



## Animals: A History

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# The Emergence of the Drive Concept and the Collapse of the Animal/ Human Divide

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## Abstract and Keywords

The focal point of this chapter is the notion of “drive” (*Trieb*), akin to “instinct,” which becomes a primary explanatory concept in the eighteenth and nineteenth centuries, especially in the work of Blumenbach, Spencer, Schopenhauer, and Nietzsche. Drive plays a central role in three distinct areas: embryology, ethology, and metaphysics. In embryology, it describes a force, inaccessible in itself but whose results are visible and susceptible to scientific and philosophical study, governing organic development. In ethology, drives are the sources of seemingly deliberate, highly articulated, yet nonconscious activities, which are directed at ends of which the animal is ignorant. In metaphysics, drive describes the human essence. This chapter focuses on the way in which the emergence of the drive concept undermines the idea that there is a sharp distinction between humans and animals, and concludes by examining how the blurring of this line reshapes ethical theories.

*Keywords:* instinct, Blumenbach, embryology, Darwinism, Spencer, Schopenhauer, Nietzsche, *Trieb*

In the late eighteenth and early nineteenth centuries, Kant, Hegel, and other philosophers draw a sharp distinction between the human and the animal. The human is self-conscious, the animal is not; the human has moral worth, the animal does not. By the mid- to late nineteenth century, these claims are widely rejected. As scientific and philosophical work on the cognitive and motivational capacities of animals increases in sophistication, many philosophers become suspicious of the idea that there is any divide between human beings and other

animals. As Ludwig Büchner puts it in his 1855 best-seller *Force and Matter*, “The plant passes imperceptibly into the animal, the animal into man.”<sup>1</sup> In this chapter I’ll trace these transitions in eighteenth- and nineteenth-century thought about animals.

My focal point will be the notion of drive or instinct (*Trieb*, *Instinkt*). The term *Trieb*, and its cognate *Instinkt*, originally refers to any physical, biological, or psychological force that initiates motion. Thus, when **(p.240)** it originates in the thirteenth century, the term *Trieb* can be used equally well to pick out the forces driving a herd of animals over a hill or the energy needed to begin the turning of a windmill. Although initially restricted to nonhuman animals and physical processes, by the sixteenth century drive is applied to forces that operate in human beings; Leibniz, for example, refers to the “flames of the divine will which give us a drive [*Trieb*] to do good.”<sup>2</sup>

Although in sporadic usage during these centuries, the drive concept explodes in the eighteenth and nineteenth centuries. It begins playing central roles in three distinct areas: embryology, ethology, and metaphysics. In embryology drive describes a force, inaccessible in itself but whose results are visible and susceptible to scientific and philosophical study, governing organic development. In ethology drives are the sources of seemingly deliberate, highly articulated, yet nonconscious activities, which are directed at ends of which the animal is ignorant. In metaphysics drive describes the human essence.

Clearly the concept *Trieb* has a tangled history; it is initially astonishing that a single concept would play a role in each of these debates. It becomes still more surprising when we see how these debates influenced one another. The first three sections treat these three areas of thought in turn. I focus on the way the emergence of the drive concept in each of these three domains undermines the idea that there is any sharp distinction between the human and the animal. The fourth section considers how, in light the collapse of the human/animal divide, ethical theories are reshaped.

### Embryology and the *Bildungstrieb*

During the eighteenth century a number of scientists, philosophers, and theologians engaged in a spirited debate over fetal development. The puzzle was this: animal fetuses seem to start out as largely undifferentiated masses which, in the course of development, gradually become ever more articulated. At the earliest stages we see merely a clump of **(p.241)** cells; a bit later limbs seem to develop; later still we see the traces of organs; until at birth the organism is present in all its complexity.

There are two ways this development might take place. First, the earliest stages of the fetus might lack various parts: the fetus might be an originally undifferentiated mass that is gradually articulated into organs and other parts. This option is termed *epigenesis*. Second, the earliest stages of the fetus might

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already contain, in miniature, all the organs and differentiation of the adult organism. We may not be able to see the organs, limbs, etc., but they are there. Gestation would then involve nothing more than growth. This option is called *preformationism*.

Although we now know that the first possibility, epigenesis, is the correct one, thinkers of the time hotly debated the two possibilities. They deployed not only empirical observations but also theological and philosophical considerations. One can see why epigenesis looks mysterious and engenders philosophical puzzles. How could a formless mass differentiate itself into a system of mutually interacting organs and tissues? Attempts to answer this question with the resources of eighteenth- and nineteenth-century science were far from convincing. For example, in *Theoria generationis* (1759), Caspar Friedrich Wolff argued in favor of epigenesis by positing a *vis essentialis*, an essential force, that drove the process. But this looks circular: it seems that he is simply stating that differentiation occurs because there is some unknown force that drives differentiation. The alternative possibility, that all the interacting and mutually dependent parts are already present in miniature, seemed to many a more sensible hypothesis.

This debate raged on for generations. I will focus on one moment: Johann Friedrich Blumenbach's (1752–1840) publication of *Über den Bildungstrieb* in 1781. This tract defends a version of epigenesis. In particular Blumenbach draws on empirical observations to defend the following conclusion:

There exists in all living creatures, from men to maggots and from cedar trees to mold, a particular inborn, life-long active drive. This **(p.242)** drive initially bestows on creatures their form, and then preserves it, and, if they become injured, where possible restores their form. This is a drive ... that is completely different from the other special forces of organized bodies in particular. It shows itself to be one of the first causes of all generation, nutrition, and reproduction. ... I give it the name of *Bildungstrieb*

(*Nisus formativus*).<sup>3</sup>

Blumenbach is positing a force that drives not just embryo development but the maintenance of animal form in general. For Blumenbach, paradigmatic instances of this self-maintenance include the hydra's ability to regenerate parts of its body and the human body's ability to heal wounds. The idea here is that animals have an observable tendency to generate and regenerate their bodies according to some "form" or blueprint of the animal.

Blumenbach calls this force the *Bildungstrieb*. It is a force that operates on originally undifferentiated material, endowing it with a form, and is likewise at home in developed animals, preserving and maintaining their forms. Note the

connotations of the term: it is a *Trieb*, a force, and it is a force of *Bildung*—that notorious German word that can mean development or formation or education or cultivation. (The resonances of this word will be important in the *Bildungstrieb*'s reception by Goethe and others.)

Blumenbach is careful to emphasize the epistemic status of the *Bildungstrieb*. He claims that it is a force *whose cause is unknown but whose effects are perceptible*. He models it on Newtonian accounts of gravity: we can see *that* there is a force at work in the universe; we can name it “gravity”; and we can specify its effects. But we (at the time) cannot say what *causes* this force to be manifest. Just so, Blumenbach suggests, with the *Bildungstrieb*:

I hope it will be superfluous to remind most readers that the word *Bildungstrieb*, like the words attraction, gravity, etc., should serve, no more and no less, to signify a power whose constant effect is **(p.243)** recognized from experience and whose cause, like the causes of the aforementioned and commonly recognized powers, is for us an occult quality. What Ovid said pertains to all of these forces—the cause is hidden, the force is well recognized.<sup>4</sup>

In sum, Blumenbach postulates a force, known by its effects, that gives rise to differentiation, development, and maintenance of form.

