeschichte*. Haeckel responded to Kautsky that he thought the work was probably sufficient as a dissertation, but he did not consider himself competent to judge and was not allowed to examine in any field but zoology. He encouraged Kautsky to submit his work to a professor in a more suitable field.²⁴ Kautsky subsequently gave up his attempt to get a doctorate and published his study as a series of articles in *Kosmos*, the leading Darwinian journal in Germany at the time.

The Confluence of Socialism and Darwinism

As a young man, Kautsky struggled to achieve a unitary world view, to discover laws that explained both nature and society. Marxism satisfied his urge for scientific explanation by providing laws of development and became the cornerstone of his philosophy, indeed of his whole existence.²⁵ In the midst of their debate over revisionism he wrote to Bernstein, "But if the materialist conception of history and the conception of the proletariat as the driving force of the coming social revolution should ever be overcome, then I must indeed confess, then I would be finished. Then my life would no longer have any content."²⁶ Before embracing the materialist conception of history, however, he had upheld a Darwinian view of history and had attempted to synthesize Darwinism with socialism.

The extent to which Darwinian theory continued to influence Kautsky's thinking even after his conversion to Marxism is a question that has divided scholars. Steenson claims that this is a central issue in evaluating and understanding Kautsky's theory, though some dismiss the influence of Darwinism on Kautsky as insignificant.²⁷ Many scholars, however, emphasize the continuity in Kautsky's thought. Walter Holzheuer claims that Kautsky's early Darwinist ideas always remained an integral

part of his scientific socialism. By Darwinism, Holzheuer is referring more to materialism, anticlericalism, determinism, and the belief in human social instincts than to Darwinism in the strict sense of the term. However, he correctly points out that Kautsky continually upheld the idea of group competition among humans even after adopting neo-Lamarckism.²⁸ Dick Geary also argues that Kautsky continued to adhere to Darwinism throughout his career and claimed that his form of Marxism was evolutionary rather than dialectical as a result.²⁹ Leszek Kolakowski agrees with Geary that Kautsky's system of thought, which he characterizes as Darwinism woven together with Marxism, changed little throughout his career.³⁰

Other scholars, however, stress discontinuity in Kautsky's thought. They claim that, although he was influenced strongly by Darwinism as a young man, this influence waned in the 1880s as Kautsky embraced Marxism. Though still considering evolution a valid biological theory, he divorced natural from social evolution. Hans-Josef Steinberg was the first to suggest this view, claiming that the year 1890 marked Kautsky's turning away (*Abkehr*) from Darwinism, after which time he cannot properly be called a Darwinist, even though some remnants of Darwinian influence remained in his thought. He notes that in 1902 Kautsky rejected Darwinism as incompatible with revolutionary socialism, but in 1909 he again appealed to Darwinism as consistent with revolution.³¹ Hans-Jurgen Mende suggests that Kautsky's reintegration of evolution into his social philosophy was due to his adoption of neo-Lamarckism, which was more conducive to synthesis with Marxism, because it stressed adaptation of organisms to the environment rather than struggle between organisms.³² Steenson agrees with Steinberg that Kautsky sought to distance Marxism from Darwinism, but pushed the date of Kautsky's separation of natural and social development to 1885. While admitting that Kautsky sympathized with Darwinism throughout his whole adult life, Steenson argues that it only had a minor impact on his social and economic theory because of Kautsky's distinguishing between nature and society.³³ Further, Steenson rejects the view that Kautsky ever revived the attempt to synthesize Marxism and Darwinism. Later Steenson was forced to amend this conception of Kautsky's intellectual development when he discovered that

Kautsky had already distanced social theory from Darwinism in 1877.³⁴ Since this was before his conversion to Marxism and during the very time that he was--by his own admission--trying to unite Darwinism and socialism, we are left with a conundrum.

Kautsky's own reflections on his intellectual development seem almost as contradictory as those of the scholars writing about him, and thus do not help much in solving this riddle. He claimed that in the 1880s he suppressed the publication of an essay he had written in the late 1870s because "my conception of history was no longer my earlier view. I had wrestled through to Marxism."³⁵ However, in his memoirs he constantly emphasized the continuity and gradual change in his ideas after the early 1870s. Concerning his pre-Marxist Darwinian conception of history, he wrote, "I did not have to completely overcome it, but only to modify and deepen it, in order to attain to the Marxist conception."³⁶ This suggests that he carried many of his Darwinian views over into his Marxism, at least initially, and possibly permanently. However, whenever he perceived contradictions between Darwinian theory and Marxism, he continually gave preeminence to Marxism and altered his biological views to correspond more closely to his social views.

There is no reason to doubt Kautsky's assertion that in the mid-1870s he tried to unite Darwinism and socialism.³⁷ His articles in the 1870s exude a passion for Darwinism, which he drew upon to support his socialist ideas. As he later wrote, "To find and propagate scientific knowledge, which is incompatible with the interests of the ruling classes, means to declare war on them."³⁸ Darwinism was an essential weapon in his arsenal in the 1870s. At that time he was attracted to the writings of Lange, because, like himself, Lange had eagerly embraced Darwinism and wove it together with his social theory. Of course, as a materialist, Kautsky rejected his neo-Kantian philosophy (in 1879 Kautsky still mistakenly thought Lange was an "empirical materialist"), but his Darwinism and social ideals resonated with Kautsky's.³⁹ The impetus from Lange led Kautsky to write his first book, which dealt with Malthusianism and the population problem.⁴⁰

When we consider Kautsky's path to Marxism in the early 1880s, it becomes clearer why he initially saw no contradiction between Darwinism and Marxism and did not think he had to give up the former to embrace the latter. Before 1880 Kautsky had read Bebel's *Frau*, which, while promoting Marxism, also paid homage to Darwin, despite the fact that Bebel usually opted for non-Darwinian explanations for biological evolution. Kautsky enjoyed reading Bebel's book and later wanted to recommend it to the readers of *Die neue Zeit*.⁴¹ The decisive influence in Kautsky's transformation to Marxism, though, was Engels' *Anti-Dühring*, in which Engels argued quite forcefully for the validity of Darwin's theory--including the struggle for existence--in the natural realm. According to Kautsky, "If I judge according to the effect that Engels' *Anti-Dühring* exercised on me, then there is no book that has accomplished so much for the understanding of Marxism as this one."⁴²

Once Kautsky had adopted Marxism and the materialist conception of history without giving up Darwin's evolutionary theory, he was confronted with the task of integrating the two into a coherent world view. He considered one of Marx's greatest achievements his bringing together of natural and social science (though he probably was thinking more of Engels than Marx).⁴³ Deciding how the two theories related to each other was not so simple. Though they both emphasized change and a lawful process of development, their theories of human social evolution were at odds. Kautsky often evaded these contradictions by relegating Marxism and Darwinism to separate spheres. He argued that Marxism explained social development, while Darwinism explained evolution in nature. In 1890 he explained, "We do not need to break our heads over how socialism and Darwinism may be reconciled. Both have nothing to do with each other."⁴⁴ Similar statements recur in Kautsky's writings, especially when he was opposing the social Darwinist application of natural laws to society.

