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GREGORY MOORE

A fter receiving from Charles Darwin a copy of *The Origin of Species* and reading it with mounting horror, the Reverend Adam Sedgwick, professor of geology at Cambridge, wrote to his former pupil to admonish him:

There is a moral or metaphysical part of nature as well as a physical. A man who denies this is deep in the mire of folly. 'Tis the crown and glory of organic science that it *does* through *final cause* link material and moral [...] You have ignored this link; and, if I do not mistake your meaning, you have done your best in one or two pregnant cases to break it. Were it possible (which, thank God, it is not) to break it, humanity, in my mind, would suffer a damage that might brutalize it.¹

Unsurprisingly, Darwin bitterly resented this stinging rebuke from his erstwhile mentor, yet for many later commentators Sedgwick's objections seem wholly justified. Darwin may not, as Sedgwick assumed, have actively sought to divest nature of ulterior moral purpose and deprive human ethics of a firm foundation, but this is nevertheless precisely what the revolution that he set in motion accomplished. And its consequences were indeed potentially "brutalising." For if humanity was merely one species of animal among others, subject to the same ceaseless struggle for life in a world bereft of the guiding hand of Providence, then selfishness had been bred into the very marrow of its being. Victorian decorum was only a thin veneer beneath which lurked a savage beast bent only on individual advantage. This, Gertrude Himmelfarb has concluded, was the "traumatic effect" of Darwinism: it "de-moralized man" by displacing "man by nature, moral man by amoral nature." But how accurate an assessment is this of the shift in human self-understanding occasioned by the rise of evolutionary theory? To be sure, there were many in the nineteenth century who, like one dispirited young man after reading The Origin of Species at the age of sixteen, found themselves haunted by "a feeling of utter insignificance in face of the unapprehended processes of nature [...] a sense of being aimlessly adrift in the vast universe of consciousness, among an infinity of other atoms, all struggling desperately to assert their own existence at the expense of all the others." But, as Robert J. Richards has exhaustively demonstrated, many—if not most—nineteenth-century evolutionists took a rather different view of the ramifications of Darwinism for human affairs.⁴ Their object was not to wrench apart the "material and moral"; on the contrary, they believed that they were able to knit these two worlds more closely together. Life could be reinfused with ethical significance by enlisting biology itself to legitimate and sustain the inherited values of Judeo-Christian civilization. For example, Ernst Haeckel, the leading apostle of Darwinism in Germany, dismissed in typically robust fashion the notion that evolution might entail "a subversion of all accepted moral law and a destructive emancipation of Egoism"; rather, he, like a whole host of scientists and philosophers, sought to formulate "a system of Ethics erected upon the indestructible foundation of unchanging natural law."5 A moral sense could no longer be regarded as the sole prerogative of Man, for all social animals appeared to demonstrate a "sense of duty," a willingness to sacrifice themselves for the greater good of their community. Nonhuman systems of ethics represented merely a stage in the gradual refinement of those noble instincts and patterns of cooperative behavior that provided the best adaptive response to the demands of a given environment. In short, evolution was envisaged as a moral process—the progressive development toward ever more perfect expressions of altruism, compassion, and love.

That the fundamental idea lying behind all nineteenth-century theories of evolutionary progress was a moral and religious one is perhaps indicated most clearly by Darwin's own account of the development of morality in The Descent of Man (1871), which is obviously motivated by a strong desire to leave inviolate the moral "truths" of Christian teaching instilled in him during his childhood. Although Darwin believes that a moral sense originated through the natural selection of those tribes in whom the social instinct was strongest, he recognizes that this primitive ethic gradually developed into a "higher morality" through the effects of habit, rational reflection, and religious instruction. Not "the survival of the fittest" but "as ye would that men should do to you, do ye to them likewise" has come to be regarded as the true maxim of human conduct. Nor is moral progress at an end. "Looking to future generations," Darwin prophesies, "there is no cause to fear that the social instincts will grow weaker, and we may expect that virtuous habits will grow stronger, becoming perhaps fixed by inheritance. In this case the struggle between our higher and lower impulses will be less severe, and virtue will be triumphant."6 This theistic notion of evolution as an ever-upward progression away from earlier forms of animal life and toward spiritual and social perfection came to be inseparable from the way Darwinism was received and interpreted.

It is against this historical backdrop, I believe, that we must reconsider Nietzsche's naturalistic critique of traditional morality. For his own attempts to formulate an ethics that would conform to, and derive its values and legitimacy from, an underlying biological reality is conceived in opposition not only to the metaphysical moral systems of Kant and Schopenhauer but also to those nineteenth-century theories of evolutionary ethics that aimed merely to shore up the old values by constructing a new, this-worldly foundation for them. His dissatisfaction with his contemporaries' reluctance to rise to the challenge of devising a "genuine Darwinian ethic, seriously and consistently carried through" made itself felt as early as 1873. One of the many follies for which he lambasts the Bible critic David Friedrich Strauss in the first essay of *Untimely Meditations* is the latter's misguided attempt, in his *The* Old Faith and the New (1873), to reconcile the moral teachings of Christianity with the new evolutionary worldview. Although this self-professed "freethinker" dresses himself in the "hairy cloak of our ape-genealogists," Nietzsche contends, he lacks the courage to countenance the implications of a truly "Darwinian" perspective. Instead of grasping the opportunity to derive "a moral code for life out of the bellum omnium contra omnes and the privileges of the strong," he perversely praises the English naturalist as one of the "greatest benefactors of mankind" for having established a nontranscendental groundwork for ethical conduct (UM I, 7, pp. 29–30). But Strauss, Nietzsche would soon discover, was not the only thinker to shrink from making the radical break with traditional systems of morality that the theory of evolution would seem to demand.

Nietzsche takes his first faltering steps toward an evolutionary understanding of morals with Human, All Too Human, published in 1878. In this work, the pessimistic and idealistic tenor of The Birth of Tragedy has been replaced by a new positivistic outlook, an awareness that human existence and values are not rooted in some remote metaphysical realm but are, rather, historically determined: "everything essential in the development of mankind took place in primeval times [...] everything has become: there are no eternal facts, just as there are no absolute truths" (HA 2). How then do moral evaluations arise? Nietzsche's answer-to which he would remain committed for the rest of his life—is that they are products of this historical process itself. What distinguishes Human, All Too Human from Nietzsche's later thought, however, is that here he does not yet portray morality as the legacy of humanity's animal ancestry; there is no attempt, as there later would be, to view moral imperatives as merely the rationalization of feelings accompanying certain physiological states. The "history of the moral sensations" that he sketches here is a narrative unfolding primarily on the plane of cultural or social, rather than biological, evolution.

