

REASON AND ANIMALS:
DESCARTES, KANT, AND MEAD ON THE PLACE OF HUMANS IN NATURE

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Abstract
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The question of our place in nature has long been with us. One answer lies in comparing humans with other animals (brutes), thereby highlighting the uniquely human. To this end, I examine the distinction between humans and brutes as delineated by Descartes, Kant, and the Chicago pragmatist George Mead. This selection not merely assures a wide-spectrum of opinion still alive today, it marks a general historical shift from the metaphysical dualism of Descartes' mechanical world and spiritual self, to the epistemic dualism of Kant and his double sense of self, finally to Mead's naturalistic monism, wherein consciousness emerges naturally from the non-conscious.

Apart from illuminating issues current in the animal-rights literature, examining this single topic casts a new light on these figures, especially Kant (whose discussion of brutes has been almost wholly overlooked) and Mead (for whom the human/brute comparison is a central yet seldom explored component).

Descartes' dualism is understandable simply given his scientific commitments, and the chasm he found in the human/brute gap was as much a result of this scientific motivation as any religious or moral one. For Kant, brutes lack the power to judge, understand, or reason. But more importantly, they lack autonomy and are therefore without moral worth. The unbridgeable chasm, metaphysical for Descartes, became for Kant primarily moral. Brutes do have representations and desires, however, and, by virtue of being alive, an immaterial principle; Kant consequently rejected Descartes' animal-machine hypothesis.

Darwin's account of the human/brute gap and Mead's Darwinistic psychology are discussed. Selfhood and consciousness (in one sense) are unique to humans, although brutes are conscious in another sense. Mead's different uses of 'consciousness' are separated so as to clarify this difference as well as the role of language in the emergence of mind. Mead argued that humans perceive social objects (selves) prior to physical objects while brutes perceive none of these, lacking the capacities of universalization and object-manipulation. Like Descartes and Kant, Mead minimized brute experience, thereby maintaining a wide gulf between humans and brutes despite his Darwinian naturalism.

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LIST OF ABBREVIATIONS

Consult the Bibliography for the full title of the works below:

- AA = *Kants gesammelte Schriften*
Allgemeine Geschichte = Kant (1784b)
Anth Dohna = Kant (1791)
Anthropologie = Kant (1798a)
Anweisung = Kant (1790b)
AT = *Oeuvres de Descartes*
Aufklärung = Kant (1784c)
Beweisgrund = Kant (1763)
Colleg Anth 70s = Kant (undated, c)
Colleg Anth 80s = Kant (undated, d)
Descent = Darwin (1871)
Discourse = Descartes (1637)
Ethik = Kant (1775c)
Fortschritte = Kant (1793c)
Frieden = Kant (1795)
Geographie = Kant (1801)
Grundlegung = Kant (1785a)
Himmels = Kant (1755)
HR = Descartes, *Philosophical Works*
IS = Mead (1982)
KdpV = Kant (1781)
KdrV = Kant (1788b)
Kenny = Descartes (1981)
KU = Kant (1790a)
Logik = Kant (1800)
Logik Mrongovius = Kant (1784a)
Logik Nachlaß = Kant (undated, a)
MAdN = Kant (1786b)
Meditations = Descartes (1641)
Menschenkunde = Kant (1778)
Menschenrasse = Kant (1785e)
Moscati = Kant (1771)
MP Arnoldt = Kant (1794b)
MP Dohna = Kant (1792)
MP Herder = Kant (1762b)
MP Mrongovius = Kant (1783b)
MP Pölitz = Kant (1778)
MP Volckmann = Kant (1783c)
MSS = Mead (1934)
MT = Mead (1936)
Mutmaß. Anfang = Kant (1786a)
Notes = Descartes (1647)
OP = Kant (undated, g)
PA = Mead (1938)
Pädagogik = Kant (1803)
Passions = Descartes (1649)
PP = Mead (1932)
Principles = Descartes (1644)
Prologomena = Kant (1783a)
PW = *Phil. Writings of Descartes*
Rassen = Kant (1775a)
Rez. Herder = Kant (1785b,c,d)
Rechtslehre = Kant (1797)
Refl. Anth = Kant (undated, b)
Religion = Kant (1793a)
Sitten = Kant (1797)
Sömmering = Kant (1796a)
Streit = Kant (1798b)
STW = Kant, *Werkausgabe*
SW = Mead (1964a)
Syllogism = Kant (1762a)
Tel. Prin. = Kant (1788a)
Theorie/Praxis = Kant (1793b)
Traüme = Kant (1766)
Treatise/Man = Descartes (1630)
Tugendlehre = Kant (1797)

CHAPTER ONE INTRODUCTION

“The question of questions for mankind — the problem which underlies all others, and is more deeply interesting than any other — is the ascertainment of the place which man occupies in nature.”

— Thomas Huxley (1863)¹

What is it to be human? What are we, and how do we fit into the scheme of things? The question ‘What is a human?’ was seen by Kant as foundational, the root of all other questions of philosophical interest: “All the interests of my reason, speculative as well as practical, combine in the three following questions: (1) What can I know?, (2) What ought I to do?, (3) What may I hope?”² In his *Logic*, Kant adds to these three questions a fourth: (4) What is a human?, and writes:

The field of philosophy... may be reduced to the [above questions]. The first question is answered by *Metaphysics*, the second by *Morals*, the third by *Religion*, and the fourth by *Anthropology*. But in reality all these might be reckoned under anthropology, since the first three questions refer to the last.³

That fourth question is what this dissertation addresses; and given its basicity, I have confined this study to the more specific question of how humans and other animals differ. That is my touchstone in the chapters to come.