Despite his hyperbole penned in the fervor of polemics, he knew quite well that both theories intersected and recognized that Darwin's theory of human evolution made claims about human social development. While he rejected the stress on population pressure and the struggle for existence as the driving force behind human

history, he extolled other aspects of Darwin's theory of human evolution--especially its account of the origin of human ethics--as complementary or even supportive of socialism. Kautsky was continually interested in arguing that socialism was in harmony with nature and natural science, without, however, falling into the trap of equating natural and social laws.⁴⁵

Humans as Animals: Kautsky on Human Nature

Like most Darwinists in the nineteenth century, Kautsky often stressed the continuity between humans and animals, especially anthropoid apes. For Kautsky this had not only physiological, but also social and political implications. In his early work on the origin of marriage and the family, he argued that apes and the most primitive humans live in monogamous unions, not in sexual promiscuity as Johann Bachofen (and Lewis Henry Morgan and later Engels) maintained. However, while pairing off in monogamous relationships, apes live in packs rather than families, just as primitive peoples live in tribes without family units. Kautsky implied that monogamy without the development of separate family units was more natural and thus superior to subsequent social forms.⁴⁶ Social instincts or morality are also a biological characteristic inherited from simian forebears and "with this the last barrier between human and animal has fallen."⁴⁷

Even in his later works, Kautsky continued to emphasize the similarities between humans and animals. In *Ethik* this is especially the case, since there he argued for ethics as an instinct derived from animals. It is surprising how far he sometimes carried his argument; in some mental characteristics, he alleged, "the lowest savage differs far less from the animal than from the civilized human."⁴⁸ This kind of biological racism was popular among Haeckel and other Darwinists, but Kautsky's endorsement of it in this book is surprising, since both before and after this time he argued forcefully against Haeckel's view of racial inequality, which he spurned as European haughtiness.⁴⁹ Later he reviewed a book on the mental attributes of apes and discovered therein evidence suggesting to him that the materialist conception of history operates in ape societies, so "that in this area also no strict dividing line

between human and animal exists."⁵⁰ In 1917 Kautsky was still arguing for political positions based on fixed human attributes inherited from nature: "The human is by nature not only a social, but also a democratic being, or rather the impulse toward democratic activity is one of the sides of his social being, which he has taken over from his animal ancestors."⁵¹

Kautsky's insistence that humans are animals and that even many social traits are inherited from the animal realm did not mean that he considered humans *merely* animals. Like Engels, he believed that the chief distinction between humans and their ancestors was that humans used tools as means of production:

With the production of the means of production the animalistic man begins to become human; with this he breaks away from the rest of the animal world to found his own realm, a realm with a special kind of development, which is completely unknown in the rest of nature, where nothing similar is found.⁵²

He admitted that some animals use tools, too, but only those provided by nature.

Because Kautsky ascribed such a significant role to biology in the formation of human character, his conception of human nature was more static than Marx's. His view of social instincts seems to biologically ground Marx's early view of the social being and species being of humans. However, despite his insistence that many human characteristics, including morality and mental and social attributes, are innate and natural, Kautsky allowed for the malleability of these traits, especially after he espoused neo-Lamarckism. He asserted in *Ethik* that human nature and social instincts alter in response to changes in the conditions of life.⁵³ Because of the biological underpinning, however, it remains doubtful that Kautsky had in mind the rapid transformation of human nature through new economic conditions that Marx considered possible.⁵⁴ Nevertheless, he did later argue that human mental organs were particularly susceptible to variation and could change quickly.⁵⁵ So human nature would also not require eons to alter.

Social Instincts as Socialist Instincts

After Kautsky's world view was revolutionized in 1875 by Darwin's explanation of ethics as social instincts, he never relinquished this aspect of Darwinian theory, even after he had abandoned natural selection and the struggle for existence in favor of neo-Lamarckism. Prior to settling on a theory of ethics, though, his ethical feelings had inclined him toward socialism. He felt within himself the desire "for the exaltation and liberation of all who are in misery and enslaved. This ethical need is the point of departure for every socialist striving and thinking."⁵⁶ Based on his own inner experience, Kautsky thereafter regarded the ethical impulse within humans as roughly equivalent to a propensity toward socialist ideals.

After reading Darwin's *Descent* in 1875, Kautsky was fully persuaded that human ethics corresponded to the instincts of social animals and had arisen through the struggle for existence. In his 1876 historical sketch he followed Darwin's views quite closely, portraying the human struggle for existence as a rivalry primarily between tribes and nations rather than among individuals. Those societies displaying the greatest self-sacrifice, loyalty, sympathy--in a word, morality--among themselves would supplant other groups devoid of these traits. Moral traits would be passed on to the next generation as inherent social instincts. Kautsky departed from Darwin, however, by characterizing the social instincts as communist instincts. He believed that primitive tribes were communist and that the struggle for existence gave communist societies a selective advantage in the early history of humanity. Although never explaining how or why this occurred, he thought that the introduction of private property suppressed the communist instincts and fostered individualism. Why natural selection did not hinder this development he did not say. However, the communist instinct persisted in the human breast, and he believed that it influenced some historical events, such as the defeat of the individualistic Persians by the Greeks, who retained a greater measure of communist instincts.

Not only did Kautsky think that the origin of communist instincts and some aspects of history could be explained by recourse to the struggle for existence, but he also appealed to Darwinian theory in support of his vision of the future. He argued

that because the bourgeoisie is individualistic, it is at a disadvantage in the struggle for existence. The proletariat, which has stronger communist instincts and will further strengthen these by organizing, will triumph because of its selective advantage. Kautsky thus harnessed Darwinism in support of socialism.⁵⁷

Kautsky did not publish an account of his views on the origin of ethics until 1877-78, when he exposed his eclecticism at its worst in a confused four-part article for *Vorwärts*. In the first section, he denied the existence of innate ethical concepts or characteristics, defending a view similar to Büchner's in *Kraft und Stoff* that the environment is decisive in determining moral traits and that there is no inherited conscience. This was diametrically opposed to the Darwinian ideas he had previously embraced and to which he soon returned. In the second part of his article, he asserted that all organisms have not only an ethical instinct for self-preservation, but also an instinct of sociability (*Geselligkeitstrieb*). This sounds more like the Darwinian view, but does not seem consistent at all with his insistence on the exclusive influence of the environment on ethical character in the earlier part of his article. In the fourth part of the article, Kautsky introduced yet another factor contributing to the origins of ethics--the instinct or drive for power (*Machttrieb*). According to Kautsky, the power instinct, though seemingly gruesome and contributing to social injustice, actually restrains social animals from the more appalling forms of the struggle for existence and contributes to the moral perfection of humanity. It does this by reinforcing moral instincts within groups of people struggling for power with other groups.⁵⁸ Kautsky soon recognized the inconsistencies of his article, for he never again defended the environmental view of ethics, nor did he ever again mention the power instinct, though he continued to write a great deal in the course of his career on the origin of ethics.

His conversion to Marxism in no way swayed Kautsky from the Darwinian view of the origin of ethics. In the early 1880s he became more convinced than ever of the truth of Darwin's theory that human ethics are innate social instincts. He expostulated against his own previous statement that no conscience exists: "The stronger the social instincts, the stronger the conscience. If these are completely

extinguished in a person, he is *conscienceless*, he is a brute (*Unmensch*), because he has completely departed from the form of the struggle for existence natural for the human, the communist form."⁵⁹ Because the social instincts are a weapon in the struggle for existence, they increase and gain priority over the instinct for self-preservation.⁶⁰

Kautsky considered the individualism of bourgeois society an unnatural aberration from the communism of primitive societies. Humans as shaped by nature--the *Naturmensch*--have more highly developed social instincts, which have not disappeared despite being suppressed somewhat by economic, social, and cultural developments. As Kautsky explained to Engels, "What I want to prove is this, that the social instincts are not, as Spencer thinks, a product of culture and therefore much stronger today than in primitive times, but rather that they were at that time already completely developed."⁶¹ By grounding communism in the biological instincts of humans, Kautsky tried to present socialism as natural and individualism as an apostasy from humanity's pristine state. He closed his 1884 article on human social instincts with the statement, "We study the past, not to rave with Rousseau about the return to the primitive condition, but rather to reach the conviction from it, that our efforts are no utopia, but rather are grounded as much in the essence of the human as in the course of historical development." He believed that the social instincts would revive and ultimately triumph, but this time he asserted that it would be a consequence of social and technological developments.⁶² This is a shift from his pre-Marxian position, where he argued that the struggle for existence would ensure the victory of socialism by giving a selective advantage to those with more highly developed social instincts.