It is of tremendous consequence for philosophy that Kant was impressed by Blumenbach's work. He sends Blumenbach a letter praising his “excellent work on the *Bildungstrieb*,” saying that through it he has seen how “you unite two principles—the physical-mechanical and the sheerly teleological mode of explanation of organized nature. These are modes which one would not have thought capable of being united.”<sup>5</sup> Kant's thought is that nature must be understood mechanistically but that biology demands teleological explanations. Kant interprets Blumenbach's *Bildungstrieb* as a way of reconciling this conflict: we see that there is some causal principle at work in nature, a principle that generates what look to us like teleologically structured biological phenomena. We assume that these telic phenomena have some mechanistic ground, but we cannot understand what that ground is. Thus we use the *Bildungstrieb* as a regulative ideal. In other words, Kant suggests that we conduct biological explanations by positing, as a regulative idea, purposes in nature. (This differs from the way Blumenbach himself sees the *Bildungstrieb*; he treats it as a real force in nature, not simply a regulative ideal.)

From Kant the concept makes its way into the philosophical lexicon. Two features come to be emphasized. The first is the general idea that there are observable psychological or biological forces whose causes are unknown. The second is that there is some way of bridging the apparent divide between efficient causes and final causes. This second point seizes the philosophical

imagination: we soon find philosophers who go beyond these points about efficient and final causes, claiming, more radically, that the drive concept unites necessity and **(p.244)** freedom. Witness Schelling, who writes, “For this unification of freedom and lawfulness we have no other concept than the concept of a drive.”<sup>6</sup> But that is to step ahead; let me dwell, for a moment, on another strand in the emergence of the drive concept.

### Accounts of Animal and Human Behavior

#### The Traditional View

A separate debate, though again occupying a central role in philosophical, scientific, and theological thought: What happens when a nonhuman animal acts? In the eighteenth and early nineteenth centuries it is common for philosophers and other thinkers to draw a sharp distinction between free, rational human activity and necessitated, mechanistic animal behavior. According to this picture, human beings are capable of determining their actions via episodes of reflective, self-conscious choice. Motives do not determine these choices: we have the capacity to survey our motives, check them, and decide, freely and rationally, which ones to act upon. This is how we differ from the other, less cognitively sophisticated animals: while “the brutes,” as philosophers used to call them, are directly actuated by stimuli, self-conscious creatures can rise above their motives, reflect on them, and decide which ones to act upon.

This is a model of agency with a very long history: we can see traces of it in Plato’s claim that reason can exert a controlling influence on appetite and spirit (*Republic*); in Augustine’s attempt to locate moral responsibility in the will (*De Libero Arbitrio*); and in Aquinas’s claim that human beings have a capacity for “rational judgment,” which enables them to reflect upon and determine their own judgments, whereas the other animals merely have “natural judgment,” which is determined by external factors (*De Veritate* 24.2). But it culminates, perhaps, in Kant, who tells us that the will “can indeed be *affected* but not *determined* by impulses. ... *Freedom of choice is this independence (p.245)* from being determined by sensible impulses” (*Metaphysics of Morals*, 6:213–14).<sup>7</sup> Elsewhere Kant writes that the will is “a faculty of determining oneself from oneself, independently of necessitation by sensible impulses” (*Critique of Pure Reason*, A534/B562),<sup>8</sup> and that “an incentive [or desire] can determine the will to its action *only insofar as the individual has taken it up into his maxim*” (*Religion within the Boundaries of Mere Reason*, 6.24).<sup>9</sup> In other words, self-conscious agents are capable of standing back from the workings of desire and choosing in a way that is not determined by any of them.<sup>10</sup>

The brutes, by contrast, are actuated in a far simpler fashion. The *mechanists*, following Descartes, argue that we can understand the animal as a purely mechanical system: animal actions are simply mechanical responses to predetermined stimuli.<sup>11</sup>

Now a very large number of the motions occurring inside us do not depend in any way upon the mind. These include heartbeat, digestion, nutrition, respiration when we are asleep, and also such waking actions as walking, singing, and the like, when these occur without the mind attending to them. When people take a fall and stick out their hands so as to protect their head, it is not reason that instructs them to do this; it is simply that the sign of the impending fall reaches the brain and sends the animal spirits into the nerves in the manner necessary to produce this movement even without any mental volition, just as it would be produced in a machine. And since our own experience reliably informs us that this is so, why should we be so amazed that the light reflected from the body of the wolf on to the eyes of a sheep should be equally capable of arousing the movements of flight in the sheep? ... All actions of the brutes resemble only those which occur in us without any assistance from the mind.<sup>12</sup>

In this passage Descartes starts by noting that many human actions, such as the beating of a heart and one's hands flying in front of one's face as one stumbles, are explicable as mere mechanisms that involve **(p.246)** no mental activity whatsoever. In the final lines he suggests that all animal actions fall into this camp. And again in the *Treatise on Man*, Descartes writes that, in the animal, functions such as sense-perception, "internal movements of the appetites and passions, and finally the external movements of all the limbs ... follow from the mere arrangement of the machine's organs every bit as naturally as the movement of a clock or other automaton follow from the arrangement of its counter-weights and wheels."<sup>13</sup>

This Cartesian picture enables a sharp divide between human and animal actions: *our* actions are genuinely goal-directed, and are—or can be—products of self-conscious thought. But the brutes are different: their actions are explicable in terms of efficient causation alone; moreover they experience no genuine thought, no genuine emotion. What appears, in them, to be goal direction is exactly analogous to what happens in the clock: mechanical processes involving nothing more than efficient causation yield fixed behavior with law-like regularity.

Elements of the Cartesian theory are controversial, with many thinkers claiming that animals experience feelings and emotions. For example, Hume claims that animals experience sophisticated emotions such as sympathy (*Treatise*, 2.2.12), and Kant allows that animals have a "faculty of desire" and experience pleasure and displeasure (*Metaphysics of Morals*, 6:211). But the general picture according to which there are two classes of behavior—animal behavior and human behavior, necessitated behavior and free activity, behavior understood in terms of efficient causation alone and behavior understood in terms of final causes—has a long and distinguished history.