Our self-image seems of necessity parasitic upon our image of the rest of nature: “If there were no animals, the nature of man would be even more incomprehensible.”⁴ The Psalmist finds a place for us with respect to the angels:

When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained; what is man, that thou art mindful of him? and the son of man, that thou visitest him? For thou hast made him a little lower than the angels, and hast crowned him with glory and honour. Thou madest him to have dominion over the works of thy hands; thou hast put all things under his feet....⁵

The author of the Mosaic accounts describes us with respect to God: “God created man in his own image, in the image of God created he him; male and female created he them,” and once more, from a different perspective: “God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.”⁶ Dust and breath, image of God — such is the Mosaic image of us. But for these accounts to clarify our nature one needs to consider first God’s nature or that of angels, and thus consider questions ever more obscure; further, that path of inquiry into our nature is not lacking in numbers, congested as it is with theologians.

I would sooner consider the immediate facts at hand. To echo Eliot: birth, copulation, and death; indeed, so much is guaranteed should we as a species choose to perdure, and these we share with all sexual creation. Are brutes “our fellow brethren in pain, disease, death and suffering,” as Darwin suggests? How shall we know how to interact with the brutes without first knowing their natures? Or does such nature depend rather on our acts? Many humans have found in brutes brethren of equal worth, others have found in them gods to be worshipped. We of the Western world, however, have on the whole regarded them as so much spoil and plunder, as fodder for our insatiable desire, and as void of all intrinsic worth.

¹ Thomas Huxley, *Man’s Place in Nature* (New York: D. Appleton and Co., 1896), p. 77; originally published in 1863.

² *KdrV*, “The Canon of Pure Reason” [B 832-3].

³ *Logik* [STW, vi.447-8; Abbott transl, p. 15]. See also Kant’s letter to Stäudlin (5 April 1793) [Schöndörfer, p. 634] and *Anthropologie* [STW, xii.428n (gloss from the H-mss.)].

⁴ Buffon, *Histoire naturelle de l’homme*, as quoted in Harlan Lane, *The Wild Boy of Aveyron* (Cambridge: Harvard University Press, 1979), p. 20.

⁵ *Psalms* 8:3-6 [King James Version]. And see Augustine: “Man... whose nature was to be a mean between the angelic and the bestial” [*De civitate Dei*, Bk. 12, sect. 21; Dods transl, p. 406] and Aquinas on the distinction between corporeal and spiritual creatures [*Summa Theologiae*, Pt. i, questions 50, 75].

⁶ *Genesis* 1:27, 2:7 [KJV].

Today there is no need to consume brutes for our sustenance yet such consumption continues unabated; is this from some long-protracted habit? or from sheer pleasure and delight in the taste of animal flesh?

The present dissertation, however, is not a tract on the virtues of vegetarianism or the evils of treating brutes as mere means — on such issues I remain silent. Rather, the following pages are concerned with how we humans view the rest of creation, and in particular the brutes. Given the enormity of this topic (a mere catalog of opinion would fill volumes), three figures from the history of philosophy were chosen, each an important representative of a particular philosophical system. Those figures are René Descartes, Immanuel Kant, and George Herbert Mead — all steeped in the Northern European tradition, but each representing a quite different philosophical position within that tradition. From the radical metaphysical dualism of Descartes' mechanical world, wherein the besouled machine dwells, to the hesitant, epistemic dualism of Kant and his double sense of self, finally to Mead's naturalistic monism, wherein all things naturally emerge according to Darwinian forms of explanation, I will be concerned with the shifts in our self-image and our image of brutes that attend these larger shifts between the opposing systems.

Now a word or two about 'brutes'. I refer to non-human animals as brutes as it is one of the least ambiguous and least value-laden terms available (although 'brutal' does bear a negative connotation). 'Animal' does not suffice since humans are also animals in some sense (despite the fact that 'animal' is often used to refer only to brutes). 'Creature' is even more ambiguous, failing to distinguish those non-human creatures from the human, and even the non-living from the living. 'Beast' has often been used to refer to *any* animal, human or non-human; further, 'beast' has acquired the connotation of the vile or unruly aspects of humans, suggesting an abnormality of some kind; finally, 'beast' has associated with it the mythic weight of the antichrist of Christian apocalyptic tradition. 'Brute', on the other hand, normally connotes a non-human animal, suggesting a lack of reason or understanding (as in the oft-seen phrases "brute beast" or "brute creation"). It is occasionally used derogatively of humans, but even this usage lacks the hint of viciousness or perversity that 'beast' evokes. And so those animals which are not human will be spoken of as brutes when spoken of collectively.

Finally, a note on the quotations. I cite an English translation when available and, while I often follow that translation, I alter it when necessary for a consistent rendering of a word or when the translation seemed either wrong or awkward. Emphases are my own except where noted.

By way of thanks I should specifically mention three sources of aid and comfort: (1) my wife and family for their patience with this and other projects, (2) my two advisors, Karl Ameriks and Neil Delaney, who are to thank for whatever cogency this work enjoys, and (3) those members of the department at Notre Dame that helped make graduate studies a little more humane, among whom were my readers: Fr. Ernan McMullin, Phil Sloan, and Steve Watson.

§1. Why read this dissertation?

This is not the first book length historical study of our view of brutes and their relationship to human beings. George Boas offered such a study with respect to the French thought of the 17th century,¹ and Hester Hastings did the same for the 18th century.² Finally, Leonora Rosenfield covered both centuries in one work, again with respect to the regard held for brutes by French men of letters.³

The present dissertation is, however, the first such work that details *Kant's* account of brutes, or that focuses on that aspect of *Mead's* work. And I am aware of nothing in the literature that compares the accounts of Descartes, Kant, and Mead.

¹ George Boas, *The Happy Beast in French Thought of the Seventeenth Century* (Baltimore: The Johns Hopkins Press, 1933).

² Hester Hastings, *Man and Beast in French Thought of the Eighteenth Century* (Baltimore: Johns Hopkins University Press, 1936).