Nietzsche did not begin to indulge in speculation about the "physiology of morality" (KSA 11, 27[14]) until the early 1880s. The catalyst—or at least one of the catalysts—of this change from a cultural toward a more overtly biologistic understanding of the question of the genesis and development of morals was one of those "English psychologists" whom Nietzsche ruthlessly

mocks in the Genealogy: Herbert Spencer. Spencer is rarely, if at all, mentioned in discussions of the development of Nietzsche's thought. This is surprising, because although Nietzsche restricts himself to only a few curt and dismissive remarks about Spencer in his published works, his notebooks reveal a long-running critical engagement with the British philosopher's Data of Ethics (1879). That Nietzsche studied Spencer is certainly significant: for more than anyone else, it was Spencer who was associated with the idea that evolution was an intrinsically moral force; it was he who advanced perhaps the most influential nineteenth-century system of evolutionary ethics. His "physiological utilitarianism" constituted the point of departure for many subsequent theorists; in this respect, Nietzsche was no different from many of his contemporaries in using Spencer as the launch pad for his own "physiological ethics" (KSA 9, 6[123]). But Nietzsche's thorough reading and ultimate rejection of the Data of the Ethics, which he eventually acquired in 1880, had consequences not only for his moral philosophy but also for his understanding of the evolutionary process: Nietzsche's own conception of evolution is in many ways not only anti-Darwinian, but also "anti-Spencerian" in character. In what follows, I shall first outline the theory of behavior that he develops in opposition to Spencer and then describe how he effectively turns on its head the English philosopher's conviction that evolution tends toward the refinement of altruistic impulses. In the second half of this article, I shall discuss the concept of the "social organism" in order to explicate Nietzsche's physiological definition of morality, demonstrating at the same time how the two loci of biological evolution that he distinguishes—the sovereign individual, on the one hand, and the herd or species, on the other give rise to two conflicting forms of morality, a distinction that clearly anticipates his more famous differentiation of master and slave moralities in Beyond Good and Evil and On the Genealogy of Morals.

NIETZSCHE CONTRA SPENCER

When, in a note written in 1885, Nietzsche dismissed Spencer's work as a mixture of "bêtise and Darwinism" (KSA 11, 35[34]), he was certainly flying in the face of contemporary public opinion. In its day, Spencer's philosophy enjoyed an unequaled reputation, both in England and Germany. It was he, not Darwin, who popularized the term "evolution" and he who coined the phrase "survival of the fittest." Yet these are today his only lasting legacies, for within a few years of his death in 1903, his reputation was in terminal decline. It will be necessary, therefore, to outline some of the salient points of Spencer's moral philosophy, which seeks to reconcile, through evolutionary

theory, two rival nineteenth-century schools of ethics: moral intuitionism and classical utilitarianism.

Spencer can speak of the evolution of morality because nature, especially human nature, is for him intrinsically moral. What he terms "morality" is nothing but a particular instance of the incessant adaptation of internal relations to external relations that characterizes the process of "Evolution" with a capital E. Morality is the adjustment of acts—the external motions of animate beings—to particular ends. This alignment becomes more complex and elaborate as organisms evolve; in the lowest forms of life, conduct is constituted of actions so little adjusted to ends that an organism survives only as long as the accidents of life are favorable. The ultimate end of all conduct is the prolongation and increase of life—in other words, the preservation of the individual organism and the species to which it belongs. Actions are thus "good" or "bad" according as to whether they are relatively more or less adapted to these ends. Organisms are led to perform these acts because "there exists a primordial connexion between pleasure-giving acts and continuance or increase of life, and, by implication, between pain-giving acts and decrease or loss of life." Self-preservation is, therefore, necessarily bound up with the striving for pleasure, for those organisms in whom life-sustaining activity generally and consistently produced misery would perish in the struggle for existence. But the organism strives not only for the increase of its own pleasure, but for the greatest possible happiness; self-sacrifice for the good of the species is no less primordial than self-preservation. Once again, the organism is led to acts of renunciation because these acts are innately pleasurable, and when pleasure is associated with repetitive actions, it introduces principles of reinforcement and habit that justify increasingly complex social behaviors.

Moral evolution thus involves the greater refinement of these primitive altruistic impulses, and ultimately leads to the reconciliation of egoism and altruism: all selfish (pleasure-seeking) acts serve to maximize the collective happiness and all altruistic acts benefit the individual members of society. This development necessarily runs parallel to biological evolution and culminates in what Spencer calls the "ideally moral man." The members of this future race will exist in a state of perfect internal adaptation to both their physical and social environment; the "moral man is one whose functions [. . .] are all discharged in degrees duly adjusted to the conditions of existence." These beings will have achieved the greatest general good, equal freedom and eternal peace, upheld by harmonious cooperation of all members of a society. Here the feeling of moral obligation, present in lower stages of evolution, is lost; moral actions become, under the guidance of evolved "moral sentiments," self-evident and natural, so that organic and moral behavior are one and the same thing.

In a note written in 1882 (and which later became section 108 of Beyond Good and Evil), Nietzsche famously declares that there are no moral phenomena in and of themselves, only moral interpretations of those phenomena. In other fragmentary jottings from this period, he is more specific; what we call "morality" is really a system of interpretations of physiological phenomena: "Moral states are physiological states" (KSA 9, 6[445]). Moral philosophy is akin to alchemy and astrology; a discipline that has been rendered obsolete by the advancement in scientific knowledge: "Once the religious explanation stood in for the scientific one: and even now the moral explanation is standing in for the physiological one" (KSA 10, 3[1], p. 99). Morality is an illusion. Like that of all organisms, our action is determined not by the impotent promptings of our intellect or the chimerical imperatives of moral injunctions, but by the complex interaction of our instincts and drives. Consciousness, Nietzsche argues in Daybreak, is a mere epiphenomenon, "a more or less fantastic commentary on an unknown, perhaps unknowable, but felt text"—an unpolished mirror that reflects dimly the primordial organic functions of the human body. Moral judgments are just such reflections, mere "images and fantasies based on a physiological process unknown to us" (D 119). Or, as he later puts it in an image to which he frequently returns: morality is nothing but an "inadequate kind of sign language [. . .] by means of which certain physiological facts of the body would like to communicate themselves" (KSA 10, 7[125]).