It's easy to see why we'd be tempted in this direction. Attributing genuine goal direction and conscious thought to the bird or the fish seems unnecessary in order to account for their behavior. Moreover it's difficult to imagine that the bird or the fish reflectively surveys its actions and decides which one to perform. So if there are only two choices—fully reflective rational deliberation or blind mechanism—we slot the animal actions into the mechanistic camp.<sup>14</sup>

**(p.247)** In the nineteenth century this tendency dissipates. It becomes increasingly common to claim that there is no essential difference between human and animal activity. Thus in the *Descent of Man*, Darwin writes:

If no organic being except man had possessed any mental power, or if his powers had been of a wholly different nature from those of the lower animals, then we should never have been able to convince ourselves that our high faculties had been gradually developed. But it can be clearly shown that there is no fundamental difference of this kind. We must admit that there is a much wider interval in mental powers between one of the lowest fishes, as a lamprey or a lancet, and one of the higher apes, than between an ape and man; yet this immense interval is filled with numberless gradations.<sup>15</sup>

How do we get from Descartes's sharp distinction to Darwin gradations? At least part of the path is that made available by the drive concept.

#### Introduction of a Third Category of Behavior

If there were only two options—if action had to be either purely mechanistic or fully free and self-conscious—then we'd be tempted to put animal activity in the former camp and human activity in the latter. But something interesting happens in the eighteenth and nineteenth centuries. Ethologists introduce a third, intermediary category of behavior: the *instinctive*. This is something that is neither purely mechanical, because it involves thought or sensation and direction toward some definite end, nor purely conscious, because it is performed without awareness of its ultimate end. Once this third category is introduced, it is seen that it is present in humans; then the human/animal divide begins to look less sharp. Let me explain.

Studies of animal behavior in the eighteenth and nineteenth centuries begin to call the traditional picture into question. Set aside simple **(p.248)** and immediate cases of action, such as the dog snarling at its enemy or the cat drinking milk. Consider, instead, extended episodes of behavior. What comes to fascinate thinkers of this time is that animals perform some highly complex behaviors that are directed not only at proximate goals but also at distal goals; moreover they often perform these complex behaviors without seeming to have learned how to do so. Simple examples include the spider weaving its web and the caterpillar producing its cocoon. What's common to all of these cases is a

complex, unlearned system of behavior directed at an end. Crucially, knowledge of the action's end does not appear to be necessary. Let me give just one example: Henry Lord Brougham discusses a species of solitary wasp that gathers grubs and stores them beside its eggs, then departs before the eggs hatch. The grubs serve as food for the larvae that will hatch from the eggs, but the wasp cannot possibly know this. For "this wasp never saw an egg produce a worm [i.e., a larva]—nor ever saw a worm—nay, is to be dead long before the worm can be in existence—and moreover she never has in any way tasted or used these grubs, or used the hole she made, except for the prospective benefit of the unknown worm she will never see."<sup>16</sup>

These are the sorts of actions that occupy center stage in the eighteenth- and nineteenth-century discussions of ethology. A term is introduced. Call *instinctive* actions those behaviors that are complex, directed at a distal goal, and done without learning. As Darwin writes:

An action, which we ourselves require experience to enable us to perform, when performed by an animal, more especially by a very young one, without experience, and when performed by many individuals in the same way, without their knowing for what purpose it is performed, is usually said to be instinctive.<sup>17</sup>

How are we to account for instinctive activity, so described? A common view is that we cannot reduce instinctive activity to mechanistic activity, nor can we treat it as conscious activity. We need a third, intermediary **(p.249)** category. Thus in an 1885 issue of the *Fortnightly Review* the prominent English biologist St. George Mivart heaps effusive praise on Schelling's "affirmation that the phenomena of instinct are some of the most important of all phenomena, and capable of serving as a very touchstone whereby the value of competing theories of the universe may ultimately be tested."<sup>18</sup> For, the author claims, "the real existence of such a thing as 'instinct' must necessarily be fatal" to mechanistic explanations of the universe. Mivart allows that reflex actions, such as respiration and digestion, are explicable purely mechanically.<sup>19</sup> Instinctive actions, though, "hold a middle place between (1) those which are rational, or truly intelligent, and (2) those in which sensation has no place."<sup>20</sup> They are "neither due to mechanical or chemical causes, nor to intelligence, experience, or will."<sup>21</sup>

I think we can see well enough why mechanistic explanations of instinct seem problematic: it's hard to envision what the mechanistic processes driving complex, temporally extended, goal-directed courses of activity would be. It's also easy to see why instinctive activities can't be treated as fully conscious activities: while we might say that these actions involve awareness of certain proximate goals, the organism has no awareness of the distal goal that is served by these proximate ones. The wasp may know that it is collecting grubs and so



on, but it cannot know that it is storing these grubs near its eggs so that the larvae that it will never see will have a nourishing meal. Moreover the entire stretch of activity is unlearned yet performed perfectly the first time it is done. Conscious direction can't be required here.

So what form of awareness and sensation is thought to be present in these instinctive actions? The idea is that instincts involve motivation via sensation or feeling: "Instinct is a certain felt internal stimulus to definite actions which has its foundation in a certain sense of want, but is not a definite feeling of want of the particular end to be attained. Were that recognized, it would not be *instinct*, but *desire*."<sup>22</sup> The animal desires some series of proximate ends without seeing how attainment of these ends serves a distal goal. Consider two examples.

William James writes:

**(p.250)**

We may conclude that, to the animal which obeys it, every impulse and every step of every instinct shines with its own sufficient light. ... What voluptuous thrill may not shake a fly, when she at last discovers the one particular leaf, or carrion, or bit of dung, that out of all the world can stimulate her ovipositor to its discharge? Does not the discharge seem to her the only fitting thing? And need she care or know anything about the future maggot and its food?<sup>23</sup>

Or, to choose an earlier and quite influential example: Georg Heinrich Schneider, in *Der Thierische Wille* (1880), writes that "it might easily appear" that the cuckoo "acted with full consciousness of the purpose" when it laid its eggs in another bird's nest. But no, "the cuckoo is simply excited by the perception of quite determinate sorts of nest, which already contain eggs, to drop her own into them, and throw the others out, because this perception is a direct stimulus to these acts. It is impossible that she should have any notion of the other bird coming and sitting on her egg."<sup>24</sup> The fly experiences a voluptuous thrill in the presence of a bit of dung; the cuckoo is excited by the perception of a certain kind of nest. These creatures do not know *why* they are excited or attracted to certain courses of action, but we, the external observers, can see that their attraction to these actions serves some distant goal.

Degrees of Sensation and Thought

Can we be more precise about what types of awareness, affect, and sensation are present in instinctive actions? Early thinkers tend to equate instinctive activity with blind, unthinking movement. Take Thomas Reid: instinct is "a natural blind impulse to certain actions, without having any end in view; without any deliberation and often without any conception of what they do."<sup>25</sup> But this belief fades, and a consensus gradually emerges that instinctive activities involve cognition and affect. Condillac (1714–80) and Erasmus Darwin (1731–

1802) endorse this position, arguing that animal and human behavior involved some **(p.251)** form of reason and sensation. But the position emerges most clearly in two thinkers who are initially unaware of each other's work: Schneider and Herbert Spencer.