³ Leonora C. Rosenfield, *From Beast-Machine to Man-Machine: the Theme of Animal Soul in French Letters from Descartes to La Mettrie* (New York: Octagon Books, 1968). First published in 1940. Much of the relevant primary material has since been collected by J. S. Slotkin in his *Readings in Early Anthropology* (Chicago: Aldine Publishing Co., 1965). See the various entries under 'Physical Anthropology'.

What little there is on Kant's view of brutes largely concerns his belief that we have at most only indirect duties towards them, wherein a now-famous passage from his ethics lectures is trotted out for the ritual abuse.¹ Seldom is Kant's account of the human/brute gap discussed or his motivations for denying brutes any moral worth examined;² and never have I found an attempt to reconcile Kant's phenomenal/noumenal doctrine with his views of animal evolution and the development of rationality. Kant's importance for the science of his day—especially the life sciences—has recently been well-documented,³ but there has been little discussion of how Kant's contributions to the life sciences are to be reconciled with the central doctrines of the *Critique of Pure Reason*. An example might be in order here.

In his brief review of Moscati's book on comparative anatomy, Kant suggests that the human population has undergone significant development, once having walked on all fours (as Moscati had argued), but that with the advent of reason and the development of a social existence, we took to bipedalism, it being "more suitable" for a rational and social creature.⁴ Reason developed, however, not out of thin air nor through some fiat of God, but from a "germ" (*ein Keim von Vernunft*) which had been lying within us. What is remarkable in this review of 1771 (and in many other passages from throughout his career) is that it brings to center stage the relationship between the phenomenal and noumenal self, and it does this in the context of biological development. With respect to man "as an animal," health and well-being (nature's primary concern) are promoted by a life on all fours, which is how human beings should be, except that there lay in us this "germ of reason" which developed, resulting in our becoming rational. Is reason then of the phenomenal or the noumenal self? This question, among others, is closely examined in the second part of the dissertation.

The work of George Mead has recently enjoyed renewed interest, as evidenced by the growing literature;⁵ but despite this and the centrality that brutes enjoy in his ruminations, there has been a noticeable lack of interest in what his view of *brutes* actually was. That one ought to have such an interest is suggested by how ineffectual his comparisons between human beings and brutes are otherwise made; such a method for illuminating the human condition will not go far without some prior account of brutes. The third part of this dissertation offers such an account, set in the context of Mead's social psychology.

¹ That passage is from his lecture on our "Duties Towards Animals and Spirits" in *Ethik* [Menzer, pp. 302-4; Infield transl., pp. 239-41], reprinted in Tom Regan and Peter Singer, *Animal Rights and Human Obligation* (Englewood Cliffs, N.J.: Prentice-Hall, 1976), pp. 122-23.

For relevant articles, see Mary Midgley, "The Concept of Beastliness: Philosophy, Ethics, and Animal Behavior" in *Philosophy*, 48:111-35 (1973), pp. 122-3; John Passmore, "The Treatment of Animals" in *Journal of the History of Ideas*, 36: 195-218 (1975), pp. 201-3; Alexander Broadie and Elizabeth M. Pybus, "Kant's Treatment of Animals" in *Philosophy*, 49:375-83 (1974); Tom Regan, "Broadie and Pybus on Kant" in *Philosophy*, 51:471-72 (1976); Broadie and Pybus, "Kant and the Maltreatment of Animals" in *Philosophy*, 53:560-1 (1978); Christina Hoff, "Kant's Invidious Humanism" in *Environmental Ethics*, 5:63-70 (1983). Nearly every anthology on animal rights these days will contain at least one article with a reference to this lecture of Kant's. A more informal, yet wider-ranging criticism of Kant's views can be found in Pt. One of Bernard Rollin, *Animal Rights and Human Morality* (Buffalo, NY: Prometheus Books, 1981).

² Partial accounts can be found in Max Dessoir, *Geschichte der neueren deutschen Psychologie* (Berlin: Carl Duncker, 1894), vol. i, pp. 193-4; Arthur Lovejoy, "Kant and Evolution" in B. Glass, O. Temkin, W. Strauss, editors, *Forerunners of Darwin* (Baltimore: Johns-Hopkins, 1959), pp. 173-206; Walter May, "Kants Stellung zum Dezendenzproblem" in *Archiv für die Geschichte der Naturwissenschaften und der Technik*, 3:103-26 (1912).

³ See Timothy Lenoir, *The Strategy of Life: Teleology and Mechanics in 19th Century Biology* (Boston: D. Reidel, 1982) and Clark Zumbach, *The Lawlessness of Living Things: Kant's Conception of Organismic Activity*, Ph.D dissertation (Rutgers University, 1980).

⁴ Kant, "Rezension zu Peter Moscati, Von dem körperlichen wesentlichen Unterschiede zwischen der Struktur der Tiere und Menschen" in *Königsbergischen Gelehrten und Politischen Zeitungen* (August 23, 1771), pp. 265-6.

⁵ See, for instance, the recent full-length treatments by David L. Miller, *George Herbert Mead: Self, Language, and the World* (Austin: University of Texas Press, 1973); Hans Joas, *Praktische Intersubjektivität* (Frankfurt am Main: Suhrkamp, 1980); and Mitchell Aboulafia, *The Mediating Self: Mead, Sartre, and Self-Determination* (New Haven: Yale University Press, 1986).

§2. *Why study brutes?*

But one might ask why brutes should interest us at all. Apart from considerations as to how human beings ought to behave towards brutes, interest in the nature of human beings and human experience would seem to offer little reason for such a study.