What do the signs of this elaborate biological semiotics express? In what does the illusion of morality primarily consist? Morality, Nietzsche argues, is the illusion of end-directed behavior. Human action does not differ in any essential way from the instinctive, reflexive behavior of animals. Moral judgments are our attempts to explain and understand this kind of behavior in more familiar, teleological terms, to create "motive" and "purpose" where neither is necessary: "moral judgments are 'explanations [...] in terms of purposes," he says (KSA 9, 6[292]). Nietzsche thus rejects the central claim of Spencer's evolutionary ethics: that moral judgments of "good" and "bad" can be defined as the "collection of experiences about what is expedient and inexpedient" (KSA 9, 6[456])—or, in other words, efficient or inefficient adjustment of means to ends. Indeed, the very fact that illusory moral judgments have developed in the first place contradicts Spencer's blindly optimistic assertion that humanity "has always arrived unnoticed at the right answers regarding what is necessary to it—at judgments which accord with the truth!!" (KSA 9, 10[B48]) The idea that "the expediency of the means has increased throughout the whole history of organisms (as Spencer believes)"—is, he says (with his characteristically low opinion of all things British)—"a superficial English conclusion." Although our ends have become increasingly complex, "the stupidity of the means," he mordantly observes, has remained unchanged (KSA 11, 40[4]). But Nietzsche not only dismisses

what he sees as the fundamental error underlying all Western moral philosophy from Plato to Spencer, the belief that human action is motivated by a conscious choice between certain goals and purposes; he also rejects the contemporary, biologistic twist given to teleological accounts of human behavior: that "'the end of the human being is the *preservation of the species* and *only to that extent* also the preservation of his own person" (KSA 10, 7[238]). Nietzsche's physiology of morality is an attempt to explain organic behavior without recourse to the language of ends—in particular, the interlinked ends of self-preservation, the preservation of the species, and the greatest happiness of the greatest number.

Nietzsche's rejection of survival as a primary biological imperative is a key component of his anti-Darwinian theory of evolution. But long before he sought to replace the instinct for self-preservation with his own conception of the will to power, he tried to find other ways to account for the behavior that Spencer and others attributed to this superfluous and teleological principle. In a note written in 1880, for example, he writes: "There is no instinct for self-preservation. Rather, to seek what is pleasant, to avoid what is unpleasant—this explains everything which is attributed to that drive" (KSA 9, 6[145]). Like Spencer, Nietzsche believes that the universal allure of pleasure and avoidance of pain can be used to explain human conduct (and, a fortiori, morality) as an extension of more primitive animal behavior. In contrast to Spencer, however, he holds that the acts that give rise to pleasure and pain are not goal-directed; they are, rather, merely "playful expressions of the impulse toward action" (KSA 9, 11[16]). The hungry organism, for example, strives not for satiation, but for the fleeting pleasure that each bite affords it: "In reality satisfaction is achieved, but not willed—it is the momentary sensation of pleasure which accompanies each bite for as long as hunger lasts that is the motive: not the intention 'in order to', but rather an attempt with each bite to see whether it still tastes good. [...] We move our tentacles, and this or that drive finds its prey in what we catch, and makes us believe that we had intended to satisfy it" (KSA 9, 11[16]).

Though there is nothing beyond the fugitive feeling of delight or discomfort that accompanies certain actions, the impression of purposive behavior is reinforced because what is pleasurable often coincides with what is beneficial to the organism. Those actions that both stimulate agreeable feelings and are conducive to survival are preserved through the agency of natural selection. He writes: "*Those* kinds of pleasurable movements which serve the purpose of survival are preserved through selection" (KSA 9, 6[366]). Although Nietzsche himself carelessly lapses into speaking of "ends" here, his point is that the maintenance of life is not the work of some mysterious vital principle; it is, rather, the accidental by-product of a purely contingent set of circumstances. Spencer, on the other hand, although he too argues that those organisms for whom life-sustaining acts are not pleasurable are elim-

inated in the struggle for existence, implies that this process of selection, as well as the coincidence of pleasure and utility that results from it, is an entirely necessary development. For moral evolution is a predetermined, wholly predictable procession toward what he calls an "absolute ethics"—that is, the perfect adjustment of acts to ends in the ideal society of the future—and from the point of view of which conduct in a transitional, evolving society can be explained, judged, and remedied. But neither pleasure nor utility, Nietzsche counters, is an absolute, an "in-itself." Evolution is open-ended; there is no "absolute goal" and there can be therefore no "absolute morality," no *absolute Sittlichkeit* (KSA 9, 11[37]).¹¹

The same argument by which Nietzsche disputes the existence of an instinct for self-preservation also applies to the unconscious drive that supposedly impels all organisms to work toward the survival of their species. Spencer sees the most fundamental expression of altruistic impulses in reproduction, maintaining that a dividing cell "sacrifices" its mass and that, even in higher species, parent organisms bequeath parts of their bodies in order to reproduce. Unsurprisingly, and, one might add, quite justifiably, Nietzsche disagrees, retorting: "Quite wrong of Spencer to see in the care for progeny and already in reproduction an expression of the altruistic instinct" (KSA 9, 6[137]). Sexual behavior, he argues, does not necessarily conclude in reproduction; it is merely "a frequently occurring, accidental consequence of one form of satisfaction of the sexual impulse: not its end" (KSA 9, 6[141]). The conservation of the species—like self-preservation—is merely an indirect result of an organism's response to a more basic biological imperative, the pursuit of pleasure: "Generation is a matter of pleasure: its consequence is reproduction; that is, without reproduction neither this specific kind of pleasure nor any kind of pleasure would have been preserved. Sexual desire has nothing to do with the propagation of the species! The enjoyment of food has nothing to do with survival!" (KSA 9, 6[145]).

Nietzsche pours scorn on Spencer for suggesting that the most fundamental organic functions are selfless in nature, so that even "passing urine might already count among the altruistic activities in England" (KSA 11, 35[34]). Spencer is merely projecting his own moral prejudices onto the animal kingdom (KSA 9, 8[35]). There is nothing remotely altruistic in the expression of the sex drive; on the contrary, it is one of the purest manifestations of egoism. This is not just true of the sex drive; all apparently altruistic acts, Nietzsche claims, in a much later note written around the time he was working on his projected major work, *The Will to Power*, are merely "a *species* of the egoistic" (KSA 9, 10[57]).