Even after asserting that Darwinism and socialism had nothing in common, Kautsky continued to argue that the social instincts humans had inherited from the animal world and strengthened through the struggle for existence would benefit the proletariat in their attempts to introduce socialism. Thus he utilized Darwinism in a roundabout way to support socialism. He admitted in a 1906 article on the origin of ethics, "And here Darwinism and Marxism meet together."⁶³ However, as in his 1884 article, he never suggested that the struggle for existence was still necessary to

increase social instincts. Instead, social instincts would be strengthened in the proletariat through environmental influences and through their participation in the class struggle. Kautsky implied that the class struggle would not function as a selective mechanism, but as a means to galvanize ethical feelings.⁶⁴

When neo-Kantian ethical theories began infiltrating the SPD around the turn of the century, giving impetus to ethical socialism, Kautsky again prescribed evolutionary theory as an antidote to idealism. He had no sympathy for Lange's earlier attempt to synthesize Darwinism and neo-Kantian ethical idealism, but believed that such a combination was inconsistent, since it was undermined by the naturalistic explanation of the origin of ethics provided by Darwin. He was concerned enough with the increasing influence of neo-Kantianism in socialist circles to write *Ethik*, a book refuting their ethical idealism. This book merely explicated in greater detail the same views he had already propounded beginning in 1884, as Kautsky himself admitted.⁶⁵ The curious thing about his presentation of evolution in this book is that he continued to locate the origin of ethics in the human struggle for existence, even though he had already abandoned Darwinian natural selection in favor of neo-Lamarckism. Thus we see that he was still unable to break loose completely from Darwinian theory in explaining human evolution. However, he clearly reiterated his position that the future progress and intensification of social instincts would occur through economic and social developments, including the class struggle. Unlike social instincts in animals and heretofore in human society, in the future they would not provide feelings of solidarity merely within one's society, but would be international in scope.⁶⁶ Kautsky's view that social instincts would expand to encompass all of humanity and thus abolish wars was not original with him, for Darwin had expressed the exact same idea in *Descent*.⁶⁷

In *Ethik* Kautsky defined social instincts far better than he had previously. They are moral feelings such as altruism, devotion to the community, bravery, faithfulness and submission to the will of society, obedience, discipline, truthfulness, and desire for social approval. These traits are evident in all social animals and are biologically inherent in humans. However, Kautsky distinguished between these

general moral feelings and moral precepts. The latter are present only in human society and are much more variable, though not according to human whim: "But not only are the social instincts not merely conventions, but rather something founded deep in human nature, the nature of man as a social animal; but also the moral precepts are not arbitrary, but originate from social needs."⁶⁸ The distinction between moral feelings and moral precepts allowed Kautsky to follow Marx's position on morality as a weapon in the class struggle. Kautsky asserted,

Every class has its own special ethics, [and] these form a weapon, without which it cannot wage its struggle for existence, [and] which is adapted to its special conditions of existence, [and] to which it must remain faithful, if it should maintain itself and be able to develop its greatest power.⁶⁹

Thus while upholding moral feelings as inherent, natural, and implicitly good, he considered specific moral tenets malleable and suitable only under certain social conditions. He by no means thought that Darwinism justified bourgeois morality, but on the contrary, he believed that it militated against it.

Natural vs. Social Laws: The Problem of Malthus and the Struggle for Existence

The greatest problem confronting Kautsky in his attempt to integrate Darwinism and socialism was how to deal with Darwin's conception of the struggle for existence and its Malthusian basis. Anti-socialist Darwinists continually harped on this aspect of Darwin's theory to demonstrate the impossibility of socialism and the deleterious effect of egalitarianism. Since the anti-socialist polemicists were thus arguing that socialism was unscientific and inconsistent with the laws of nature, Kautsky had to respond to their challenge and ascertain the relationship between socialism and the laws of nature.

In the 1870s Kautsky groped for an answer to this dilemma and vacillated between acceptance of the Malthusian element of Darwinian theory and complete rejection of it. In his 1876 sketch of the history of humanity he placed the human

struggle for existence at the center of his explanation of social development. The same year in a polemic against Georg Seidlitz, Robert Byr, and Friedrich von Hellwald, who all maintained that Darwinism militated against socialism, Kautsky argued that the struggle for existence among humans would promote socialism by increasing social instincts to the point that intraspecific competition would no longer exist among humans. He asserted, "The dreadful law of the struggle for existence necessarily brought to life the socialist idea, and the same law will lead it to victory."⁷⁰

The struggle for existence would continue, but would be waged against the rest of nature, not against fellow humans. The problem with his 1876 article is that Kautsky ignored a central issue of Darwinian theory: Malthusian population pressure as the driving force behind the struggle for existence. However, in 1877-78 he confronted this problem by denying the legitimacy of Malthus' views. He claimed that the fruitfulness of organisms naturally diminishes as their food supply increases. He thus opposed Malthus' and Darwin's theory that population naturally tends to outstrip food production.⁷¹

In 1877 Kautsky also began to draw sharper distinctions between humans and nature to better confront the arguments of the anti-socialist Darwinians, who continually emphasized the continuity between humans and the rest of nature. He maintained that because humans can exercise control over nature and can make it serve their purposes, "the struggle for existence in the human world expresses itself entirely differently than in the animal and plant world." Humans no longer have to obey the dictates of nature, but can shape a harmonious and rational society in which the struggle for existence is subdued. "No longer does nature all-powerfully adjust him [the human] to its laws; more and more he turns the tables on it and adjusts it to himself."⁷² Kautsky stopped short of declaring that natural and social laws belong to two distinct realms, but the idea is there in germ.

Kautsky evinced an equivocal stance on the relationship between natural and social laws in his first book, *Der Einfluss der Volksvermehrung auf den Fortschritt der Gesellschaft* (1880, *The Influence of Population Increase on the Progress of Society*), which he completed in 1878, when the Anti-Socialist Law delayed its

publication. Under the influence of Lange and Darwin, Kautsky reconsidered his previous dismissal of the population problem. He argued against his own previous position, which was upheld by numerous socialists, including Wilhelm Liebknecht, that population was self-regulating and the problem would thus solve itself in socialist society. Kautsky was now convinced, like Lange, that "The question, which Malthus brought up, is one of the most important among those which awaits its solution by the present generation." He lamented that Lange had not provided a complete solution, but at least he had grappled with the question, which most socialists were not disposed to do.⁷³

Rejecting his previous view that abundant food and better living conditions would limit population growth, in *Einfluss* he agreed with Darwin that there is a natural tendency for all organisms, including humans, to propagate faster than their food supply. Natural laws hold sway over humans as well as nature and "to want to get rid of the struggle for existence is a utopia, which will never ever succeed." However, Kautsky did not believe that humans had to resign themselves to the miserable consequences of overpopulation, but through knowledge of this law of nature could alter its effects according to their own rational purposes. Thereby humans could transform the struggle for existence into a struggle against nature and eliminate the inter-human struggle. Kautsky's suggestion for a permanent solution to the population problem was to increase the use of contraceptives when overpopulation becomes a problem.⁷⁴

Kautsky, however, disagreed with Malthus that overpopulation was the source of misery in contemporary society. Kautsky explained that overpopulation can be either natural or artificial, the consequence either of natural or social laws. Present misery, according to Kautsky, is due to social organization, and the introduction of a socialist mode of production would alleviate the population problem for many years by increasing food production dramatically and distributing it more equitably. Kautsky further complained that Malthus illegitimately borrowed a law of physiology to explain political economy rather than examining economic facts to reach his conclusions. Malthus erred by not recognizing "that a law of physiology can be

hindered in its efficacy, if not also abolished, through social laws."⁷⁵ While on the one hand subsuming humans under the population law and the struggle for existence, on the other hand Kautsky opposed the application of natural laws to society.

After 1878 Kautsky began emphasizing even more strongly the independence of social science from natural science. Two factors converged in 1878-80 to move him in this direction. First of all, in 1878-79 Haeckel and other Darwinists began publicly assailing socialism as inconsistent with science. Secondly, around 1880 Kautsky converted to Marxism, and thereafter he followed (but not with complete consistency) Marx's and Engels' distinction between the human and natural realms. He defended socialism in 1879 against the attacks of the biologist Oscar Schmidt by asserting, "Concerning the details of the demands which socialism makes, these are the result of economic research and have as such nothing to do with Darwinism, [and] can therefore neither be founded nor refuted by it."⁷⁶ In 1880 he maintained that what holds true for animals and primitive humans does not necessarily hold for nineteenth-century humans, since history shows "a gradual, ever increasing control of nature by humans, i.e., an emancipation from the laws of nature."⁷⁷ After 1880 Kautsky indefatigably and vehemently objected to all attempts to extract specific social laws from natural laws, even by those like Enrico Ferri, who tried to base socialism on natural laws.⁷⁸ Despite his continuing respect for Lange, he distanced himself from him in 1891, claiming that important differences exist between Lange's Darwinian socialism (Kautsky used the term "darwinistelden" here, an uncommon term with a sarcastic connotation) and Marxian socialism.⁷⁹