An analogy suggests why more time should nevertheless be devoted to thinking about brutes. In learning the grammar of a second language one often gains for the first time an awareness of the structures of one's own grammar structures that before were only dimly seen, if at all. A similar advance is made with respect to knowing or being aware of one's nature as a human being. A useful means for heightening this self-awareness is a close study of the nature of non-human beings, in particular non-human animals if only to determine the manner in which they fail to be human being.¹ It is normally an easy task to recognize human beings and to be able to distinguish them from brutes, and there is furthermore a broad consensus as to paradigmatic instances of each. But if the history of philosophy is any indication, getting clear on the principles or criteria guiding this recognition is notoriously difficult, and the lack of agreement on several borderline cases indicates the need for further study. Just as most language-users can discern grammatical from non-grammatical strings of words in their natural language but not be able to say what it is that makes each sequence grammatical or not, we are often unable to state clearly the criteria for distinguishing human beings from brutes, even when the task of recognition itself may be unproblematic. As Margaret Mead wrote in her study of adolescence in a primitive culture:

if we would appreciate our own civilization, this elaborate pattern of life which we have made for ourselves as a people and which we are at such pains to pass on to our children, we must set our civilization over against other very different ones.²

The same can be said for appreciating the nature of human beings, arriving at this through the study of other kinds of animals.³

I thus hope to heighten our understanding of human nature by focusing on how representatives of three historically significant philosophical traditions deal with the human/brute distinction. To this end I will be considering the writings of Descartes, Kant, and Mead, and in particular their view of the relation between human beings and brutes, and the motivation for holding that view. The emphasis throughout will be to lay a basis of careful conceptual analysis of this human/brute relation.

§3. *Why study outdated views of brutes?*

But granted that there might be some use in studying brutes, wouldn't it make more sense to devote our energies to the most recent studies in ethology and comparative psychology, or at least the most recent speculations within the philosophical communities? What could possibly be gained by looking at views of brutes which are outdated, if not nullified, by what scientific research has since uncovered?

While some advances in the study of brute behavior have nullified certain empirical claims made by our historical figures, their discussions on the whole have maintained a certain timeliness and relevance to the occasional philosophical work on brutes done today. First, since a part of understanding human beings involves understanding human opinion, no excuse is needed for historical studies of such opinion, and of the motivations for and scope of such; and further, the study of formidable intellects of which the past is replete on the nature of mind is seldom vain.

Second, much that is of philosophic interest has not been touched by empirical advances. For instance, much has been done in the last several decades in teaching primates and cetaceans a language but this alone does not indicate what it is

¹ Gershon Weiler has demonstrated some of the pitfalls of approaching the question of human nature (with respect to Kant) more directly: see his "Kant's 'Intermediate Concept' and the Concept of Man" in *Revue Internationale de Philosophie*, 16:432-46 (1962) and the more successful "Kant's Question: What is Man?" in *Philosophy of the Social Sciences*, 10:1-23 (1980).

² Margaret Mead, *Coming of Age in Samoa: a Psychological Study of Primitive Youth for Western Civilization*, with a Foreword by Franz Boas (American Museum of Natural History, 1973), p. 7; first published in 1928.

³ I am naively assuming, for the purposes of this dissertation, that human beings, like other beings in the world, possess a nature of some sort. While the opposite has been claimed by various recent authors and entire schools of thought, I am unwilling to devote space to the question here, as it would require far too much to be treated adequately.

about language-use that is so special, and that confers such worth upon the individual or group.¹ Further, the problem of other minds is often in the background when considering the nature of brutes, and this problem has certainly not paled before the advance of science. Finally, studying the role that explanatory forms play in our image of ourselves and of brutes is a question that the sciences do not touch, and is a subject best studied in the museum of the history of ideas, where different methods can be examined as they were actually lived-out.

Third, all three of these traditions are still represented in the current literature. For instance, given the recent attention paid by Habermas to Mead's work vis-à-vis his theory of communicative behavior, it would appear that Mead's views still constitute an active part of the contemporary debate. And given the continued interest in Kantian ethics and its application to our relation with brutes, a close study of his relevant views are still of current interest.

§4. *Why these three views?*

Given the usefulness of studying past accounts of the brutes and the difference between them and human beings, why focus on Descartes, Kant, and Mead? There would seem to be many other more likely candidates for such an honor admittedly, Descartes advanced the bizarre hypothesis that brutes are mere machines, but what did *Kant* have to say about brutes? And who is George Mead?²

One finds in the history of modern philosophy a tension between monistic and dualistic systems, which reflects our general difficulty of including mentality or reason into the observable world or domain of natural science. Because the difference between human beings and brutes is traditionally expressed in terms of something like mentality or reason, the question as to this difference would seem to be decided by the same arguments either for or against monism. Noting this connection, I examined the accounts of brutes held by proponents of these two traditions not only to shed light on the monism/dualism question, but to insure a diversity of opinion as well.

In Western culture, the dualist tradition has had a long, respectable, and quite colorful history associated with the Christian church. Varieties of naturalistic or materialistic monism, on the other hand, while enjoying representatives scattered throughout the history of Western thought, have really flourished only in the past several centuries with the growth in the scope of explanation in the natural sciences. Descartes is the paradigmatic dualist of modern times, dividing reality into mental and material substance, while Mead is a paradigmatic monist, adamant in his naturalism and modern in his adherence to the Darwinian program.³ Standing between these two figures is Kant, a dualist of an openly epistemic variety who, for a number of reasons, became the seedbed for the great monistic systems of German romanticism.

The suitability of Descartes for the purposes of the dissertation is perhaps antecedently clear: he offered a radically new and influential perspective on both the nature of mind and the distinction between human beings and brutes. While it would be an over-simplification to say that everything in the several centuries prior to Descartes was Aristotelian in character, Descartes has come to stand as a turning-point in the history of Western thought in his rejection of Aristotelianism, thus marking the threshold of a distinctively "modern view" of human nature and the human being's place in nature which, furthermore, was often formulated in terms of this human/brute distinction.

¹ On a contemporary application of considerations relevant to Descartes' animal-machine hypothesis, and for current Cartesian views, see Keith Gunderson, "Descartes, LaMettrie, Language, and Machines" in *Philosophy*, 39: 193-222 (1964). Gunderson writes: "I believe almost every major position which has been taken with respect to the current discussions [of mentality and machines] has a counterpart in the 17th and 18th centuries..." [p. 196n]. This article has since become the first chapter of his *Mentality and Machines*, 2nd edition (Minneapolis: University of Minnesota Press, 1985).