Schneider, whose *Thierische Wille* I mentioned earlier, argues that drive-motivated actions involve some awareness and are performed under the pressure of some feeling or urge; his discussion of the cuckoo's urge to lay eggs in certain nests is meant as an example of this. His book offers a sustained defense of this idea. He proceeds by surveying a wide range of animal actions and offering a systematization of them. For example, he classifies feelings as produced in one of four ways: they are dependent on and activated by either sensation, perception, ideas (i.e., representations of one's sensations or perceptions), or judgments. Impulses or motives can be classified in an analogous fourfold category.<sup>26</sup> Using these distinctions, Schneider argues that instinctive activities always involve feeling, and sometimes involve memory, ideas, and conscious purposes. Humans and animals differ only in what sparks their feelings: in the simplest animals, feelings are simply caused mechanistically, without any mental antecedents; in somewhat more complex animals, perceptual states can lead to motivation; in more complex ones, "ideas" or representations of perceptions can motivate; and in still more complex ones, including perhaps only humans, thoughts can engender motivations. So the Cartesian view that we have either pure mechanism or fully fledged rational thought is rejected: all instinctive actions involve genuinely mental phenomena, though the types of mental phenomena involved do differ across species of animal and types of action.

Spencer defends an analogous account, arguing that instincts in "inferior creatures" are automatic, in the sense that Reid and others describe. However, this automatism ceases to be blind in more complex creatures.<sup>27</sup> He writes, "In its higher forms, Instinct is probably accompanied by a rudimentary consciousness. There cannot be co-ordination of many stimuli without some ganglion through which they are all brought into relation. ... The implication is that as fast as Instinct is developed, some kind of consciousness becomes nascent."<sup>28</sup> His claim **(p.252)** is that complex instincts involve the coordination of a range of factors, and this requires consciousness:

Further, the instinctive actions are more removed from the actions of simple bodily life in this, that they answer to external phenomena which are more complex and more special. While the purely physical processes going on throughout the organism respond to those most general relations common to the environment as a whole; while the simple reflex actions respond to some of the general relations common to the individual objects it contains; these compound reflex actions which we class as instincts, respond to those more involved relations which characterize certain orders

of objects and actions as distinguished from others. Greater differentiation of the psychical life from the physical life is thus shown in several ways—in the growing distinction between the action of the vegetative and animal systems; in the increasing seriality of the changes in the animal system; in the consequent rise of incipient consciousness; and in the higher speciality of the outer relations to which inner relations are adjusted: which last is indeed the essence of the advance, to which the others are necessary accompaniments.<sup>29</sup>

When he claims that purely physical actions respond to the “most general” relations, Spencer has in mind tropisms, such as the plant’s turning toward the sun. Reflex actions respond to somewhat less general relations: Spencer mentions polyps that withdraw or contract when they receive any tactile sensation.<sup>30</sup> He then asks us to consider polyps that withdraw to different degrees when a different tactile or visual sensation occurs, and then motile aquatic organisms, which respond in more complex ways to different visual and tactile sensations. Spencer interprets these instincts as responsive to less general, more particular occurrences. Crudely put, the polyp responds to all movements in the same way; the fish responds differently to movements of different types, movements in different directions, movements of different speeds, and **(p.253)** so on.<sup>31</sup> As the organism becomes responsive to more particular and complex characteristics, Spencer reasons, it will need increasingly sophisticated forms of consciousness.

There are two reasons why increasing complexity puts increasing demands upon consciousness. First, the organism will need some way of processing an increasing number of variables. Consider the difference between a simple physiological process such as contracting in the same way when any tactile stimulation occurs and more complex processes that require tracking and coordinating data from distinct sensory modalities. Second, as the characteristics tracked by instinctive actions become more complex, Spencer argues that the connection between the characteristics and the actions will loosen:

If, as the instincts rise higher and higher, they come to include psychical changes that are less and less coherent with their fundamental ones; there must arrive a time when the co-ordination is no longer perfectly regular. If these compound reflex actions, as they grow more compound, also become less decided; it follows that they will eventually become comparatively undecided. They will begin to lose their distinctly automatic character. That which we call Instinct will merge into something higher.<sup>32</sup>

His idea is something like this: If instinctive action A arises from a conjunction of stimuli B, C, D, E, F, G, then these stimuli will occur together less frequently, and when they do occur they may be mixed with stimuli that initiate alternative

actions. Thus action A will follow less directly from the presence of the stimuli; the action will become less automatic. When the instinctive action becomes highly complex, rational action arises: “rational action arises out of instinctive action when this grows too complex to be perfectly automatic.”<sup>33</sup> The complex sets of stimuli no longer pick out just one action. So some further factor is needed to determine the animal’s action. In these cases memory and reason will be deployed: an executive faculty will play a **(p.254)** role in determining which action is performed, and it will base its decisions in part on accumulated past experiences. Thus “that progressive complication of the instincts, which, as we have found, involves a progressive diminution of their purely automatic character, likewise involves a simultaneous commencement of Memory and Reason.”<sup>34</sup>

Though the details need not detain us, we can see that Spencer is making several claims. First, there is a continuum from purely physical or mechanical processes to reflexes to instincts to rational action. Second, as we progress across this continuum, the complexity of the stimuli increases, and with it the demands placed upon cognition and memory; so too, as we progress across this spectrum, the connection between the occurrence of the stimuli and the performance of the action weakens. What looked like a sharp divide between the mechanistically explicable, fully determinate actions of animals and the reflective, reasoned actions of human beings has collapsed. As Spencer puts it, “The commonly-assumed hiatus between Reason and Instinct has no existence. ... The highest forms of psychical activity arise little by little out of the lowest, and cannot be definitely separated from them.”<sup>35</sup>

In sum, Spencer, Schneider, and other thinkers put a great deal of pressure on the metaphysical and psychological distinctions between human and animal.<sup>36</sup> To be sure, some thinkers do try to preserve the old regime, treating instinctive actions as explicable in purely mechanistic terms and human actions as involving something more. However, the dominant view has shifted. As Büchner puts it, “The animal also possesses an *ego* and self-consciousness; but nobody is inclined to consider this consciousness as something absolute or divine.”<sup>37</sup> What was, in Kant’s day, good common sense has fallen into disrepute.

### Drives and the Obscurity of Human Action

To summarize: The venerable dichotomy between necessitated, mechanistic animal behavior and free, conscious human behavior is complicated by the introduction of a third, apparently intermediary category, **(p.255)** instinctive behavior. Instinctive actions share features with each of the others: like mechanical actions, they do not involve conscious direction; like conscious actions, they involve some awareness, sensation, and thought.

These debates on drives are interesting in their own right, for they begin to collapse the human/animal distinction as well as the self-conscious/non-self-conscious distinction. In addition they bring to the fore a neglected possibility for human action: for humans and animals alike, there can be highly complex behavior that requires affective and cognitive monitoring of unfolding patterns of activity yet does not require that the agent be aware of the end toward which this behavior is directed. This is different from the stock examples of, e.g., submerged selfishness that have occupied philosophers since antiquity. It's easy to see how human behavior might present itself as selfless while actually being selfish. It's harder to imagine the agent's many particular goals as subserving some larger end of which he is ignorant. But this is just the possibility for which thinkers of the time emphatically argue. Schneider, for example, argues that every case of human action is instinctive, in the sense that instincts prompt us to act without representing the ultimate goal of our action. In particular Schneider claims that the one end common to every human action is preservation of the species. However, we rarely represent this goal within consciousness.