One of Kautsky's clearest statements on the inapplicability of biological theory to social theory has often been misconstrued by scholars, who have mistakenly interpreted it as a rejection of evolutionary theory itself. In *Die soziale Revolution* (1902, translated as *The Social Revolution*) Kautsky linked eighteenth-century and early nineteenth-century scientific theories of catastrophism with a revolutionary bourgeoisie. After the bourgeoisie moved beyond its revolutionary stage and favored gradual change, it embraced biological evolution and used it to argue against revolutions as unnatural. However, Kautsky's admission that the acceptance of

scientific theories was conditioned by social views did not in any way imply that he dismissed biological evolution as merely bourgeois science. It simply meant that he opposed any direct application of natural laws to social phenomena, a point he reiterates throughout this passage. His argument was not against evolution, but against drawing social implications from evolution. His retention of evolution is evident in his assertion that some biologists were beginning to allow for more rapid change or mutations in evolution, which illustrates the error of rejecting evolution on biological grounds, though it does not really prove anything, because social and natural developments follow their own distinctive laws.⁸⁰

Even after Kautsky's interest in evolution revived after 1905, he vigorously denied that biology could be used to explain society. In *Ethik* he confessed that there are some similarities between living organisms and human society, but it is false to think that one can deduce social laws from biological laws, since there are also differences between nature and society.⁸¹ When discussing the laws of population in *Vermehrung*, Kautsky argued that technology set humans apart from animals and made them subject to different population laws. Each form of society has its own special population laws that depend on social conditions, not on nature.⁸² In *Materialistische Geschichtsauffassung* Kautsky reiterated his position that natural laws cannot be applied to society.⁸³

Although he had already distanced social laws from natural laws and denied the inevitability of the struggle for existence among humans in the 1880s, he continued to believe that an intraspecific struggle for existence had occurred in the past and was still being waged among humans, who fought as groups instead of individuals.⁸⁴ Indeed he directly equated the class struggle with the struggle for existence, tying together biological and social concepts.⁸⁵ However, while relying on the concept of the struggle for existence to explain past and present social developments, Kautsky emphatically rejected its application to future society, at least as far as intraspecific competition is concerned: "Society is therefore the direct negation of the 'struggle for existence.' . . . The abolition of the struggle for existence:

that is truly socialism."⁸⁶ In the future the struggle for existence would be solely against nature.

When Kautsky embraced neo-Lamarckism around the turn of the century, he totally abandoned the idea that an intraspecific struggle for existence played a significant role in biological evolution, much less in human evolution. He still used the term struggle for existence, though, but it "does not mean the struggle with other organisms of the same species, but rather the struggle with the whole of nature."⁸⁷ He relegated population pressure to an insignificant role in evolution and wrote *Vermehrung* to rescind his earlier treatise on population, *Einfluss*.⁸⁸ While attacking the Malthusian element of Darwin's theory, Kautsky tried to salvage Darwin's reputation by distancing Darwin from Malthus. He pointed out that Darwin saw the struggle for existence as competition not only between organisms of the same species, but also between different species as well as between organisms and their environment. Malthus, on the other hand, stressed only intraspecific competition. Another difference he perceived between Malthus and Darwin is that Malthus thought that population pressure produced misery, but Darwin showed that it actually produced higher forms of life. Kautsky speciously argued on this basis that Darwin's theory of natural selection disproves Malthus, because, after all, population pressure cannot produce both misery and higher development in a species.⁸⁹ Kautsky failed to remember that Darwin included both elements in his description of the struggle for existence: "Thus, from the war of nature, *from famine and death*, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows."⁹⁰

By adopting neo-Lamarckism, Kautsky deftly evaded the principle objection toward socialism aired so often by anti-socialist Darwinists--the inevitability of the struggle for existence. The temptation increased to build bridges between biological and social theory, though he formally denied this possibility. How successfully he managed to keep the two realms separate, however, is hotly debated. Kautsky's grandson, emphasizing his later work, praised his forebear for extending Marxism by putting the materialist conception of history on a foundation of natural science and

thus unifying biology and sociology. Kautsky allegedly subsumed both nature and society under the law of the adjustment of an organism to its environment.⁹¹ Karl Korsch criticized Kautsky for trying to discover laws common to history and nature.⁹² Others, however, have maintained that Kautsky successfully continued to separate nature and society in his works after 1900.⁹³

Although Kautsky's views on population theory and the struggle for existence altered considerably during his career, his position vis-a-vis the relationship of natural and social laws remained fairly consistent. He continually remonstrated against the application of natural laws to society and assigned biology and social science to separate spheres of investigation. However, he never denied that there are some similarities and parallels between nature and society, and thus he left room for the possibility that some laws might be the same in both realms, though these laws must be derived independently by investigating the facts of nature and society, not by applying laws from one realm to the other. He also never denied that humans as animals are a product of nature; thus natural laws have implications for humans. However, he did reject the notion that humans are nothing but animals. Through reason and technology they had exalted themselves above the rest of nature and were thus in some measure independent of nature. Kautsky's task was to show relationships between nature and society--such as social instincts and environmental influence--without applying laws and theories of one realm to the other. He walked this intellectual tightrope his entire career. As he explained in *Materialistische Geschichtsauffassung*, "The materialist conception of history rests on the one hand on the recognition of the unity of events in nature and society, on the other hand it shows in the commonality of the evolution of the world the special aspect of social evolution."⁹⁴

Kautsky's Neo-Lamarckian Theory

Like most of his contemporaries in the late nineteenth century, including Darwin and Haeckel, Kautsky saw no contradiction between the Darwinian theory of natural selection and Lamarck's theory of the inheritance of acquired characteristics.

Indeed Kautsky once referred to evolutionary theory as the "Lamarckian-Darwinian theory of descent."⁹⁵ Nevertheless, in the 1870s and 1880s, Kautsky, like Darwin, was captivated by the idea of natural selection and the struggle for existence. He focussed attention on these aspects of evolutionary theory more than the Lamarckian elements. Because Kautsky wrote so little about evolution between 1885 and 1905, it is impossible to trace the changes in his thinking that led up to his conversion to neo-Lamarckian theory, which occurred around 1900. Neo-Lamarckism was the doctrine that insisted on the efficacy of the inheritance of acquired characteristics and rejected (or at least minimized) the role of natural selection in evolution. After 1905 Kautsky relegated the struggle for existence to a position of insignificance, though not oblivion, in explaining evolution, for he still did refer on occasion to a truncated version of natural selection.

Kautsky's social views were more compatible with the Lamarckian theory of evolution and undoubtedly made him more amenable to accepting it, but there must have been other reasons for him to abandon Darwinian selection theory. One catalyst was the polarization between the neo-Darwinists, led by Weismann, and the neo-Lamarckians, which became acute in the late 1890s.⁹⁶ Kautsky was not at all enamored with the attempts of followers of Weismann to exalt heredity above the environment, especially when explaining human characteristics. He was especially incensed by Cesare Lombroso's theory that criminals have an inborn, instinctual inclination toward crime, which turned crime into a biological characteristic, not a product of social conditions.⁹⁷ Reactions against Weismann in the 1890s placed the Lamarckian side of evolution in the spotlight, and Kautsky featured articles in *Die neue Zeit* on Lamarckism around 1900.

When Kautsky finally explicated his new biological views in *Vermehrung*, he raised a variety of biological objections to Darwin's theory, in addition to his rejection of population pressure as a mechanism driving evolution forward. His most telling argument was that tiny, imperceptible variations as occur in nature would not confer a selective advantage to individuals.⁹⁸ Darwin would not have agreed with Kautsky that variations are so minuscule, though Darwin never solved the problem of the

origin of variations, and this remained a problematic aspect of his theory. Kautsky's other objections to Darwinism were less weighty and even naive. He argued that if there is a struggle for existence between organisms, then stronger species would extirpate weaker ones and even destroy their own food supply, bringing on their own extinction. Also all the lower organisms would be decimated by higher organisms as they evolved.⁹⁹ The fallacy in this line of reasoning is that Kautsky assumed that the survival of the fittest meant the survival of the strongest or more complex. Darwin had meant fittest to mean those best adapted to their environment and believed the struggle produced equilibrium among the various species, who coexist because they have different niches. Finally, Kautsky alleged that Darwinism could not explain the similarity of organisms in a species, which he thought must be due to environmental influence.¹⁰⁰ Why Kautsky thought heredity and common phylogeny could not account for this is unclear.