² **George Herbert Mead (1863-1931)**, taught briefly at the University of Michigan (1891-94), and then until his death at the newly founded University of Chicago, working in close collaboration with John Dewey, especially before Dewey left Chicago for Columbia University in 1905. Mead taught courses in a variety of areas, the more renowned being those in social psychology and the history of nineteenth century thought.

³ Monists tend either to view all of reality as spirit or all of reality as matter, with Hegel as the paradigmatic representative of the former and Büchner or Cabanis as representing the latter. The motivation behind choosing one of these monisms over the other, assuming it involves more than choosing what name best fits reality (e.g., 'Spirit' or 'Matter'), cannot be examined here. I would note, however, that Mead's monism has a foot in each of these traditions, and perhaps because of that presents a more true picture of the single-faced reality.

It is in part because of the way that Descartes treated our two topics with his radical dualism of mind and body, his sole reliance on mechanical explanation in the sciences, and his innocence of many important developments in the biological sciences to come (especially microscopy, embryology, and studies in regeneration) that makes Kant equally pivotal. Kant's dualism with its fundamentally epistemic orientation represents a radical shift from the "substance dualism" of Descartes. The divide is now between a noumenal and phenomenal realm, which is intersected by a second divide between object and subject. Kant also insisted on the necessity of teleological explanation in the biological sciences (which will go a long way in undermining Descartes' substance-based distinction between human beings and brutes). Finally, Kant's view of human reason assumed a social dimension which anticipates future developments in Hegel and later Mead.

At the beginning of the 19th century in East Prussia, Kant had recently finished the central works of his Critical Philosophy. He was no stranger to the sciences, being familiar with the work, for instance, of the Swiss physician and poet Albrecht von Haller (1708-77), the Swedish botanist and taxonomist Carl von Linné (1707-78), the Dutch anatomist Petrus Camper (1722-89), the great French naturalist Georges Buffon (1707-88), and the German naturalist J. F. Blumenbach (1757-1840), and Kant was clearly concerned with making sense of their various views and findings in light of his own philosophical framework.

Kant was writing at the dawn of the modern life sciences. While the theoretical work of his Critical Philosophy (as embodied primarily in the *Critique of Pure Reason*) was soon laid aside by many of his contemporaries as irremediably flawed, his works in moral theory and those related to the life sciences enjoyed a wide influence at the very time that these sciences were in a period of rapid growth within the German universities. After a French hegemony (as embodied in Buffon, Lamarck, Cuvier and others) in the life sciences, by mid-century research in the German universities took center stage with such diverse figures as Helmholtz, Dubois-Reymond, Haeckel, and von Baer.¹

New findings in comparative anatomy and embryology emphasized the similarities between human beings and brutes and consequently encouraged the project of naturalizing human beings, explaining them wholly in terms of the natural, physical world. In the midst of this came the publication of Darwin's *The Origin of Species* in 1859, commonly viewed on a level with the Copernican hypothesis as having radically re-oriented the way we think of ourselves and our place in the universe. Given this rapid accumulation of scientific data related to the nature and possible origin of the human form, a shift to a naturalistic conception of human beings was made possible; human experience was to be explained in wholly natural terms. Thus is Kant's historical position for the present study exceptionally interesting. His was one of the great dualisms in the waning years of that tradition's dominance, and it inspired, ironically, materialist and vitalist alike in the biological sciences.²

Whereas Kant was writing just prior to the 19th century and during the decline of dualism's age of dominance, George Herbert Mead came towards the end of the century and after, writing as one of the first serious naturalists during the ascendancy of the naturalist tradition. While naturalism and naturalistic theories of the mind have since gained in popularity (enjoying such esteemed company as Ryle, Wittgenstein, and Quine)³ it would be unfortunate to ignore this early fountainhead in favor of these latecomers. Apart from that, none took so seriously the Darwinian project as did Mead.

Mead is an especially able subject for this study given his close acquaintance with 19th century German philosophy (he spent several years as a graduate student at Leipzig and Berlin) and his strong commitment to the Darwinian project as

¹ On this see James W. Marchand's survey of membership in foreign academies of science: "from 1666 to 1800, Germany had 6 members in the Paris Academy, England 13, and Switzerland 10." It is remarkable that Frederick II, although a Francophile in matters artistic and intellectual, could still find so few Germans for his own academy (whose president was the Frenchman Maupertuis). But matters changed by the 19th century, "so that by 1869 Germany [had] more members of foreign academies than France, which led up to then." Marchand goes on to consider as a possible explanation of this the fruitful groundwork laid by the German classicists (specifically Goethe, Herder, Schiller, Lichtenberg, and Jung-Stilling); see Marchand, "The Reception of Science among German Men of Letters in the Late Eighteenth Century" in *The Influence of Early Enlightenment Thought upon German Classical Science and Letters* (New York: Neale Watson Academic Publishers, 1972), pp. 19-26.

² See Lenoir, *The Strategy of Life*.

³ David Miller sees these later anti-dualists as reiterating (if unknowingly) points initially made by Mead: There would be much in Mead's writings that could be ignored by those who have accepted the beliefs of Wittgenstein, Ryle, Austin, and Strawson, were it not for the fact that Mead offered extensive support for his conclusion by resorting to direct experience and to the findings of scientists... [*G. H. Mead*, p. 67].

manifested in his attempt to arrive at an explanation of the existence and nature of mind based solely on social conduct. He developed a non-substantial theory of mindedness which was evolutionary in character and opposed to the theory of a merely dormant mind which is awakened (as in the panpsychist monism of Schelling) or the newly created mind (normally by an act of God) of most dualist systems.