In Spencer, Nietzsche encountered once again that idea which, in 1873, he had found so repellent in David Friedrich Strauss's attempt to reconcile evolutionism with the teachings of Christianity: the idea that all moral conduct is essentially "a self-determination of the individual according to the idea

of the species" (UM I, 7, p. 30). Spencer's system of evolutionary ethics, too, like so many in the nineteenth century, does not represent a truly radical break with traditional morality. Rather, his biologization of morality is merely an attempt to legitimate, to reestablish values cut adrift from their metaphysical anchorage. For both Strauss and Spencer—and for many other nineteenth-century evolutionists—moral action still serves a superordinate, abstract purpose, though this is no longer the will of God, but rather the preservation of the species. This elevation of the species to the supreme moral end is the guiding principle of what Nietzsche calls "herd morality," and he brands Spencer himself "cattle" (Hornvieh)—an insult that Nietzsche scrawled in the margin of his copy of Data of Ethics—because the Englishman celebrates the herd in much the same way that Zarathustra would later hail the Übermensch. Like Spencer, who dreams of the "disappearance of conflict in some future time, where, through continued adaptation, the egoistic is simultaneously also the altruistic" (KSA 12, 10[57]), Nietzsche also understands his moral philosophy as an attempt to negotiate between the claims of the individual and those of the species, to overcome the conflict between egoism and altruism. But whereas Spencer envisages both moral and biological evolution in terms of the refinement of altruism and the deselection of the most brutish egoistic impulses, Nietzsche posits the exact converse. 12 He shifts the unit of selection away from the group: organic change is a process of progressive individuation, an "evolution toward the individual" (KSA 9, 6[163]). Accordingly, he interprets "Darwinism" as depicting a return to the Hobbesian state of nature in which independent and unallied individuals struggle among themselves for supremacy and power. That the strongest individual emerges from the bellum omnium contra omnes, that the concept of species is quite insufficient as the basis of morality—this remains the fundamental insight that informs not only Nietzsche's distinctive conception of evolution but also his ethics based on this process. Both moral and biological evolution lie for Nietzsche in the development and refinement of egoism, which, in phylogenetic terms, represents "something recent and still exceptional" (KSA 9, 11[185]). Altruism, as a rudimentary form, a "preliminary stage" of egoism, most clearly discernible in the "crude egoism of the animals" (KSA 9, 6[163]), must gradually become extinct—in one note, he even suggests that human beings are, more than any other organism, "originally altruistic" (KSA 10, 8[11]). As we have seen, the human being is for Nietzsche the only life-form that is not yet fully adapted to its conditions of existence, the only one that still has the potential to evolve further. Yet any future ennoblement would be compromised by Spencer's "morality of what is expedient for the species [Moral der Gattungs-Zweckmäßigkeit]," which is geared toward uniformity and fixity. For the true prerequisite of the "Spencerian ideal of the future" as Nietzsche refers to it—is not, as Spencer claims, the increasing complexity and heterogeneity of life, but rather that "greatest similarity between all

human beings" which makes altruism possible: because altruism can only exist when "one actually sees oneself in the other," he seeks to erase the natural distinctions between individuals and their needs (KSA 9, 11[40]). What Spencer calls the "ideally moral man," a future being existing in a perfect state of physical and moral adaptation to his environment, and to whom Nietzsche disparagingly refers as the "enduring man" (Dauermensch)—a reference to Spencer's assertion that the supreme end of evolution is the increased duration and quantity of life—(and who later becomes Zarathustra's "last man"), can hardly be described as progress: "the complete adaptation of all to all and each person within himself (as with Spencer) is an error" (KSA 9, 11[73]). Rather, this "beautiful, idle humanity" represents stagnation and degeneration (KSA 9, 11[43])—which is why Nietzsche, in Twilight of the Idols, would later label "Mr Herbert Spencer" a "décadent" (TI IX, 37). Only evil—as the bovine adherents of herd morality mistakenly call natural egoistic acts—promotes and stimulates organic evolution, the "permanent dissimilarity and greatest possible sovereignty of the individual" (KSA 9, 11[40]). This process of progressive individuation culminates, as we shall see, in the shadowy figure of the Übermensch—or at least in his precursor, to whom Nietzsche refers in some jottings of 1881 (two years before the Übermensch would be heralded by Zarathustra) as the "liberated man" (freigewordener Mensch) (KSA 9, 11[182]) or the "exceptional man" (Sondermensch) (KSA 9, 11[209])—and who is conceived, as his notes would appear to suggest, as the antithesis of Spencer's "ideally moral man."

Nietzsche's critique of Spencer should not, however, blind us to the fact that both thinkers maintained that biological imperatives could account for "moral" behavior; that both saw moral and biological evolution as facets of the same progressive development toward a type of human that would be biologically and morally superior to his predecessors. The difference is that, unlike Nietzsche, Spencer held that there "need be no transvaluation of values to carry out the work of Evolution." So how does Nietzsche account for the emergence of moral judgments? The answer can be found in a closer examination of the physiology of the drives.

Self-Regulation and the Social Organism

In a lengthy note written in 1885, in which he discusses the achievements—or, rather, the failings—of various contemporary moral philosophers, Nietzsche complains that the distinction between egoism and altruism originally made by Auguste Comte is superficial (KSA 11, 35[34]). Nietzsche is led to this conclusion in the first place because, as we have seen, he denies that altru-

ism as such really exists, except as a rudimentary, undeveloped form of egoism. Related to this, however, is the fact that, from 1880 onward, he elaborates a more sophisticated and complex model of the ego, which has profound repercussions for his understanding of moral evolution. The ego is for him no longer a fixed, immutable entity; it does not exist above and beyond the drives. It is precisely this agglomeration of drives. These are engaged in a ceaseless battle for supremacy within the organism, with the constantly shifting balance of power determining the temporary character of the subject: "as the drives are embroiled in a struggle, the feeling of the ego is always strongest where the supremacy resides at that moment in time" (KSA 9, 6[70]). But if the "ego" per se does not really exist, how can Nietzsche still talk of an evolving "egoism"? He can do so because this nexus of warring drives that constitutes the so-called ego is one manifestation of the intra-organismic struggle for existence which he regards as the engine of evolution—a development he understands as the moral and physiological advance from the "herd egoism" (KSA 9, 12[132]) of animals and modern humans to the higher egoism of the Übermensch. The internal relationship of these drives to one another and their relationship to various external pressures—to the environment and to other organisms—constitute various stages in that evolution. This should become clearer in what follows, but let us look first of all at how morality originates in this struggle of the drives.