Schopenhauer makes a similar point, arguing that drives operate by generating illusions or delusions that tempt the agent to pursue their ends. Schopenhauer thinks that sexual love is among the strongest and most pervasive of our drives: "It is the ultimate goal of almost all human effort."<sup>38</sup> However, he claims that we misunderstand the nature of this drive. The drive that is responsible for our experience of love does not aim at love but rather at sexual or reproductive activity. As he puts it, "The true end of the whole love-story, though the parties concerned are unaware of it, is that this particular child may be begotten."<sup>39</sup> Of course we do not experience love as geared solely toward reproduction. Indeed many individuals who are in love, and who engage **(p.256)** in sexual activity, desire not to reproduce. As Schopenhauer puts it, these individuals "abhor ... and would like to prevent the end, procreation, which alone guides" the drive.<sup>40</sup> Schopenhauer explains that the drive operates by occluding its aim: "The sexual impulse, though in itself a subjective need, knows how to assume very skillfully the mask of objective admiration, and thus to deceive consciousness; for nature requires this stratagem in order to attain her ends."<sup>41</sup> In other words, the reproductive drive *disguises* its true aim. "However objective and touched with the sublime that admiration may appear to be,"<sup>42</sup> what is really aimed at is reproduction. This is a general feature of drives: they operate by structuring the organism's thought, emotion, and perception so that the organism is motivated to pursue the drive's aim, all the while failing to see exactly what that aim is. "Here, then, as in the case of all drive, truth assumes the form of a delusion, in order to act on the will."<sup>43</sup>

Just as many animals are aware of proximate goals without seeing that they serve distal goals, so too with human beings. And this leads us into another area in which the drive concept upsets traditional debates. Below I'll consider how the drive concept disrupts the idea that consciousness is an essential aspect of

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human nature. If something like Schopenhauer's view is right, we have grounds for thinking that consciousness is not our essential nature, and thus that the thing which seemed to mark us off most clearly from other animals is, in fact, less important than we thought. Indeed we find thinkers—including Schopenhauer, Nietzsche, and Hartmann—arguing that rather than being our essence, consciousness is something that corrupts us, that brings us further from our animal nature.

### Metaphysical Claims about Human and Animal Essence

In embryology the drive is the life force, the mysterious but observable force powering organic development and self-maintenance; in ethology the drive is the source of instinctive action, action that is directed toward **(p.257)** goals the organism may never know, action that arises from teleologically organized patterns of affect and sensation. These ideas are philosophically redolent, and it is not long before they are explored and extended.

The emergence of the drive concept allows us to see animal and human action as different in degree rather than kind: animals too are directed toward ends, experience sensations and feelings, and, more generally, differ from mere mechanisms like clocks and bells. But just as the animal is thereby being brought closer to the human, the human is being brought closer to the animal. For another, closely related debate centers on animal and human essence.

### Traditional Views of the Human Essence

Consider, again, a traditional view: the essence of the human being is consciousness or conscious activity. Descartes, who claims that there cannot “be any thought in us of which ... we are not conscious,” argues that conscious thinking is our “whole essence or nature.”<sup>44</sup> Analogously Locke claims that consciousness determines our identity: “Consciousness always accompanies thinking, and it is that which makes every one to be what he calls self, and thereby distinguishes himself from all other things.”<sup>45</sup> Others go still further. Kant treats consciousness not only as an essential attribute of human beings but also as conferring a special status on us:

The fact that the human being can have the “I” in his representations [i.e., is self-conscious] raises him infinitely above all other living beings on earth. Because of this he is a *person* ... i.e., through rank and dignity an entirely different being from *things*, such as irrational animals, with which one can do as one likes.<sup>46</sup>

And Hegel gives consciousness a still grander role: “The whole history of the world ... seems to have reached its goal, when this absolute self-consciousness, which it had the work of representing, ceased to be **(p.258)** alien, and when spirit accordingly is realized as spirit.”<sup>47</sup> World history reaches its apogee with the emergence of self-conscious creatures who self-consciously recognize the

nature of self-consciousness. And, in many of these thinkers, this metaphysical distinction underwrites a moral distinction:

Beings the existence of which rests not on our will but on nature, if they are beings without reason, have only a relative worth, as means, and are therefore called things, whereas rational beings are called persons because their nature already marks them out as an end in itself, that is, as something that may not be used merely as a means.<sup>48</sup>

Animals, lacking self-consciousness, are distinct from us, and this distinction makes a moral difference: animals can be treated as mere means. But can this distinction be maintained?

## Drive as Our Essence

With the emergence of the drive concept, thinkers begin denying that self-consciousness is our essential nature. I'll focus on Fichte and Schiller. These thinkers treat drive as a simple, essential force giving rise to all human activity and as the locus of our essential self. Understanding drives is the key to understanding human nature and living authentically.

By the turn of the nineteenth century, *Trieb* has begun to refer to an internal force that organizes mental and physical processes. It is something that is inaccessible to us: as Blumenbach emphasized, we can see the effects but not the cause. This idea is taken further by Fichte, who at once associates the drive with our true self and simultaneously questions whether this self is comprehensible: "My nature is drive. How is it even possible to comprehend a drive as such? That is to say, what mediates such an act of thinking of a drive in beings such as we are, **(p.259)** beings who think only discursively and by means of mediation?"<sup>49</sup> Fichte's concern is not just, with Blumenbach, that we can see the effects but haven't yet discovered the cause. His worry is deeper:

The kind of thinking that is at issue here can be made very clear by contrasting it with the opposite kind of thinking. Anything that lies in a series of causes and effects is something I can easily comprehend in accordance with the law of the mechanism of nature. Every member of such a series has its activity communicated to it by another member outside itself, and it directs its activity to a third member outside itself. In such a series a quantum of force is simply transferred from one member to the next and proceeds, as it were, through the entire series. One never learns where this force comes from, since one is forced to ascend further with every member of the series and never arrives at an original force. The activity and the passivity of each member in this series is thought by means of this force that runs through the [entire] series.—A drive cannot be comprehended in this manner, and thus it cannot by any means be thought of as a member of such a series. If one assumes that some external

cause acts on the substrate of the drive, then there would also arise an efficacious action, directed to some third thing, lying outside [this substrate, i.e., lying outside the I]. Or if the cause in question does not have any power over the substrate of the drive, then nothing at all would come about. A drive, therefore, is something that neither comes from outside nor is directed outside; it is an inner force of the substrate, directed upon itself. The concept by means of which the drive can be thought is the concept of self-determination.<sup>50</sup>

So a drive is a force, whose origins cannot be understood by positing further causes. A drive cannot be thought through the concept of cause and effect; it demands to be thought of as freedom or self-determination. **(p.260)** It is sheer activity, inexplicable in causal terms. And this activity is also my essential nature:

My nature, therefore, insofar as it is supposed to consist in a drive, is thought of as determining itself through itself, for this is the only way that a drive can be comprehended. From the viewpoint of the ordinary understanding, however, the very existence of a drive is nothing more than a fact of consciousness, and ordinary understanding does not extend beyond the facts of consciousness. Only the transcendental philosopher goes beyond this fact, and he does so in order to specify the ground on this fact.<sup>51</sup>

Drives are the most basic or fundamental *sources of activity*. As Fichte puts it in another passage, “The being of the I is absolute activity and nothing but activity; but activity, taken objectively, is *drive*.”<sup>52</sup>

Drive is pure activity or freedom. But the philosophical work on drives does not end there: many of the early Romantics associate drives with *Bildung*—that is, with self-formation or self-cultivation. I’ll focus on Schiller.