As Charles Morris noted in his "Introduction" to Mead's best-known work, *Mind, Self, and Society*, Mead saw the need to explain mind in terms of social conduct for it to be compatible with evolution, and his criticism of other theories generally was that they had failed to do so, presupposing mind rather than explaining it.¹ It was through the influences of Darwin's thought that Mead (like his colleague John Dewey) eventually broke free of the Hegelianism acquired at Harvard while studying under Royce in 1887-88.² "Darwin regarded the animal as that out of which human conduct evolves, as well as the human form, and if this is true," wrote Mead, "then it must be that in some sense consciousness evolves."³ The emergence of mind, for Mead, can be broken down into the emergence of various stages on the way to the self-conscious organism, such as the emergence of *life*, *feeling*, the *gesture*, and the *significant symbol*.

Finally, one could choose one of the many materialistic reductionist accounts which were flourishing at the end of the 19th century as a representative monist; but systems such as Büchner's are vitiated by their crudeness, being little more than straw men in comparison to Descartes or Kant. Mead's views, on the other hand, offer a depth and sophistication which gives the naturalist tradition a lively competitor to dualist models. But introductory remarks are no substitute for examining the texts themselves, to which I now turn without further delay.

¹ *MSS*, pp. ix-xv.

² D. L. Miller, *G. H. Mead: Self, Language, and the World*, p. xx.

³ *MSS*, p. 19.

CHAPTER TWO REJECTING THE TRIPARTITE SOUL

§5. *The shift from Aristotelianism.*

How we think about the world in general is how we shall think, if possible, of brutes and of ourselves; understanding demands such universality of method. Descartes, for instance, sought to understand the world mechanically, and this mechanical form of explanation consequently played a central role in his account of human beings and brutes, and the difference between them.

A substance dualism like Descartes' need not view brutes as mere automata they might just as well have souls (as do human beings in his account). Descartes' letters, however, suggest that he sincerely believed himself capable of accounting for all the motions of brutes *mechanically*, which was a strong methodological motivation for denying souls to the brutes and for considering them as mere machines. Similarly, it seems that he sincerely believed human behavior *not* to be wholly explicable in mechanical terms language-use and flexible response demanded some other form of explanation, which Descartes provided in the form of a rational soul. While there were surely religious and emotional motivations for Descartes' ascription of a soul to human beings and none to brutes, I argue in the following three chapters that his position is understandable simply given his adoption of mechanics as the method of scientific explanation.¹

After the long years of Aristotelianism, René Descartes (1596-1650) offered a fresh approach to the distinction between human beings and brutes. Some of his most memorable claims were that animals are automata, that reality is radically divided between minds and matter, and that minds (such as we are) never stop thinking: not when we sleep, not when we faint, not even when we fall into a coma or die. The mind, or soul, is a separate substance from the body, and there are only human, that is, rational souls.

Aristotle had considered the "human soul" to be the *form* of the human body, where the form is intimately related to the body's *activity*. The presence of a soul is what marks the living from the non-living,² and Aristotle had distinguished at least three kinds of soul: nutritive, sensitive, and rational. Human beings had all three kinds of soul, animals had the first two, and plants only the first. The *nutritive soul* was the most basic of the three, occurring with all living things. It maintained the organism's equilibrium, thus allowing for orderly growth and reproduction. The *sensitive soul*, found only in animate organisms, involved the sense-organs of the animal, allowing for perception, but also for pleasure and suffering.³ Finally, the *rational soul*, which was limited to human beings, involved the human's ability to think.⁴

¹ I am reading Descartes as being relatively orthodox and committed for various reasons to the existence of the immaterial soul. There is, however, an historically momentous interpretation of Descartes wherein he is deemed an atheist and a materialist: see Friederich Lange's landmark work on the history of materialism which was first published in 1866 [*Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart* (Frankfurt/Main: Suhrkamp Verlag, 1974), vol. i, pp. 207-12, 239, 334]. LaMettrie, for instance, viewed Descartes in this light: the mind/body dualism was "a ruse of style, to make theologians swallow a poison" [*Man a Machine*, p. 143].

This interpretation has found its more recent proponents in Leo Strauss and others — Hiram Caton, for instance, claims that Descartes' "brain model shows [his] idealism to be inseparable from materialism" [*The Origin of Subjectivity: an Essay on Descartes* (New Haven: Yale University Press, p. 95)]. This materialist reading of Descartes, however, fits poorly with the texts, as the following chapters should suggest, and is more of historical moment than exegetical.

² *On the Soul*, Bk. II, ch. 2 (413a20). On "animal souls" in Aristotle, see *On the Motion of Animals*, ch. 8 (701b10-702a21) and ch.10 (703a30-39); *On the Generation of Animals*, 734b10.

³ A distinction sometimes made between sensation and perception is that the latter is the sensation plus an *awareness* of the sensation. In Descartes' system, pleasure and suffering require this awareness of one's physical states.

⁴ See *On the Soul*, Bk. II, chs. 2-3, and *On the Parts of Animals*, Bk. I, ch. 1. Aristotle generally speaks of *five* different souls, viz. nutritive, appetitive, sensory, locomotive, and thinking (*On the Soul*, 414a30), but as Descartes normally mentions only the three, and since this difference is of no importance that I am aware of, I have retained Descartes' division. In any event, the important distinctions for Aristotle are clearly those dividing plants, animals, and human beings.