The theory Kautsky used to replace Darwinism was a blend of Lamarckian ideas and Büchner's pre-Darwinian evolutionary theory and was quite similar to Bebel's explanation for human evolution. Kautsky now emphasized changes in the conditions of life or the environment as the mechanism behind evolution. As the environment alters, the equilibrium in nature is upset and organisms have to adapt to the new conditions. By environmental change, Kautsky was not referring to small-scale fluctuations in weather, but to widespread geologic alterations of the face of the earth. The periods of rapid geological transformations result in rapid biological evolution, because organisms have to adapt quickly to the new conditions in order to survive. In geological periods of relative stability, such as the present one, evolution occurs at a very slow pace. During these periods evolution still occurs, but by a different mechanism--the gradual accumulation of acquired characteristics. Thus Kautsky fused Büchner's environmental explanation with the neo-Lamarckian stress on acquired characteristics, each operating in different geological periods.¹⁰¹

Neo-Lamarckism allowed Kautsky to explain human evolution without recourse to the struggle for existence and made the parallels between biological and social evolution seem closer than ever. He referred to both the environment in nature

and the economy in society as "conditions of life" that shaped the course of evolution in each realm. Occasionally he explicitly linked the two together: "The conditions of life determine the kind of its [an organism's] desires, the forms of its actions and its success. This knowledge forms the point of departure for the materialist conception of history."¹⁰² The biological and social evolution of humans now converged, for they were both conditioned by the development of technology. Further, social forms are an integral part of the human environment and thus they would impact biological change.¹⁰³

Evolution, Revolution, and the Dialectic: Socialist Tactics

The role of evolutionary theory in influencing socialist tactics in the pre-World War I era has been hotly debated in socialist circles, and Kautsky's thought is in the center of the debate, since he was the leading socialist theoretician and also heavily influenced by evolution. Since 1929, when Karl Korsch attacked Kautsky as a "crypto-revisionist," numerous socialists to the left of Kautsky have criticized him and the SPD in general for their lack of revolutionary élan. Evolutionary theory was supposedly one of the main culprits in pushing the party from "Hegel to Haeckel."¹⁰⁴

The viewpoint of Korsch and other critics of Kautsky's "Darwino-Marxism" may be briefly summarized as follows: Kautsky had little or no understanding of Hegel and therefore replaced the Hegelian side of Marxism with a Darwinian or evolutionary view. By ignoring the dialectical component of Marx's thought, he remained entrenched in crass scientific materialism à la Büchner and never fully embraced the materialist conception of history. Kautsky's thought was impregnated with scientific determinism, which translated into fatalism and negated the revolutionary praxis-oriented social philosophy of Marx. Kautsky thus promoted a passive wait-and-see attitude.¹⁰⁵

Kautsky's critics were right that he had never studied Hegel, and he himself admitted that his knowledge of philosophy, including Hegel and Feuerbach, was perfunctory.¹⁰⁶ However, it would have come as some surprise to Kautsky that this

would disqualify him from thinking dialectically.¹⁰⁷ Although Kautsky embraced scientific materialism before Marxism, he noted in his memoirs that he adopted Engels' formulation of the dialectic in its entirety after reading *Anti-Dühring*.¹⁰⁸ He began interpreting both nature and society in terms of contradiction and struggle: "But the means of development is that of struggle. The reconciliation of antagonisms implies the stoppage of development."¹⁰⁹ Kautsky was incensed that Bernstein attacked the Marxian dialectic as unscientific, and he scurried to its defense: "But the driving force of all development is the struggle of contradictions."¹¹⁰ Before embracing neo-Lamarckism, Kautsky considered biological evolution with its struggle for existence dialectical, but when he backed away from natural selection, he also abandoned Engels' view that nature is dialectical. Those who interpret Kautsky's later evolutionary views as in some sense dialectical are erroneously reading into Kautsky what he did not intend.¹¹¹ However, he continued to uphold dialectical development in human society, whereby humans struggle against the environment as well as participate in the class struggle.¹¹²

Kautsky's materialist conception of history was thoroughly deterministic, but he emphatically denied that it was fatalistic. Darwinism played a crucial role in winning Kautsky to scientific materialism and determinism in the 1870s by overcoming idealist objections to materialism. However, it was scientific determinism in general rather than any specific Darwinian tenet that influenced his materialist conception of history. His writings are littered with terms such as necessity, natural necessity, unavoidable, inevitable, and law when referring to historical developments. He believed that Marx had exalted history to a science by formulating deterministic laws of development.¹¹³

Kautsky's determinism may have dampened his revolutionary élan, but this influence should not be overstated, since Kautsky often grappled with this issue head-on and rejected the charge of fatalism levelled by his contemporaries. In his polemical struggle with Bernstein, he argued that Bernstein was misrepresenting his position by portraying him as a fatalist. He admitted that he was a determinist, because he--like Marx and Engels--insisted on social development proceeding according to scientific

social laws. However, he denied that determinism entailed fatalism, which he accused Bernstein of conflating. He upheld the role of the human will in shaping historical developments, only he denied that the will was free.¹¹⁴ Earlier, in his book on the Erfurt Program, he had clarified that inevitable events do not occur apart from human action.¹¹⁵

In conjunction with his determinism, the gradualism of evolutionary theory could easily have rubbed off on him and influenced his ideas on social evolution to some extent, as some of Kautsky's critics have charged. Once again, however, Kautsky was aware of this temptation and specifically confronted it by denying that evolution was incompatible with revolution. Kautsky also emphatically disputed that evolutionary theory militated against revolutionary socialism: "Evolution does not exclude revolution; the latter is only a special phase, a special form of evolution that occurs under specific conditions."¹¹⁶ Thus he not only rejected the application of Darwinian gradualism to social evolution, but he also saw revolution as an inevitable stage of social evolution. His determinism thus did not detract from, but promoted, revolution.

Kautsky's conception of the coming socialist revolution was not always clear, despite his two anti-revisionist works attempting to clarify his position, *Die soziale Revolution* and *Der Weg zur Macht* (1909, *The Way to Power*). Both books advocated a social and political revolution, which Kautsky defined as the assumption of political power by an oppressed class.¹¹⁷ The timing and nature of the revolution--specifically whether or not it would be violent--remained ambiguous. Usually it seemed that he thought the revolution would be violent. This interpretation is strengthened by a letter Kautsky wrote to Bernstein, where he criticized Bernstein for not defining revolution and then added, "I use the word here in the only way in which it has a meaning, as a violent *political revolution* (*Umwälzung*). The social revolution is either a political revolution that has socialist consequences or it is an empty slogan."¹¹⁸ However, Kautsky did not believe that the revolution would necessarily occur with one blow as a dramatic overturning of the present order: "I hasten to note

that I hold the revolution for a historical process, which may last shorter or longer, a process which can drag on for decades under heavy struggles."¹¹⁹

After 1909 Kautsky split with the left wing of the SPD, who bitterly accused him of abandoning Marxist revolutionary praxis. The debate was not over whether or not the SPD should preach revolution, for Kautsky had persistently upheld the need for revolution. The dispute was over whether or not the SPD should foment revolution by pressing for immediate workers' demonstrations to overthrow the present political and economic structure. Those who wanted immediate action took umbrage at Kautsky's counsel to await more propitious circumstances and presumed he had sold out on revolution.¹²⁰ Later leftist critics of Kautsky identified his adherence to Darwinism as a factor tainting his Marxist theory and stripping him of revolutionary praxis.

Three strong arguments militate against the view that Darwinism and evolutionary theory were responsible for Kautsky's centrist view on socialist revolution. First, Kautsky emphatically denied that evolutionary theory affected his social views, particularly his ideas on revolution. Second, Marx and Engels had also adopted Darwinism with alacrity, and in a moment of enthusiasm Marx had proclaimed that Darwinism was "the foundation in natural history for our view."¹²¹

Thus neither Marx nor Engels saw any necessary contradiction between Darwinism and revolution. Dieter Groh, though arguing that Kautsky did transform the Marxist conception of revolution by viewing it merely as a lawful evolutionary development, nevertheless admitted that Marx did not hinder the development of this idea in socialist circles and Engels even furthered it.¹²² Third, Kautsky's contemporary opponents on the left, who were pressing for revolutionary activity and complained of Kautsky's passivity, upheld basically the same conception of evolution and scientific determinism. Most of them, Lenin included, had esteemed Kautsky as an orthodox expositor of Marxism until after his break with the radical wing of the SPD.¹²³

Socialist Eugenics: The Artificial Selection of Humans

Eugenics became a prominent topic of discussion in Germany beginning in the 1890s and became an organized movement shortly after the turn of the century. Though occasionally entering the discussion, Kautsky remained largely on the sidelines of the eugenics movement. Nevertheless his role in the rise of eugenics was significant in two respects: (1) through the influence he exerted on leaders in the eugenics movement; and (2) through his promotion of eugenics among socialists.