His model of human agency begins by accepting the Kantian distinction between reason and sensibility. In Schiller’s terminology, we are moved by two apparently opposed drives: the sense drive and the form drive. The sense drive

issues from the physical existence of man, or from sensuous nature; and it is this drive which tends to enclose him in the limits of time, and to make of him a material being. ... This drive extends its domains over the entire sphere of the finite in man, and as form is only revealed in matter. ... It binds down to the world of sense by indestructible ties the spirit that tends higher, and it calls back to the limits of the present, abstraction which had its free development in the sphere of the infinite. No doubt, thought can escape it for a moment, and a firm will victoriously resist its exigencies: but soon compressed nature resumes **(p.261)** her rights to give an



imperious reality to our existence, to give it contents, substance, knowledge, and an aim for our activity.<sup>53</sup>

The sense drive disposes us toward the physical, the sensory, the particular, and the limited. The form drive, by contrast, arises “from [human beings’] rational nature, and tends to set free, and bring harmony into the diversity of its manifestations, and to maintain personality notwithstanding all the changes of state.”<sup>54</sup> It is concerned with the universal and timeless, and thus

it suppresses time and change. It wishes the real to be necessary and eternal, and it wishes the eternal and the necessary to be real; in other terms, it tends to truth and justice. If the sensuous instinct only produces accidents, the formal instinct gives laws, laws for every judgment when it is a question of knowledge, laws for every will when it is a question of action.<sup>55</sup>

Setting aside many complexities, we can say that the form drive motivates the rational appreciation of universals, whereas the sense drive motivates the engagement with particulars. These drives jointly constitute our essence: they are the most fundamental sources of human activity. And it appears to be an essence in conflict with itself, riven by two opposed drives. As Schiller puts it:

One [drive] having for its object change, the other immutability, and yet it is these two notions that exhaust the notion of humanity, and a third fundamental impulsion, holding a medium between them, is quite inconceivable. How then shall we re-establish the unity of human nature, a unity that appears completely destroyed by this primitive and radical opposition?<sup>56</sup>

His answer is *Bildung*: we seek a form of sublimation, which is to be achieved through culture. Suppose the drives could be combined in **(p.262)** a harmonious project, each enjoying its full expression through the other:

We have been brought to the idea of such a correlation between the two drives that the action of the one establishes and limits at the same time the action of the other, and that each of them, taken in isolation, does arrive at its highest manifestation just because the other is active. ... But if there were cases in which he could have at once this twofold experience in which he would have the consciousness of his freedom and the feeling of his existence together, in which he would simultaneously feel as matter and know himself as spirit, in such cases, and in such only, would he have a complete intuition of his humanity, and the object that would procure him this intuition would be a symbol of his accomplished destiny and consequently serve to express the infinite to him—since this destination can only be fulfilled in the fulness of time. Presuming that cases of this kind could present themselves in experience, they would awake in him a

new drive, which, precisely because the other two drives would co-operate in it, would be opposed to each of them taken in isolation, and might, with good grounds, be taken for a new drive.<sup>57</sup>

The individual can aspire to perform actions that combine the highest manifestations of the two drives: each drive feels itself at once redirected and given fullest expression by the other. And by doing so the agent would be creating or awakening a new drive, the play drive: "The sensuous drive wishes to be determined, it wishes to receive an object; the formal drive wishes to determine itself, it wishes to produce an object. Therefore the drive of play (*Spieltrieb*) will endeavor to receive as it would itself have produced, and to produce as it aspires to receive."<sup>58</sup> Though Schiller's reflections on play are at once nuanced and obscure, the core idea is easily articulated: in free play we combine spontaneous conformity to rules or laws with sensuous engagement **(p. 263)** with particulars. We are constrained but see this constraint as wholly self-imposed. We have, in Schiller's nice description, both grace and dignity (*Anmut und Würde*).

But how is this union between the drives to be attained? Through *culture*:

The office of culture is to watch over them [the sense and form drives] and to secure to each one its proper limits; therefore culture has to give equal justice to both, and to defend not only the rational drive against the sensuous, but also the latter against the former. Hence she has to act a twofold part: first, to protect sense against the attacks of freedom; secondly, to secure personality against the power of sensations. One of these ends is attained by the cultivation of the sensuous, the other by that of reason.<sup>59</sup>

The conflict of the drives motivates sublimation, which is attained through culture. If this sublimation could be attained, we would enjoy an authentic experience of ourselves, having a "complete intuition of [our] humanity." Understanding and redirecting the drives becomes the key to fully expressing human nature.

### Drives and Ethics

The drive concept, as it emerges from discussions of embryology and ethology, and as it is complicated by Fichte and the Romantics, becomes oddly multivalent. Consider the meanings the term has acquired in the course of two centuries. In its humble beginnings drive is simply the energy producing some mechanical effect, as in windmills. Not so by the end of the nineteenth century. We have, first, the idea that there is a force, whose causes are unknown, that manifests itself by driving differentiation and development of organic forms. Second, there are highly complex purposive activities that proceed without conscious direction but involve some form of thought or sensation; **(p.264)** these are described in terms of drives. Moreover we have the idea that there

may be a singular source of all activity. Not only that: drive may be inaccessible to us, articulable only in confused or distorting forms. For the drive is sheer activity, which cannot be grasped in familiar causal terms. Nonetheless the drive is our essence. And not just ours: these tendencies are taken to pervade all life. The forces driving us, the forces shaping our essence, are at work throughout the organic kingdom. Thus Goethe, having read Blumenbach, begins using the term *Bildungstrieb* in the mid-1780s. In Goethe the *Bildungstrieb* is a source of all organic activity, but is especially manifest in creative activity; it is inaccessible to or distorted by reflection. As a source of active development, the drive pervades nature, from its depths to its heights.

We've seen numerous ways in which the introduction of the drive concept collapses traditional distinctions between the human and the animal. Before closing, I want to turn, briefly, to the way the undermining of psychological and metaphysical distinctions between the human and the animal leads, in some thinkers, to a reassessment of ethical theories.