In and of themselves, all drives exist beyond good and evil—or rather, before good and evil. All contribute to the well-being, the full development and expression of the individual organism; all are pleasurable. Pain is not caused, as Spencer believes, by the discharge of the "bad" drives in themselves, that is, drives which are not yet adapted to the ends of life. On the contrary, "the evil drives are certainly not unpleasurable; rather, both evil and good ones are pleasurable" (KSA 9, 6[110]). Only when the natural expression of a drive is inhibited by the activity of others do feelings of discomfort first arise, and this occurs when the stronger drives inevitably prevail over and subdue the weaker ones in their struggle for mastery of the organism. The hierarchy that results from this process, in which the discharge of the accumulated energy of some drives is accompanied by sensations of pleasure and the restraint of others leads to feelings of distress, establishes the distinction between "good" and "bad" that forms the basis of all morality:

Morality arises a) when one drive dominates over others, e.g. fear of a powerful person or the drive toward social existence. Here weaker drives must be felt, but *not* satisfied. The answers to the why? which arises here are as rough and false as possible, but they are the beginning of *moral judgements*, fixing the value-difference of actions between necessarily admissible and inadmissible. To have a drive and feel repugnance towards its satisfaction—that is the "moral" phenomenon. (KSA 9, 6[365])

The strongest drives, then, triumph in the internal struggle within the organism; it is these which, by dint of their domination over the weaker ones, give rise to what we call "morality" by sanctioning and reinforcing particular kinds of behavior. But surely this account of the physiology of the instincts risks ignoring the fact that morality is essentially a social phenomenon, that it evolves as a means of regulating behavior within a group? It is for this reason that Nietzsche claims that our strongest—and oldest—drives are what he calls the "social instincts." Humans evolved not as solitary organisms, but in communities—as "herd animals." Consequently, our drives and instincts like the rest of human physiology—have been formed by generations of ancestral inheritance, evolving "throughout tremendous periods of time in social and family groups . . . (and before that in ape herds)" (KSA 9, 11[130]). The relationship (the "social relations") between the constituent drives of the "ego" is conditioned by, is a mirror of, those same "social habits which we have vis-à-vis humans, animals, landscapes, objects" (KSA 9, 6[70]). While Nietzsche holds that all social relationships can be traced back to egoism, he argues that it is also the case that "all egoistic inner experiences" can in turn be derived from our inherited and habitual interaction with other organisms. In short, our egoism is what he calls "herd egoism," the egoism of a collective consciousness, since the drives in which the ego is located have a shared origin. We are parts of a whole, organs within a social organism, sharing and participating in its "conditions of existence and functions," and assimilating "the experiences which are thereby undergone and the judgments which are made" (KSA 9, 11[182). The interior world of our instincts and their relationship to one another is a microcosm of the relationship between the parts of the social organism.

The idea of the social organism was a commonplace one in the nineteenth century. The analogy between the organism and the state is of course an ancient one, and has been drawn by political thinkers in every age from Plato to the Romantics. But with the rapid advances in biology in the nineteenth century, the comparison between the interdependency of systems of organs within the organism and the relationships between social structures gained in detail; the metaphor became increasingly concrete. The social organism was seen as a stage—perhaps the ultimate stage—in the evolution of the natural world. But if sociology resounded with biological metaphors, then biology was rife with imagery drawn from an expanding and industrializing society, such as cultures, colonies, and the division of labor. The pathologist and liberal politician Rudolf Virchow compared the cell to an individual "citizen," and an aggregate of cells formed an egalitarian cell state (Zellenstaat). Spencer, too, argues in The Study of Sociology (1873) that "there is a real analogy between an individual organism and a social organism,"14 an analogy that depends on the continuity of all phenomena; on the universality of the evolutionary process; and, more specifically, on the similarity of the "organic" relationships prevailing between a human being and his constituent biological elements, on the one hand, and between a society and its constituent elements—human beings—on the other. If society is conceived as an organism, then the controlling mechanism between its parts—that is, morality—becomes what, in *Social Statics* (1851), Spencer calls a "species of transcendental physiology." Nietzsche's own approach to this idea bears more than a passing resemblance to Spencer's in this respect, as we shall presently see. But his thought here is not directly inspired by Spencer, but by two very different sources: the French biologist Alfred Espinas's 1878 work *Des sociétés animales* (which Nietzsche owned in German translation) and the embryologist Wilhelm Roux's theory of ontogenetic development as an internal "struggle of the parts."

Espinas, whose work is profoundly influenced by Spencer's ideas, claims that there is an intrinsic connection between biological and social evolution. This evolution is marked by a transition from the "I" (*Ich*) of the solitary, destructive infusorium to the "we" (Wir) of the increasingly complex social groups in which mammals coexist. In a passage marked by Nietzsche in his own copy of this work, Espinas describes how this "we" represents not only a collective identity but also designates a collective consciousness, which manifests itself in the high degree of "sympathy" among animals, a bond so strong that they are even prepared to surrender their lives for one another. Would such self-sacrifice be possible, he asks, "if the I of each individual did not really encompass the I of all the others, if the self-awareness of each individual was not ruled by its awareness of the community?" Like Nietzsche after him, he argues that not only does this "social consciousness" constitute a self-contained individual entity, but that altruism is thus also a form of egoism: the evolution of social feelings is characterized by the transition from the pursuit of self-interest (in the form of the "I") to the pursuit of the interests of a whole, which takes the form of an all-embracing, collective ego (the "we"), in which "several I's are fused together in a single I." In a section that was once again heavily marked by Nietzsche, Espinas concludes: "a member of a highly organised animal society is more closely bound to the collective consciousness and its prosperity than to its own consciousness and interests" and that, for this reason, the social instincts must "prevail by a long way over the individual ones, the noble inclinations over the selfish ones."16

When Nietzsche appropriates the idea of the "social organism," he makes two important changes to the model proposed by Spencer and Espinas. First of all, the social organism is held together by force, not mutual "sympathy." Sympathy, Nietzsche remarks in a note written in 1883 paraphrasing the passage from Espinas quoted above, is a feeling that can only exist between truly independent individuals who feel themselves to be such; though altruistic acts performed within primeval societies presuppose "a feeling of selfhood [Ichgefühl]," this feeling is connected to a "collective self [Collektiv-Ich],"

and are therefore fundamentally different from sympathy (KSA 10, 8[9], p. 343). Second, as we have already seen, Nietzsche reverses the direction of evolution described by both Spencer and Espinas. Evolution is not a gradual, inevitable progression toward a collective, "altruistic" consciousness. On the contrary; Nietzsche envisages evolution as the refinement of egoism, starting with the "crude egoism of the animals," and advancing toward true individuality: "Self-consciousness [*Ich-bewußtsein*] is the last thing to develop when an organism is functioning completely" (KSA 9, 11[316]).