Of the three leading figures in the early German eugenics movement--Ludwig Woltmann, Alfred Ploetz, and Wilhelm Schallmayer--the first two were committed socialists before and during their adoption of eugenical ideas, and Schallmayer was clearly sympathetic to socialism. Woltmann was familiar with Kautsky's Darwinist views and discussed them in his book on the relationship between Darwinism and socialism. However, his commitment to Darwinism and especially the transformation of his ideas toward a form of racist eugenics probably received little or no impetus from Kautsky, though it is possible that he saw some of Kautsky's earlier views as confirmation of his Darwinian socialism.¹²⁴

Ploetz's views were decisively influenced by Kautsky, whose *Einfluss* provided an important stimulus toward the development of Ploetz's eugenics.¹²⁵ Kautsky's work helped bring Ploetz to the Malthusian standpoint, and Ploetz--like Kautsky before him--wrestled with how to integrate this with his socialism. Ploetz explained to Carl Hauptmann in 1891 how he solved this dilemma:

You know that from the standpoint of political economy I would like to be a socialist and Malthusian. But since I am deeply imbued with [the idea of] the importance of natural (and sexual) selection for the maintenance of health and the further progress of humanity, I saw the contradiction between the maintenance of natural selection and the socialist-Malthusian systems and remained inwardly without direction, until I discovered the way out, to transfer the struggle for existence from the personal level to the level of reproductive cells . . . The

conflict Malthus-Darwin-Nietzsche on the one side, socialism-humanitarian systems on the other side would be solved.¹²⁶

So at the same time that Kautsky was moving away from Malthusian ideas, Ploetz was taking his ideas in the opposite direction.

By reviewing Schallmayer's early book, *Ueber die drohende körperliche Entartung der Kulturmenschheit* (1891, *On the Threatening Physical Degeneration of Civilized Humanity*), Kautsky became one of the earliest to introduce eugenical thinking into the socialist press. Kautsky agreed with Schallmayer that modern society was promoting degeneration and that medicine and hygiene were contributing to this by facilitating the propagation of weaker and inferior individuals. The bourgeois Darwinists' solution of reintroducing the struggle for existence is absurd and hypocritical, according to Kautsky, since all the accomplishments of modern culture work to enervate the struggle for existence. Do they really want to return to primitive society and forfeit their own pride and glory? Kautsky regarded rational social planning as the most beneficial replacement for natural selection. Degeneration could be obviated by removing deleterious environmental influences and promoting healthy conditions of life.¹²⁷

In *Vermehrung* Kautsky devoted an entire chapter to *Rassenhygiene* or eugenics and expanded on the ideas he had articulated in his review of Schallmayer almost twenty years earlier. He still regarded degeneration a pressing problem caused by two factors: (1) poor conditions of life in capitalist society; and (2) the increasing elimination of the struggle for existence, permitting the weak and sick to reproduce. Socialism is an integral component of Kautsky's eugenical program, since it will banish the miserable conditions that stymie progress. When we consider that at this time he was basing his biological evolutionary theory on the influence of environmental conditions, we recognize that for Kautsky socialism would promote the further evolution of the human species. The second point, though, would only be exacerbated in socialist society. However, the detrimental effects of reduced competition could be countered by replacing natural selection with artificial selection. Kautsky expressed tremendous faith in the rationality of each member of socialist

society, since no compulsion beyond the force of public opinion would be required to implement artificial selection. The weak, sick, and inferior would themselves decide not to bear children.¹²⁸

Kautsky shared with most eugenicists the conviction that rational control of human reproduction would counter present degradation and foster biological progress. Since many eugenicists based their views on Weismann's theory of hard heredity (i.e., the rejection of the inheritance of acquired characteristics), it is surprising to find Kautsky as a neo-Lamarckian embracing their ideas. Indeed his presentation of eugenics revealed vestiges of Darwinism in his thinking that directly contradicted the neo-Lamarckian theory he had described earlier in the same book. How, for instance, could the decrease in the struggle for existence be held responsible for the increasing degeneration in contemporary society, when in a previous passage Kautsky had claimed that the struggle for existence played little or no role in human evolution at all? Also, if the environment is the primary influence on biological traits, why would inferior individuals necessarily produce inferior offspring? Kautsky apparently ascribed a greater role for heredity in the course of evolution than he would sometimes admit.

Conclusion

Since Darwin's *Descent* played such a crucial role in converting Kautsky to materialism, the foundational element in his world view, Kautsky naturally accorded Darwinism a prominent place in his thinking. He, like Bebel, appealed to evolution as support for his religious, philosophical, and--for a time--even his social views. Like many of his contemporaries, he saw conflict between religion and science and used Darwinism as a weapon against the forces of clericalism.

Because Kautsky's whole world view was transformed by Darwin's explanation that ethics arises through the process of natural selection, Kautsky was more wedded to the Darwinian theory of natural selection in the 1870s than was Bebel, and he tried to synthesize it with his non-Marxian socialism. After adopting Marxism in the early 1880s, he still retained Darwinism as a biological theory, but

even before this time--and to a greater extent thereafter--he distanced it from social theory, claiming that Darwinism had nothing at all to do with socialism. By keeping the two theories in separate compartments, he avoided having to deal with the points where they intersected and contradicted one another, e.g., the application of Malthus' population principle to human society.

Only after embracing neo-Lamarckism around the turn of the century was Kautsky able to integrate evolutionary theory into his world view in a satisfactory manner once again, since this eliminated the unsavory elements of Darwin's theory that conflicted with his Marxian social views. Although it is impossible to pin down the reasons for Kautsky's shift from Darwinism to neo-Lamarckism, it is likely that his Marxist theory played a significant role, just as it had in Marx's receptivity to Trémaux's non-Darwinian evolutionary theory and Bebel's espousal of environmentalist explanations for evolution. Whether or not this is the case, in 1905, after adopting neo-Lamarckism, Kautsky broke a twenty-year hiatus in writing about evolution (excluding a few admonitions to keep evolution and socialism separate). It was far easier for him to blend Marx and Lamarck than Marx and Darwin. And it was far more tempting to blur the distinctions between nature and society, on which he always formally insisted.

ENDNOTES

1. Kautsky to Engels, 11 November 1882, in *Friedrich Engels' Briefwechsel mit Kautsky*, ed. B. Kautsky, 66.
2. Kautsky to Dodel, 29 December 1882, IISH, Karl Kautsky archive, C 371.
3. Kautsky to Dodel, 3 January 1883, 12 January 1883, and 7 May 1883, IISH, Karl Kautsky archive, C 372-73, C 378.
4. Kautsky, "An unsere Leser," *Die neue Zeit* 1 (1883): 5-6.
5. Kautsky, *Erinnerungen und Erörterungen*, ed. Benedikt Kautsky (The Hague, 1960), 172, 209-10.
6. Kautsky, *Erinnerungen*, 213; Gary P. Steenson, *Karl Kautsky, 1854-1938: Marxism in the Classical Years* (Pittsburgh, 1978), 24-25.
7. Kautsky, *Vermehrung und Entwicklung in Natur und Gesellschaft* (Stuttgart, 1910), v.
8. Kautsky, *Erinnerungen*, 212, 378.
9. Ludwig Gumplowicz, *Der Rassenkampf: Soziologische Untersuchungen*