First, the idea that animals are fundamentally different from us leads us to think that we can treat them as we see fit. Contrasting Kant and Schopenhauer is a good way of seeing how, once the human/animal divide is abandoned, ethics is rethought. Kant claims that animals "will have no general cognition through reflection, no identity of the representations, also no connections of the representations according to subject and predicate, according to ground and consequence, according to the whole and according to the parts; for these are all consequences of the consciousness which animals lack."<sup>60</sup> In short, animals lack self-consciousness. Kant takes this to entail that we can have no duties to animals: "As far as reason alone can judge, a human being has duties only to human beings (himself and others), since his duty to any subject is moral constraint by that subject's will. ... A human being can therefore have no duty to any beings other than human beings."<sup>61</sup> Schopenhauer agrees with Kant that human beings alone enjoy self- (p.265) consciousness (or, as Schopenhauer puts it, human beings alone have Reason). However, we share a common essence with other living creatures. Our essential nature is not consciousness but *will*: "Consciousness is conditioned by the intellect, and the intellect is a mere *accidens* [accidental property] of our being."<sup>62</sup> He continues, "In all animal beings the *will* is the primary and substantial thing; the *intellect*, on the other hand, is something secondary and additional."<sup>63</sup> But what is the will? It is simply striving, directed at nothing in particular: "The will, considered purely in itself, is devoid of knowledge, and is only a blind, irresistible urge."<sup>64</sup> The will manifests itself in particular drives, such as the sex drive. This is common to both humans and animals.

Given this shared essential nature, Schopenhauer argues that there are no sharp ethical distinctions between treatment of animals and treatment of other human beings. In *On the Basis of Morality* (1840), Schopenhauer strongly condemns

Kant for his claim that animals need not be treated as ends: “There are no duties toward animals’ is, frankly, a revolting crudity and barbarism of the West. ... It rests on the assumption, despite all evidence to the contrary, of the radical difference between man and beast.”<sup>65</sup> Schopenhauer traces this Kantian view to Christian assumptions about humanity’s dominion over animals:

Christian morals has no regard for animals, so in philosophical morals animals are at once fair game, just “things,” just *means* to favored ends, thus something for vivisection, for deer-stalking, bullfighting, horse-races, whipping to death as they struggle with heavy quarry carts, etc.—Shame on such a morality ... which fails to recognize the eternal essence which exists in every living being and shines forth with inscrutable significance from all eyes that see the sun!<sup>66</sup>

Schopenhauer recommends that we alleviate suffering in man and animal alike. He argues that “he who is cruel to animals cannot be a good man,”<sup>67</sup> and writes, “I know of no more beautiful prayer than that **(p.266)** with which ancient Indian dramas ended. ... It was: ‘May all living beings be delivered from suffering!’”<sup>68</sup>

Schopenhauer does recognize some reasons for prioritizing humans:

*Goodness of heart* consists in the deeply felt, universal compassion for all living beings, and especially for man; because responsiveness to suffering keeps in step with increase in intelligence; hence, the countless intellectual and physical sufferings of human beings have a much stronger claim to compassion than the pain of animals, which is only physical, and thus less acute.<sup>69</sup>

Human beings are, supposedly, more susceptible to pain, and hence more in need of compassion. But this is a matter of degree.

So the first point is that if humans and animals have a shared nature, the default ethical assumption shifts: rather than starting with the idea that different ethical demands will apply to humans and animals, we see the ethical claims as applying to both in the same way. There is also a second and more complex point, which I can only sketch here: for Kant and other proponents of the idea that self-consciousness is humanity’s essential feature, it’s tempting to think that an ethic governing human beings should focus on the operations of self-conscious thought. But if something like Schopenhauer’s view is correct—if our essential nature is drive, and if these drives direct us at ends of which we are largely ignorant—then it will seem superficial to focus on conscious phenomena. These conscious phenomena are seen as the product of something deeper: the drives. Thus in Schopenhauer, Nietzsche, and other thinkers ethical theorizing shifts: to put it in the broadest possible way, these thinkers are interested in which configurations of the human mind—including drives, affects, and the

social conditions interacting with them—are conducive to flourishing. In neither of these thinkers is flourishing to be achieved principally through conscious activity. Self-consciousness, far from being something distinctive and exalted, comes to play a subsidiary role.

**(p.267) Conclusion**

I've sketched the development of the drive concept and traced the consequences of its introduction. Originally denoting nothing more than the energies needed to initiate mechanical processes, by the middle of the nineteenth century "drive" can pick out anything from a mysterious but visible force responsible for organic development to a source of purposive activity or a concept of pure activity. Each of these notions puts pressure on the human/animal divide. Freed of the simplistic dichotomy between self-conscious intelligence and mere mechanism, thinkers envision a spectrum of less to more complex mental processes. And, introducing the idea that our deepest aims are concealed from us, our place seems less secure. We are not alone in thoughtful behavior; we are not alone in sensation, affect, and intelligence; and we do not enjoy any privileged knowledge of our ultimate goals. As Büchner writes, "The best authorities in physiology are now pretty much agreed in the view that the soul of animals does not differ in *quality* but merely in *quantity* from that of man."<sup>70</sup> **(p.268)**

Notes:

- (1.) Ludwig Büchner, *Force and Matter*, in Collingwood, 85.
- (2.) On these points, I've drawn on Vermorel, "The Drive."
- (3.) Blumenbach, *Über den Bildungstrieb*, 12–13; translation quoted from Richards, *The Romantic Conception*, 218–19.
- (4.) Blumenbach, *Über den Bildungstrieb*, 25–26; quoted from Richards, *The Romantic Conception*, 226.
- (5.) Immanuel Kant to Johann Friedrich Blumenbach (August 5, 1790), in Fischer, *Briefwechsel von Immanuel Kant*.
- (6.) Schelling, *Von der Weltseele (On the World Soul)*, 235.
- (7.) Translations of this work are from Gregor, *Kant: The Metaphysics of Morals*.
- (8.) Translations of this work are from Guyer and Wood, *Critique of Pure Reason*.
- (9.) Translations of this work are from Di Giovanni and Wood, *Immanuel Kant: Religion within the Boundaries of Mere Reason*.
- (10.) This, at any rate, is the way Kant is usually interpreted. For discussion, see Katsafanas, "Nietzsche and Kant."