According to Aristotle, human beings and brutes thus possessed a great deal in common (namely, sensitive and nutritive souls), allowing a degree of continuity between them insofar as the different souls were all principles or powers guiding a living organism in its relation with its environment, the rational occurring in a smaller number of individuals than the merely sensitive or nutritive. He even suggests this continuity with respect to “psychical qualities” in a remarkable passage from the *History of Animals*:

In the great majority of animals there are traces of psychical qualities or attitudes, which qualities are more markedly differentiated in the case of human beings. For just as we pointed out resemblances in the physical organs, so in a number of animals we observe gentleness or fierceness, mildness or cross temper, courage or timidity, fear or confidence, high spirit or low cunning, and, with regard to intelligence, something equivalent to sagacity. Some of these qualities in man, as compared with the corresponding qualities in animals, differ only quantitatively... other qualities in man are represented by analogous and not identical qualities: for instance, just as in man we find knowledge, wisdom, and sagacity, so in certain animals there exists some other natural potentiality akin to these.¹

Admittedly, the fact that human beings alone possess the capacity to reason provided a clear divide between them and the brutes² and, with the Aristotelianism found in later Christianity, the divide became a little cleaner. But human beings and brutes shared at least this step-brotherly relation in the Aristotelian tradition; with Descartes, on the other hand, all relations were severed by the unbridgeable metaphysical chasm present within his dualism. As Löw and Spaemann characterized the change in perspective:

In this new view of nature, the human being is no longer seen as an object of natural philosophy (a natural being), he is no longer at the pinnacle of the creator’s creation, but is now radically and directly opposed to nature, the *res extensa* (the mere extended world), as its thinking lord and ruler, the *res cogitans*.³

In this and the following two chapters, I will examine the arguments of two features of Descartes’ philosophical system which are most relevant to this essay, namely, his claim that *brutes have no soul at all* and his claim that *human beings have a rational soul*. These both are closely tied to his mind-body dualism, the motivation for which I will then also consider in some detail, drawing on a recent paper by Margaret Wilson.

As should become clear, Descartes wants for various reasons – perhaps primarily religious – to differentiate human beings from the rest of nature, and he wants this difference to be one of substance.⁴ He could have, with Aristotle, simply assigned a different formal reality to human beings, so that they would be one species of substance among many others. But previous assumptions in his scientific project – such as his commitment to the universality of science and to mechanical explanation

¹ *History of Animals*, Bk. VIII (588a18-30), translated by Thompson. The passage continues with a comparison of human children and brutes:

The truth of this statement will be the more clearly apprehended if we have regard to the phenomena of childhood: for in children may be observed the traces and seeds of what will one day be settled psychological habits, though psychologically a child hardly differs for the time being from an animal; so that one is quite justified in saying that, as regards man and animals, certain psychical qualities are identical with one another, whilst others resemble, and others are analogous to, each other.

Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side thereof an intermediate form should lie.

² “Mind or the power to think...seems to be a widely different kind of soul, differing as what is eternal from what is perishable; it alone is capable of existence in isolation from all other psychic powers. All the other parts of soul...are...incapable of separate existence though, of course, distinguishable by definition” (*On the Soul*, 413b24-29).

A brief historical sketch of the doctrine of “psychological continuity” between brutes and human beings can be found in Gary Matthews, “Animals and the Unity of Psychology” in *Philosophy*, 53:437-54 (1978). Matthews briefly discusses this doctrine in Plato and Aristotle and its rejection by Descartes, incorporating some recent work in ethology, and including criticisms of recent work on Descartes by Vendler and Malcolm.

³ Reinhard Löw and Robert Spaemann, *Die Frage Wozu?: Geschichte und Wiederentdeckung des teleologischen Denkens* (Munich: Piper Verlag, 1981), p. 101.

⁴ For instance: (1) to refute those who try to explain human beings in solely material terms (see Descartes’ Letter to Fromondus (3 October 1637) [Kenny, pp. 36-7]), (2) to insure that animals aren’t required to be immortal (see Descartes’ Letters to Newcastle (23 November 1646) [Kenny, pp. 206-8] and More (5 February 1649) [Kenny, pp. 242-45]).

disallowed this move, leaving open to him the alternative of a metaphysical dualism, with two substances (mind and matter) separating the human being *qua* rational soul from the physical world.

This dualism provided the basis for separating human beings from non-human beings in the radical manner that Descartes wanted. Although he viewed all animate bodies (brute as well as human) as divinely-crafted machines, brutes were nothing *but* machines, while each human being was a machine united with a rational soul. His main argument for these claims is straightforward, if not convincing: the behavior of brutes, but not of human beings, is explainable in purely mechanical terms.¹ So we can view brutes as machines (and therefore should view them as such, given his methodological presuppositions), but we must view human beings as involving something non-mechanical, viz., a rational soul. And although Descartes repeatedly rejects the Platonic notion of the soul being a mere “pilot in the ship” adverting more to the view of the soul being spread throughout the body one senses that Descartes nevertheless believes that the self is not this mind/body complex, but is rather the rational soul alone.² We are thus left with selves which are rational souls, and animals which are mere machines, lying on opposite sides of the metaphysical divide; a more radical separation between human and brute is hard to imagine.

§6. *The soul as explanatory device.*

The notion of soul has perhaps always been invoked and used as an *explanatory device*. What, for instance, allows for and explains plant and animal growth and reproduction? For Aristotle, the nutritive soul guided such functions, while for Descartes they were explained mechanically (or at least he thought that they could be). Both Aristotle and Descartes, on the other hand, invoked a rational soul to explain much of the human being’s mental life and behavior,³ while La Mettrie and Darwin, to name two, tried as best they could to explain even this in mechanical terms. When viewed in this light, we see that Descartes’ denial of animal souls is no different than his claim that animals are machines, since whatever is mechanically explicable he will call a machine, however complicated it may be, and regardless of the artisan (human or divine).⁴

All that Descartes needs to show is that the behavior of brutes can be accounted for wholly in terms of matter in motion; this would be enough to indicate the superfluity of postulating *souls* to account for their behavior. These mechanical explanations of animal behavior are scattered throughout his scientific and philosophical treatises and correspondence as arguments for his doctrine that brutes are merely unbesouled automata but they are not the *only* arguments that he uses, and this for several reasons. First, a mechanical account of animal behavior by itself might not have convinced many people in the 17th century of the non-existence of animal souls (e.g., nutritive or sensitive souls). For to be able to do so would require that they (1) preferred mechanical explanations to any other kind of explanation, and (2) considered non-mechanical

¹ See, e.g., Kenny, p. 36: “animals do not see as we do when we are aware that we see, but only as we do when our mind is elsewhere,”; HR, ii.104: “all the actions of brutes resemble only those of ours that occur without the aid of the mind.”