These ideas are discussed in a remarkable cluster of notes from the year 1881, which have never received the attention they merit. This is all the more surprising, since they reveal Nietzsche's first attempts to apply what he had learned from Wilhelm Roux's biology. In his 1881 treatise, Der Kampf der Theile im Organismus, Roux surmised that organs, tissues, and cells were found in the organism in a state of constant conflict with one another for food and space—a kind of internal struggle for existence, which we have already seen foreshadowed in Nietzsche's "struggle of the drives." This theory had, as is well known, a profound influence on Nietzsche's understanding of evolutionary processes and the development of the individual organism, which he envisages as a social structure, an "aristocracy of the body." What is interesting, however, is that his initial encounter with Roux in 1881 led him in the opposite direction: toward a vision of society conceived in biologistic terms, as a social organism—a development that reflects the mutual influence of the discourses of biology and sociology at this time. Needless to say, the body politic, like the body physiological, is for Nietzsche itself an aristocratic structure—a model of the social organism that represents the antithesis of what, in On the Genealogy of Morals, he dismisses as the "idiosyncratic democratic prejudice" prevalent in modern, Spencerian biology (GM II 12, p. 59). To support his rejection of Spencer, he quotes with approval the English biologist Thomas Huxley's criticism of Spencer's laissez-faire theory of the social organism, namely, that it amounts to "administrative nihilism." What is the force of this remark? Huxley argues that the real force of the analogy between social and individual organism is "totally opposed to the negative view of state function": "The fact is that the sovereign power of the body thinks for the physiological organism, acts for it, and rules the individual components with a rod of iron [...] Hence, if the analogy of the body politic with the body physiological counts for anything, it seems to me to be in favour of a much larger governmental interference than exists at present."18 Roux's biology supports a similarly centralized, autocratic structure of the organism.

Like the social organism, the human body itself is for Nietzsche a "tremendous synthesis of living beings and intellects" (KSA 11, 37[4]). This aggregate of mutually antagonistic parts arranged in a hierarchical structure—

consisting of cells, tissues, organs, and, ultimately, drives—is held together by the mechanism of self-regulation, a term Nietzsche borrows from Roux and which Nietzsche defines as the centralizing capacity in an organism of "mastery of a community." Just as Spencer described morality as a "species of transcendental physiology," so the moral instincts are for Nietzsche "the history of self-regulation and arrangement of functions within a whole" but in this case the organic totality is the state or community, the social organism (KSA 10, 24[36]). This similarity is even more pronounced if we bear in mind the fact that, like Roux, Spencer also held there to be rivalry over resources within each individual organism (as well as within the social organism), a process that stimulated the growth and development of organs: "All other organs therefore, jointly and individually, compete for blood with each organ. So that though the welfare of each is indirectly bound up with that of the rest; yet directly, each is antagonistic to the rest." For Nietzsche, too, the social organism evolves in an exactly analogous way to the physical organism—through a "struggle of the parts." He often claims that the highest stages of evolution, the states and societies that comprise the human social organism, can be utilized as a means of "instruction about the first organisms"; and it is by studying the so-called moral drives that we can trace the evolutionary history of the human social organism, and from there the physiology and phylogeny of the lowest organisms (KSA 10, 24[36]). That is to say, our "moral" or "social" instincts are merely outgrowths of primitive organic impulsions, which urge even the most rudimentary organism to create a supraindividual organization through a process of struggle and assimilation. The "duty" of each individual is thus "the formation of colonies" (KSA 10, 24[36])—precisely those colonies of organisms that Espinas discusses in great detail—with the primordial ego resembling an "organic cell" or infusorium in its voracious absorption and subordination of the weaker individuals, which become merely a "function" of the whole. Nietzsche describes this process in greater detail in the following passage:

If we translate the characteristics of the lowest living being into terms comprehensible to our 'reason', they become *moral* drives. Such a being assimilates its neighbour, transforms it into its property (property is originally nutriment and the accumulation of nutriment); it seeks to incorporate as much as possible, not only in order to *compensate* for loss—it is greedy. In this way, it *grows* alone and thus finally becomes *reproductive*—it divides into 2 beings. Growth and generation follow the unrestrained *drive to assimilate*.—This drive impels it to exploit the weaker, and, in competition with similarly strong beings, it struggles; *that is*, it **hates**, *fears*, *dissembles*. Already, assimilation means to *make* a foreign object alike, to *tyrannise*—**cruelty**. [...] *Slavery* is necessary for the development of a higher organism, likewise *castes*. [...] Obedience is compulsion, a condition of life, ultimately a stimulant to life.—

Whoever has the most power to reduce others to a function, rules—the subjugated, however, have their own subjugated in turn—their perpetual struggles: their maintenance is to a certain extent condition of life for the whole. (KSA 9, 11[134])

By figuring the social organism as a structure based on slavery and enforced obedience, Nietzsche places himself in opposition to both Espinas (who claims: "It is no regression, but rather a progression for an individual when it becomes the organ of an extended living whole") and Spencer, who argues, as we have seen, that the goal of evolution is the reconciliation of altruism and egoism, the merging of individual egos in the interests of the totality. According to Nietzsche, this is not the future, but rather the original state of man: "proto-egoism, herd instinct are older than 'wanting to preserve oneself.' First the human being evolves as a function" (KSA 9, 11[193]). As a function of the whole rather than as a fully-fledged, independent organism, the "herd man" (Heerdenmensch) is not capable of self-regulation. His behavior is determined by the internalized "herd morality," a pattern of obedient, heritable behavior that promotes the self-regulation of the social organism, imposed and enforced by the ruling structure upon its functions, and raised by those functions, as a rational justification of their behavior, to the status of absolute rules of conduct (KSA 9, 11[185]). The herd labels "bad" all that which threatens its continued survival—i.e., the egoistic impulses of its constituent parts that weaken the cohesiveness of the whole; "good" is that which enables it to maintain itself as an aggregate structure and to increase its power. These ideas later find expression in *The Gay Science*:

Wherever we encounter a morality, we also encounter valuations and an order or rank of human impulses and actions. These valuations and orders of rank are always expressions of the needs of a community and herd: whatever benefits it most—and second most, and third most—that is also considered the first standard for the value of all individuals. Morality trains the individual to be a function of the herd and to ascribe value to himself only as a function. [...] Morality is herd instinct in the individual. (GS 116)

Nietzsche, then, ultimately arrives at the following definition of "morality." Morality is the social organism's capacity for self-regulation, the exact analogue of the controlling mechanism by which the physiological organism governs and maintains itself. Or, as he puts it in *Beyond Good and Evil*, morality is the "theory of hierarchical relationships among which the phenomenon 'life' has its origins" (*BGE* 19).

Now, while Nietzsche initially employs physiological concepts to explain sociological and moral phenomena, he later uses the language of morality to describe the internal relationships between the organs of the evolving, healthy physical organism. Wilhelm Roux conceived the self-regulation of organisms

in entirely mechanistic terms; Nietzsche, in contrast, maintains that the "machinic character" is wholly lacking in organic nature (KSA 11, 25[426]). The human body is, he writes, "something far higher, more refined, complex, perfect, moral than all those human associations and communities known to us" (KSA 10, 7[133]). The self-regulation of the hierarchical synthesis of life-forms that comprise the organism, he writes in a note entitled "Morality and Physiology," is thus "a moral, and not a mechanistic problem!" (KSA 11, 37[4]) But why do these physiological relationships constitute a "moral" problem? To answer this question, we must understand how Nietzsche defines self-regulation. It is the capacity of "mastery of a community," a "commanding and ability to command" that encourages the "further evolution of the organic" because the organism that can most effectively regulate and discipline itself survives in the external struggle for existence (KSA 11, 26[272]). But these characteristics, at least according to Nietzsche, are also constitutive of morality. For first, morality, like physiological self-regulation, is characterized by its essentially imperative nature: "Commanding is its essential quality!" (KSA 10, 7[73]) Its purpose, too, is to effect a synthesis of disparate, mutually hostile units by inspiring obedience in lower levels of the (social) organism. Second, we say an organic function is "moral" if it is performed not in the interest of the agent, but for a higher end (KSA 10, 7[174]). A human being is said to act morally if his conduct serves the good of the wider community in which he lives (that is, the social organism). This virtuous behavior is mirrored by the reciprocity exhibited by the constituent parts of higher individual organisms, whose networks of interdependent cells and systems of organs are forced to sustain one another in order to ensure their own continued existence. (Nietzsche implies, then, that, pace Spencer, evolution does indeed tend toward the reconciliation of egoism and "altruism"—but not among the faceless members of the herd. This process is, rather, the consequence of closer integration and coordination within the increasingly complex human being, and is thus an expression of greater individuation.) Taken together, both these principles—the imperativeness of self-regulation and the fact that it involves collusion in the pursuit of a higher goal—mean that every action that is conducive to the survival of the solitary, higher organism as a whole must, therefore, be regarded as a "moral demand"; there is, as it were, a "thou shalt" for the subordinate organs within a system (KSA 11, 25[432]). Nietzsche's notion here of the normative nature of physiological processes is reminiscent of Spencer's claim that, since the end of conduct is the maintenance and prolongation of complete life, "the performance of every function is, in a sense, a moral obligation [...] All the animal functions, in common with all the higher functions have, as thus understood, their imperativeness."20 Finally, in the same way that the struggle of the parts ensures, through the hierarchization of the organic structures, the physiological division of labor and the assignment of function, so too is it the responsibility of ethics to differentiate values in terms of a "physiological order of rank of 'higher' and 'lower'" (KSA 11, 25[411]).

To conclude this discussion of Nietzsche's "physiology of morality," let us now briefly look at how he envisages the emergence of the self-governing individual from the herd or social organism, a process that supposedly marks the next stage in human evolution—in biological terms, the transition from organ to the "amoeba unity of the individual"; in moral terms, the passage from "common interest" (Gemeinsucht) to "self-interest" (Selbstsucht) (KSA 9, 11[189]). The hallmark of an evolving, higher organism is its ability to regulate the internal relationships of its drives, now severed from a collective, superordinate identity. During the process of evolution the individual becomes ever more complex and differentiated; that is, he himself becomes increasingly a social structure, a commonwealth of organisms: "The free man is a state and a society of individuals" (KSA 9, 11[130]). Just as the collective egoism of the herd comprises a plurality of entities, so the evolving individual ego also contains a "plurality of beings" (KSA 10, 4[189]). Revealingly, in one of the few concrete indications of what he understands by the concept, Nietzsche associates this characteristic with the Übermensch himself: "in the Übermensch the thou [Du] of many I's [Ichs] of millennia has become one" (KSA 10, 4[188]). The catalyst for this development occurs when, with the natural cycle of growth and decay, the social organism begins gradually to disintegrate. Once the self-regulative capacity that prevented the internal collapse of a mesh of antagonistic constituent parts collapses—that is, in periods of moral degeneration and corruption—then "the liberated egos struggle for mastery" (KSA 10, 1[20]). This struggle characterizes not only a process of emancipation, but of progressive individuation. Instincts and drives are severed from their old conditions of existence and forced to find new adaptations; the embryonic individual "must endure in himself the after-effects of the social organism, he must atone for the inexpedient conditions of existence, judgments and experiences which were suitable for a whole, and finally he comes to create within himself his existential possibilities as an individual through restructuring and assimilation, excretion of the drives" (KSA 9, 11[182]). Often these "experimental individuals" (Versuchs-Individuen) perish under the pressure of the internal struggle because "self-regulation is not there at once. Indeed, on the whole man is a being who inevitably goes under because he has not yet attained it" (KSA 9, 11[130]). The highest kind of human is able to master and control the full contradictoriness of his drives and instincts, but not in the form of "the crudest tyranny of one drive over another" (KSA 9, 11[189]). This latter case (typical of conventional morality) is analogous to the situation in which the whole organism is endangered by the atrophying of a subordinate organ or by the unlimited, hypertrophic development of a dominant one. Self-regulation, which guarantees the "fluid determining of the limits of power" essential to life (KSA 11, 40[21]), is intended to prevent precisely this occurrence:

The man who is most free has the greatest *feeling of power* over himself, the greatest *knowledge* of himself, the greatest *order* in the necessary *struggle* of his powers, the relatively greatest *independence* of his individual powers, the relatively greatest *struggle* within himself: he is the *most discordant* being and the *most varied* and the *longest living* and the one which desires, which feeds itself extravagantly, the one which *excretes* the most and *renews* itself. (KSA 9, 11[130])

This physiological self-regulation is Nietzsche's naturalistic ethics, his "moral naturalism" (KSA 12, 9[86]): it is a form of self-mastery and self-determination that is itself an expression of evolving life, in which the world's "warlike oppositions" act as a provocation, "one stimulant and incitement to life *the more*" (*BGE* 200). It is an "individual morality" founded on life's inherent imperativeness, conflict and tendency toward greater individualization and organic complexity—in other words, an ethics founded on the will to power.

I have tried to suggest that Nietzsche's moral evolutionism in some respects represents a mirror image of that of Herbert Spencer, whose work he used as a foil to elaborate his own ideas. Whereas Spencer posits a gradual advancement from egoism to altruism, Nietzsche argues the opposite: altruism is an underdeveloped form of egoism, the egoism of the herd. He does not demand a return to a pre-moral animality, as many of his interpreters have supposed for that would mean an atavistic regression to a lower form of egoism. Moral evolution involves for him the refinement of these egoistic impulses, with the individual progressing from being merely a part of a whole, an organ within a social organism, to a self-legislating "cell state." Where Spencer's "ideally moral man" is the embodiment of herd consciousness, Nietzsche's Übermensch is a being who can master the conflicting perspectives and impulses that constitute his existence, who has emancipated himself from the alienating experience of serving ends that are not his own, and who is thus free to posit his own goals and values. "Moral" evolution is therefore merely another aspect of the same process of individuation which is the hallmark of biological evolution. But although Nietzsche declares "morality" to be an elaborate misunderstanding of biological processes, he never wholly frees himself from moral ways of thinking. In simply substituting egoism for altruism, he merely reverses the valuations without truly transcending them. More fundamentally, however, by conceiving of evolution as a progression toward some preordained goal (the perfection of egoism), he, too, interprets evolution in moral terms. In this respect his thought has more in common with Spencer's than he suspects.

- 1. The Life and Letters of Charles Darwin, ed. Francis Darwin, 3 vols. (London: Murray, 1887), 2:249.
- 2. Gertrude Himmelfarb, *Darwin and the Darwinian Revolution* (London: Chatto and Windus, 1959), 79.
 - 3. Gamaliel Bradford, Darwin (Boston: Houghton Mifflin, 1926), 245–47.
- 4. Robert J. Richards, *Darwin and the Emergence of Evolutionary Theories of Mind and Behavior* (Chicago: University of Chicago Press, 1987).
- 5. Haeckel, quoted in C. M. Williams, A Review of the Systems of Ethics Founded on the Theory of Evolution (London: Macmillan, 1893), 27.
- 6. Charles Darwin, *The Descent of Man, and Selection in Relation to Sex*, 2d ed., 2 vols. (London: Murray, 1877), 1:124–25.
- 7. Untimely Meditations (hereafter UM) trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1997), 30. All subsequent references to Nietzsche's works appear in the text. I shall also quote from the following (with occasional modification of the translations): Beyond Good and Evil (BGE), trans. Marion Faber (Oxford: Oxford University Press, 1998); Daybreak (D), trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1997); The Gay Science (GS), trans. Walter Kaufmann (New York: Vintage, 1974); On the Genealogy of Morals (GM), trans. Douglas Smith (Oxford: Oxford University Press, 1996); Human, All Too Human (HA), trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1986); Twilight of the Idols (TI), trans. Duncan Large (Oxford: Oxford University Press, 1998). Quotations from Nietzsche's notebooks are from Sämtliche Werke: Kritische Studiensausgabe, ed. Giorgio Colli and Mazzino Montinari (Munich: DTV; Berlin: de Gruyter, 1967–77 and 1988). All translations from this edition are my own.
- 8. As the social Darwinist Alexander Tille described Spencer's ethics in *Von Darwin bis Nietzsche* (Leipzig: Naumann, 1895), 72.
- 9. Spencer, *The Data of Ethics* (London: Williams and Norgate, 1879), 82. Nietzsche owned the German translation of this work, which was published as *Die Thatsachen der Ethik* (Stuttgart: Schweizerbart, 1879).
 - 10. Spencer, Data of Ethics, 76.
- 11. Nietzsche would later revise his understanding of the relationship of pleasure and pain to action, arguing that it is not the pursuit of pleasure, but rather the flight from pain that is the primary motivation of action. See, e.g., KSA 13, 11[76].
- 12. It must be said, however, that Nietzsche does not seem to have fully grasped Spencer's position, for, like Nietzsche, Spencer asserts that all altruistic acts are impossible without being motivated at first by egoistic desires. The difference between them lies in Nietzsche's inversion of the latter's claim that egoism and altruism will merge at a higher stage of evolution in what Spencer called the paradox that "the pursuit of the altruistic pleasure has become a higher order of egoistic pleasure" (*Data of Ethics*, 325).
 - 13. Crane Brinton, A History of Western Morals (New York: Paragon, 1990), 345.
 - 14. Spencer, The Study of Sociology (London: King, 1873), 330.
 - 15. Spencer, Social Statics (London: King, 1851), 436.
- 16. Espinas, Die thierischen Gesellschaften: Eine vergleichend-psychologische Untersuchung (Braunschweig: Viewig, 1879), 512, 535, 526.
- 17. Roux, *Der Kampf der Theile im Organismus* (Leipzig: Engelmann, 1881). Roux's influence on Nietzsche has been discussed in detail by Wolfgang Müller-Lauter in "Der Organismus als innerer Kampf: Der Einfluß von Wilhelm Roux auf Friedrich Nietzsche," *Nietzsche-Studien* 7 (1978): 189–223.
- 18. Huxley, "Administrative Nihilism," *Fortnightly Review* 10 (1871): 525–43 (534–35). Espinas partially quotes this passage from Huxley's essay (123).
 - 19. Spencer, Principles of Sociology (London: Macmillan, 1969), 75–76.
 - 20. Spencer, Data of Ethics, 76.