- (11.) See further Deborah Brown's chapter in the present volume.
- (12.) Cottingham et al., *The Philosophical Writings of Descartes*, 2:161. For earlier discussions of the same example see the chapters by Peter Adamson and Juhana Toivanen in this volume.
- (13.) Cottingham et al., *Philosophical Writings of Descartes*, 1: 108.
- (14.) Compare to Helen Steward's discussion of Morgan's Canon in this volume.
- (15.) Darwin, *The Descent of Man*, ch. 2.
- (16.) Brougham, *Dissertations*, 1:17-18.
- (17.) Darwin, *On the Origin of Species* (New York: Modern Library, 1993), 317-18.
- (18.) Mivart, "Organic Nature's Riddle," 323. St. George Mivart (1827-1900) attempted to reconcile natural selection with the teachings of the Catholic Church. He was in regular contact with the leading figures of the period, including Huxley and Darwin, both of whom responded to his critiques at length in their published works.
- (19.) Mivart, "Organic Nature's Riddle," 323-25.
- (20.) Mivart, "Organic Nature's Riddle," 325.
- (21.) Mivart, "Organic Nature's Riddle," 326.
- (22.) Mivart, "Organic Nature's Riddle," 326.
- (23.) James, *The Principles of Psychology*, 2:387-88.
- (24.) James, *Principles of Psychology*, 2:389.
- (25.) Reid, *Essays on the Active Powers of the Human Mind*, ch. 2.
- (26.) Schneider, *Theirische Wille*, ch. 4.
- (27.) Spencer, *The Principles of Psychology*, §170.
- (28.) Spencer, *Principles of Psychology*, §195.
- (29.) Spencer, *Principles of Psychology*, §195.
- (30.) Spencer, *Principles of Psychology*, §196.
- (31.) "The movement produced in a creature having a rudimentary eye, when an opaque object is suddenly passed before that eye, is more general and more simple than is the movement produced in a creature which grasps the prey

passing before it. In the first case the effect is produced whatever the relative position of the object, providing the obscuration be considerable; in the second case it is produced only when the object is just in front" (Spencer, *Principles of Psychology*, §197).

(32.) Spencer, *Principles of Psychology*, §198.

(33.) Spencer, *Principles of Psychology*, §205.

(34.) Spencer, *Principles of Psychology*, §203.

(35.) Spencer, *Principles of Psychology*, §203.

(36.) See also Wundt's remarks translated at Judd, *Wilhelm Wundt: Outlines of Psychology*, 281-82: "The attempts to define the relation of man and animals from a psychological point of view vary between two extremes. One of these is the predominating view of the old psychology that the higher 'faculties of mind,' especially 'reason,' are entirely wanting in animals, or that, as Descartes held, animals are mere reflex mechanisms without mind. The other is the wide-spread opinion of representatives of special animal psychology, that animals are essentially equal to man in all respects, in ability to consider, to judge, to draw conclusions, in moral feelings, etc. With the rejection of faculty-psychology the first of these views becomes untenable. The second rests on the tendency prevalent in popular psychology to interpret all objective phenomena in terms of human thought, especially in terms of logical reflection. The closer analysis of so-called manifestations of intelligence among animals shows, however, that they are in all cases fully explicable as simple sensible recognitions and associations, and that they lack the characteristics belonging to concepts proper and to logical operations. But associative processes pass without a break into apperceptive, and the beginnings of the latter, that is, simple acts of active attention and choice, appear without any doubt in the case of higher animals, so that the difference is after all more one of the degree and complexity of the psychical processes than a difference in kind."

(37.) Collingwood, *Ludwig Büchner: Force and Matter*, preface.

(38.) Schopenhauer, *The World as Will and Representation*, 2: 533 (hereafter WWR). Translations of Schopenhauer's work are from Payne, *Arthur Schopenhauer: The World as Will and Representation*.

(39.) WWR, 2:535.

(40.) WWR, 2:540.

(41.) WWR, 2:535.

(42.) WWR, 2:535.

(43.) WWR, 2:540.

(44.) Descartes, *Fourth Replies*, in Adam and Tannery, *Oeuvres de Descartes*, VII 246; *Discourse on Method*, in Adam and Tannery, VI 33.

(45.) Locke, *An Essay Concerning Human Understanding*, II.xxvii.9.

(46.) Kant, *Anthropology*, 127. Translation from Louden, *Kant: Anthropology from a Pragmatic Point of View*.

(47.) Hegel, *Lectures on the History of Philosophy*, 3:551–52. Translations of this work are from Haldane, *G. W. F. Hegel: Lectures on the History of Philosophy*.

(48.) Kant, *Groundwork*, 4:428. Translation from Gregor and Timmerman, *Kant: Groundwork of the Metaphysics of Morals*.

(49.) Fichte, *The System of Ethics*, in Breazeale and Zöllner, 106.

(50.) Fichte, *System of Ethics*, in Breazeale and Zöllner, 106–7.

(51.) Fichte, *System of Ethics*, in Breazeale and Zöllner, 107.

(52.) Fichte, *System of Ethics*, in Breazeale and Zöllner, 101.

(53.) Friedrich Schiller, *Letters on the Aesthetic Education of Man*, letter 12. Translations of this work are from Dole et al., *Aesthetic and Philosophical Essays*.

(54.) Schiller, *Letters*, letter 12.

(55.) Schiller, *Letters*, letter 12.

(56.) Schiller, *Letters*, letter 13.

(57.) Schiller, *Letters*, letter 14.

(58.) Schiller, *Letters*, letter 14.

(59.) Schiller, *Letters*, letter 13.

(60.) Kant, *Lectures on Metaphysics*, 28:276. Translation by Ameriks and Naragon.

(61.) Kant, *Metaphysics of Morals*, 6:442. Although we have no duties *to* animals, Kant allows that we have duties *regarding* animals. For example, Kant claims that we have a duty not to be cruel to animals. He reasons that cruelty toward animals undermines sympathy and love, and this can lead us to violate our duties to human beings. So we should avoid cruelty to animals not because it is bad for them but because it is bad for us. As Schopenhauer describes Kant's view, "One



should have compassion with animals just for practice” (Schopenhauer, *The Two Fundamental Problems of Ethics*, in Cartwright and Erdmann, 173). Although this is the traditional way of reading Kant on animals, Kain (this volume) provides a novel argument that Kant requires us to have certain moral emotions directed toward animals (e.g., that we must be sympathetic toward animals and not just, as Schopenhauer puts it, for practice).

(62.) Schopenhauer, WWR, 2:201.

(63.) Schopenhauer, WWR, 2:205.

(64.) Schopenhauer, WWR, 2:275.

(65.) Schopenhauer, *Two Fundamental Problems*, in Cartwright and Erdmann, 239.

(66.) Schopenhauer, *Two Fundamental Problems*, in Cartwright and Erdmann, 173.

(67.) Schopenhauer, *Two Fundamental Problems*, in Cartwright and Erdmann, 242.

(68.) Schopenhauer, *Two Fundamental Problems*, in Cartwright and Erdmann, 237. Schopenhauer repeatedly emphasizes the superiority of Hindu over Christian thought on animals: in a typical line, he writes that it is “a fitting symbol of the defect of Christian morals ... that John the Baptist appears quite like a Hindu Sannyasi, but at the same time—is clad in animal skins!” (242). For a discussion of Indian approaches to animals, see Amber Carpenter’s contribution in this volume.

(69.) Schopenhauer, *Two Fundamental Problems*, in Cartwright and Erdmann, 253.

(70.) Büchner, *Force and Matter*, in Collingwood, ch. 19. I am grateful to an audience at King’s College London for extremely helpful comments on this material.

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