- (Innsbruck, 1883), 181, 193, 176-77.
10. Kautsky, "Mein Lebenswerk," in *Ein Leben für den Sozialismus. Erinnerungen an Karl Kautsky* (Hanover, 1954), 13.
 11. Kautsky, *Die materialistische Geschichtsauffassung*, Vol. 1: *Natur und Gesellschaft* (Berlin, 1927), xiii.
 12. Kautsky, *Erinnerungen*, 367, 377-78; "Mein Lebenswerk," 13; Steinberg, *Sozialismus*, 50.
 13. Kautsky, "Mein Lebenswerk," 17.
 14. Kautsky to Engels, 11 November 1882, in *Friedrich Engels' Briefwechsel mit Kautsky*, 66.
 15. Steenson, *Karl Kautsky*, 43; Hermann Brill, "Karl Kautsky," *Zeitschrift für Politik* n.s. 1 (1954): 234; Kolakowski, *Main Currents*, 2:31; Walter Holzheuer, *Karl Kautskys Werk als Weltanschauung. Beitrag zur Ideologie der Sozialdemokratie vor dem Ersten Weltkrieg* (Munich, 1972), vi; Steenson, "Not One Man!", 198.
 16. Kautsky, *Erinnerungen*, 221-22; *Vermehrung*, vii.
 17. Kautsky, *Erinnerungen*, 209-10, 217.
 18. *Ibid.*, 222.
 19. *Ibid.*, 210-14, quote at 214; Steenson, *Karl Kautsky*, 25; Steinberg, *Sozialismus*, 48.
 20. Kautsky, "Der Darwinismus und die Revolution," *Sozialdemokrat* 14 (4 April 1880); see also Kautsky, "Der Kampf um's Dasein in der Menschenwelt," *Vorwärts* 38 (30 March 1877), 2; and Kautsky, *Erinnerungen*, 108. Holzheuer emphasizes Kautsky's anti-Christian side, *Karl Kautskys Werk*, 24, 88-91, *passim*.
 21. "Darwin's Verhältnis zu den kirchlichen Bekenntnissen," *Die neue Zeit* 1 (1883): 56.
 22. Kautsky, "Die Entstehung der Ehe und Familie," *Kosmos* 12 (1892-83): 348.
 23. Kautsky to Haeckel, 20 October 1882, IISH, Kautsky family archive, 25.
 24. Haeckel to Kautsky, 15 November 1882, IISH, Kautsky family archive, 308.
 25. Ingrid Gilcher-Holtey, *Das Mandat des Intellektuellen. Karl Kautsky und die Sozialdemokratie* (Berlin, 1986), 253-54; Steenson, *Karl Kautsky*, 246.
 26. Kautsky to Bernstein, 30 August 1897, IISH, Kautsky archive, C 175.
 27. Steenson, *Karl Kautsky*, 7; Marek Waldenberg, "Kautskys Marx-Rezeption," *Internationale wissenschaftliche Konferenz: "Karl Kautskys Bedeutung in der Geschichte der sozialistischen Arbeiterbewegung"* (Bremen, 1988), 53.
 28. Holzheuer, *Karl Kautskys Werk*, 21, 91.
 29. Geary, *Karl Kautsky*, 86, 94-95, 106.
 30. Kolakowski, *Main Currents*, 2:34. Matthias, "Kautsky," 153; and George Lichtheim, *Marxism: An Historical and Critical Study* (NY, 1961), 266, also emphasize continuity in Kautsky's thought; see also Maximilien Rubel, "Le magnum opus de Karl Kautsky: 'La conception materialiste de l'histoire,' (1927)"

La Revue Socialiste 83 (1955): 5.

31. Steinberg, *Sozialismus*, 51-53. Steinberg's position has received widespread acceptance and is repeated by Kelly, *Descent*, 125; Fletcher, *Revisionism*, 12-13; Heinz-Georg Marten, *Sozialbiologismus. Biologische Grundpositionen der politischen Ideengeschichte* (Frankfurt, 1983), 96; Becker, *Sozialdarwinismus*, 2:401-2; Bellomy, "Social Darwinism," 44; Peter Müller, "Materialistische Geschichtstheorie und die Begründung der historischen Notwendigkeit des Sozialismus bei Karl Kautsky (1875 bis zur Jahrhundertwende)," (diss., Akademie der Wissenschaften der DDR, Berlin, 1985), 9-10; Catherine Rafferty, "Karl Kautsky--Between Darwin and Marx," *Australian Journal of Politics and History* 36 (1990): 377, 379; Doris Byer, "Sozialbiologie und Austromarxismus. Die natürliche Evolution in Gesellschaftstheorie und Politik" (Diplomarbeit, University of Vienna, 1984), 33-34.

32. Hans-Jürgen Mende, *Karl Kautsky--vom Marxisten zum Opportunisten. Studie zur Geschichte des historischen Materialismus* (Berlin, 1985), 147.

33. Steenson, *Karl Kautsky*, 5, 7, 63-64, 250.

34. Gary P. Steenson, "Karl Kautsky: Early Assumptions, Preconception, and Prejudices," *International Journal of Comparative Sociology* 30 (1989): 34.

35. Kautsky, *Das Werden eines Marxisten* (Leipzig, 1930), 6.

36. Kautsky, *Erinnerungen*, 216.

37. Kautsky, *Vermehrung*, v.

38. Kautsky, *Ethik und materialistische Geschichtsauffassung* (Stuttgart, 1906), 142.

39. Kautsky, "Darwinismus und Sozialismus," *Sozialist* 33 (24 April 1879); *Erinnerungen*, 377-78; "Mein Lebenswerk," 13.

40. Luise Kautsky, "Karl Kautsky," in *Ein Leben für den Sozialismus*, 36.

41. Kautsky to Bebel, 21 December 1879 and 31 October 1883, IISH, Bebel papers 113/1, 113/3 (also in *August Bebel's Briefwechsel mit Kautsky*, 3, 6).

42. Kautsky, introduction to *Aus der Frühzeit des Marxismus. Engels Briefwechsel mit Kautsky* (Prague, 1935), 15.

43. Kautsky, *Die historische Leistung von Karl Marx* (Berlin, 1908), 8.

44. Quoted in Steinberg, *Sozialismus*, 52.

45. Steenson, "Karl Kautsky," 41; Zivko Topalovitch, "Mein geistiger Vater," in *Ein Leben für den Sozialismus*, 77; Y. M. Uranovsky, "Marxism and Natural Science," in *Marxism and Modern Thought*, ed. Bukharin et al., 138; Leo Hintermayr, "Sozialismus und Darwinismus. Eine Untersuchung über den Einfluss der Deszendenztheorie auf die Lehren des wissenschaftlichen Sozialismus der Neuzeit" (diss., University of Würzburg, 1931), 23.

46. Kautsky, "Entstehung der Ehe," 192-94, 199-201, 204.

47. Kautsky, "Die sozialen Triebe in der Tierwelt," *Die neue Zeit* 1 (1883): 71; see also *Ethik*, 45.

48. Kautsky, *Ethik*, 37-38.

49. Kautsky, "Die Indianerfrage," *Die neue Zeit* 3 (1885): 107-10, 113; *Sozialismus und Kolonialpolitik* (Berlin, 1907), 45-46; before his conversion to

Marxism Kautsky had upheld a more racist view, "Die Entstehung der ethischen Begriffe," *Vorwärts* 15 (6 February 1878).

50. Kautsky, review of *Beobachtungen über die Psyche der Menschenaffen*, by Alexander Sokolowsky, *Die neue Zeit* 27,1 (1908-9): 727-28.

51. Kautsky, *Die Befreiung der Nationen* (Stuttgart, 1917), 13; see also Müller, "Materialistische Geschichtstheorie," 35-36; John Kautsky, "The Political Thought of Karl Kautsky: A Theory of Democratic, Anti-Communist Marxism," (diss., Harvard University, 1951), 12-13.

52. Kautsky, *Ethik*, 80; see also *Der Weg zur Macht. Politische Betrachtungen über das Hineinwachsen in die Revolution*, 3rd ed. (Berlin, 1920), 46.

53. Kautsky, *Ethik*, 91-92.

54. Kautsky, *Erinnerungen*, 380.

55. Kautsky, *Rasse und Judentum*, in *Die neue Zeit* Ergänzungshefte 20 (30 October 1914): 22.

56. Kautsky, *Erinnerungen*, 187.

57. Kautsky, "Entwurf einer Entwicklungsgeschichte der Menschheit," in *Materialistische Geschichtsauffassung; Erinnerungen*, 214-15, 378-83.

58. Kautsky, "Entstehung der ethischen Begriffe," passim; Büchner, *Kraft und Stoff*, 189-90, 198-204.

59. Kautsky, "Die urwüchsige Form des Kampfes um's Dasein," *Sozialdemokrat* 38 (15 September 1881).

60. Ibid; "Soziale Triebe in der Tierwelt," 24, 27, and passim.

61. Kautsky to Engels, 3 October 1883, in *Friedrich Engels Briefwechsel mit Kautsky*, 87.

62. Kautsky, "Die sozialen Triebe in der Menschenwelt," *Die neue Zeit* 2 (1884): passim, quote at 125.

63. Kautsky, "Der Ursprung der Moral," *Die neue Zeit* 25,1 (1906-7): 255.

64. Kautsky, "Noch einiges über Ethik," *Die neue Zeit* 11 (1893): 110-15; "Klassenkampf und Ethik," *Die neue Zeit* 19,1 (1900-1): 213-14.

65. Kautsky, "Ursprung," 223.

66. Kautsky, *Ethik*, 106-10, 120-21, passim; see also Kautsky, "Soziale Triebe in der Menschenwelt," 125.

67. Darwin, *Descent*, 1:100.

68. Kautsky, *Ethik*, 62, 121-22, quote at 123; "Ursprung," 213-14.

69. Kautsky, *Sozialismus und Kolonialpolitik*, 19.

70. Kautsky, "Sozialismus und der Kampf um das Dasein," *Volksstaat* 50 (30 April 1876).

71. Kautsky, "Kampf um's Dasein in der Menschenwelt," *Vorwärts* 38, 40 (30 March and 6 April 1877); "Das Bevölkerungsgesetz und die Bewaldung," *Vorwärts* 5, 7 (13 and 18 January 1878).

72. Kautsky, "Kampf um's Dasein in der Menschenwelt," *Vorwärts* 41, 42 (8 and 11 April 1877).

73. Kautsky, *Der Einfluss der Volksvermehrung auf den Fortschritt der Gesellschaft* (Vienna, 1880), iii-iv, quote at 1; Kautsky to Bernstein, 7 October

1896, IISH, Kautsky archive, C 151.

74. Kautsky, *Einfluss*, 108, 112, 124, 170, 187, 194, quote at 171; see also Kautsky, "Bevölkerungsgesetz," 7 (18 January 1878), and "Tschernischewsky und Malthus," *Jahrbuch für Sozialwissenschaft und Sozialpolitik* 2 (1881): 70-87.

75. Kautsky, *Einfluss*, 27-29, 100, 165-66, quote at 28.

76. Kautsky, "Darwinismus und Sozialismus," *Sozialist* 34 (27 April 1879).

77. Kautsky, "Darwinismus und Revolution."

78. Kautsky, review of *Die Aristokratie des Geistes als Lösung der sozialen Frage. Ein Grundriss der natürlichen und der vernünftigen Zuchtwahl in der Menschheit*, in *Die neue Zeit* 3 (1885): 90-91; "Darwinismus und Marxismus," *Die neue Zeit* 13,1 (1894-95): 709-16; *Karl Marx' Oekonomische Lehren*, 3.

79. Kautsky to Bernstein, 9 October 1891, IISH, Kautsky archive, C 85.

80. Kautsky, *Die soziale Revolution* (Berlin, 1902), 1:8-12; see also *Historische Leistung*, 15; and *Rasse*, 6.

81. Kautsky, *Ethik*, 61, 78.

82. Kautsky, *Vermehrung*, 64, 196.

83. Kautsky, *Materialistische Geschichtsauffassung*, 197-98.

84. Kautsky, "Urwüchsige Form"; "Entstehung der Ehe," 205; "Soziale Triebe in der Tierwelt," 27; "Soziale Triebe in Menschenwelt," 13-19, 45-49, 118-25; Kautsky to Engels, 3 October 1883, in *Friedrich Engels' Briefwechsel mit Kautsky*, 87.

85. Kautsky, "Klassenkampf"; "Ein materialistischer Historiker," *Die neue Zeit* 1 (1883): 538-39; *Weg*, 47-48.

86. Kautsky, "Phäakenthum," *Sozialdemokrat* 28 (6 July 1882).

87. Kautsky, *Ethik*, 46; see also *Rasse*, 36.

88. Kautsky, *Ethik*, 54; *Vermehrung*, vi, 21-25, and passim; *Rasse*, 16.

89. Kautsky, *Vermehrung*, 19-20.

90. Darwin, *Origin*, 459, see also 129 (emphasis added).

91. John Kautsky, "Political Thought," 9, 81.

92. Korsch, "Materialistische Geschichtsauffassung," 204-5, 211-12.

93. Steenson, *Karl Kautsky*, 70, 237-38; J. Marschak, "Kautsky und die junge Generation," in *Ein Leben für den Sozialismus*, 69; Sebastiano Timpanaro, *On Materialism*, trans. Lawrence Garner (London, 1975), 240-41.

94. Kautsky, *Materialistische Geschichtsauffassung*, 1:vii; see also "Darwinismus und Marxismus," 709; *Erinnerungen*, 365; *Vermehrung*, viii.

95. Kautsky, "Darwinismus und Revolution," *Sozialdemokrat* 14 (4 April 1880)

96. On Lamarckism in the 1890s, see Bowler, *Eclipse of Darwinism*, ch. 4.

97. Kautsky, "Lombroso und sein Verteidiger," *Die neue Zeit* 12,2 (1893-94): 241-50.

98. Kautsky, *Vermehrung*, 57-58; *Rasse*, 12; *Materialistische Geschichtsauffassung*, 1:180.

99. Kautsky, *Vermehrung*, 28, 59-60.

100. Kautsky, *Rasse*, 12-15.

101. Kautsky, *Vermehrung*, 49-55; *Rasse*, 12-17; *Materialistische*

- Geschichtsauffassung*, 1:172, 187; see also Rubel, "Magnum Opus," 8-10.
102. Kautsky, *Weg*, 45.
 103. Kautsky, *Vermehrung*, 79-98; *Rasse*, 22.
 104. Lichtheim uses this expression in *Marxism*, 244.
 105. See Introduction, n. 18.
 106. Kautsky to Bernstein, 5 October 1896, IISH, Kautsky archive, C 150.
 107. Not all scholars consider Kautsky's familiarity with the dialectic insufficient, either; Carl Schorske even referred to Kautsky's "mastery of dialectical thinking in *German Social Democracy, 1905-1917: The Development of the Great Schism* (NY, 1965), 5.
 108. See previous chapter on Engels for discussion of Engels' dialectic and its relationship to Marx's view.
 109. Kautsky, *Ethik*, 41.
 110. Kautsky, *Bernstein und das Sozialdemokratische Programm. Eine Antikritik* (Stuttgart, 1899; rpt., Berlin, 1976), 23.
 111. Rubel "Magnum Opus," 7; John Kautsky, "Political Thought," 10.
 112. Kautsky, *Erinnerungen*, 213, 219-22.
 113. Kautsky, "Bernstein und die materialistische Geschichtsauffassung," *Die neue Zeit* 17,2 (1898-99): 7; Geary, *Karl Kautsky*, 93.
 114. Kautsky, *Bernstein*, 12-18; "Bernstein," 5, 8, 16.
 115. Kautsky, *Das Erfurter Programm* (Stuttgart, 1892), 105.
 116. Kautsky, "Darwinismus und Marxismus," 712.
 117. Kautsky, *Soziale Revolution*, 1:4-6.
 118. Kautsky to Bernstein, 18 February 1898, IISH, Kautsky archive, C 180.
 119. Kautsky, *Soziale Revolution*, 2:3.
 120. Schorske, *German Social Democracy*, ch. 7; Steenson, "Not One Man!", 205-7.
 121. Marx to Engels, 19 December 1860, *MEW*, 30:131.
 122. Groh, *Negative Integration*, 57.
 123. Geary, "Marx," 407.
 124. Ludwig Woltmann, *Die Darwinsche Theorie und der Sozialismus. Ein Beitrag zur Naturgeschichte der menschlichen Gesellschaft* (Düsseldorf, 1899).
 125. Paul Weindling, *Health, Race and German Politics between National Unification and Nazism, 1870-1945* (Cambridge, 1989), 67.
 126. Ploetz to Carl Hauptmann, 24 October 1891, quoted in Becker, *Zur Geschichte*, 1:63.
 127. Kautsky, "Medizinisches," *Die neue Zeit* 10,1 (1891-92): 644-45.
 128. Kautsky, *Vermehrung*, 206, 260-64.