² Relevant discussions of the relation between the soul and the body occur in the *Sixth Meditation* [HR, i.192, 196], *Discourse*, pt. 5 [HR, i.118], *Principles*, pt. 4 [HR, i.289], and *Passions*, arts. 30-32 [HR, i.345-46].

Relevant passages suggesting that the self is just the soul are primarily those concerning the Cogito argument: see *Discourse* [HR, i.101], the *Second Meditation* [HR, i.152], and the *Sixth Meditation* [HR, i.190]. These passages are discussed briefly in §17, below.

³ But note that some of the features that Aristotle counted as mental, Descartes counted as mechanical. See the passage quoted below in §11 from Descartes’ *Treatise on Man*.

⁴ Likewise, whatever is mechanically *inexplicable* requires something like the postulation of a soul. An example of this is found in Descartes’ letter to Mersenne (20 April 1646), wherein is discussed Roberval’s theory of universal attraction between particles of matter. Descartes thought that attractive force, being an “action at a distance,” would require souls (presumably because the lack of contact between the objects would preclude a mechanical account). To make sense of this universal attraction...

...one would have to suppose not only that each particle of matter had a soul, and indeed several different souls, which did not impede each other, but also that these souls were conscious, and indeed divine, to be able to know without any intermediary what was happening in those distant places, and to exercise their powers there. [Kenny, p. 191]

These besouled particles sound a great deal like the monads that Leibniz would later postulate.

explanations void in the presence of a mechanical explanation (i.e., that the postulate of a soul was not only unnecessary but even illegitimate if the same phenomena could be explained mechanically).¹

Second, Descartes wants to assert not only the mechanical nature of the brute's behavior, but also the *non*-mechanical nature of at least some forms of human behavior. Specifically, he wants to hold that "rational behavior" cannot be explained mechanically, requiring therefore something non-physical, such as a rational soul. But since there are many striking analogies between the behavior of brutes and human beings, Descartes will need to isolate clearly that part of human behavior which he considers rational, and then to argue that contrary to popular opinion such behavior cannot be found in brutes. In other words, he must show that human beings can think and reason while brutes cannot and, further, he cannot do this by simply demonstrating that the brute's putatively rational behavior is in fact mechanically-explicable for that would suggest the extension of this same mechanical account to the corresponding behavior in human beings (thus paving the way to atheism). Rather, he must show on other grounds that the brute's behavior is not at all like the human behavior, though it may appear similar.

Given this two-fold concern for denying the existence of animal souls while preserving a soul for human beings, Descartes' arguments occur on two different levels (which he does not always separate). First, he marshals evidence against the Aristotelian division of nutritive, sensitive, and rational souls, so that the question of animal souls is limited to the question of animal rationality. Second, he argues that brutes are not rational, and consequently are devoid of any soul at all, being mere machines.

A problem for him will be that the first argument makes the second more difficult, since the explanation of animal behavior is at that point limited to either purely mechanical forces, or the presence of a rational soul, with no intermediary position (such as the presence of a sensitive soul) to fall back on. Yet he must make the first argument, it seems, if he is to maintain the desired separation between human beings and brutes. Further, there are independent reasons for wanting to deny brutes a sensitive soul, such as the problem of animal suffering and God's justice (to be discussed below).²

§7. Rejection of the Aristotelian souls.

Evidence of Descartes' interest in the question of animal souls, and perhaps a clue to the motivation behind his rejection of them, is found in an early letter to Mersenne (27 May 1630):

You start from the supposition that God leads everything to perfection and that nothing is annihilated, and then you ask what is the perfection of dumb animals and what becomes of their souls after death. That question is within my competence, and I reply that God leads everything to perfection in one sense, i.e., collectively, but not in another, i.e., in particular. The very fact that particular things perish and that others appear to take their place is one of the principal perfections of the universe. As for animals' souls and other forms and qualities, do not worry about what happens to them. I am about to explain all this in my treatise, and I hope that I will make it all so clear that no one will be left in any doubt.³

¹ That mechanical explanations *were* persuasive to Descartes' contemporaries, see his letter to Regius (January 1642), where he reveals his strategy of getting people to reject substantial forms simply by showing they are not needed for explaining anything:

Why did you openly reject substantial forms and real qualities? Do you not remember that on p. 164 of the French edition of my *Meteors*, I expressly said that I did not reject or deny them, but simply found them unnecessary in setting out my explanations? If you had taken this course, everybody in your audience would have rejected them as soon as they saw they were useless.... [Kenny, p. 127]

With respect to forms, see the "Letter to Dinet" [HR, ii.368].

² Descartes clearly saw the option to be one between mechanical forces and rational souls, as when he claimed that it was "more probable that worms and flies and caterpillars move mechanically than that they all have immortal [i.e., rational] souls" (Letter to More, 5 February 1649).

³ Kenny, p. 16. As Rosenfield notes, Descartes' earliest extant sign of interest in the problem of animal souls comes from his private notebooks of 1616-22 in a discussion of free will [Rosenfield, *From Beast-Machine to Man-Machine*, p. 3; for the passage, see *PW*, i.5].

Marin Mersenne [1588-1648], a friar, was a principal correspondent of Descartes'. He was a translator of Galileo and wrote various works in theology and philosophy.

The promised treatise was no doubt his *Treatise on Man* (written in French between 1629 and 1633), which he declined to publish after learning of the recent persecution of Galileo in Italy by the Vatican, perhaps fearing that his own work was equally open to papal censure.¹ As he explained in a letter to Mersenne (April 1634): “I desire to live in peace and to continue the life I have begun under the motto *to live well you must live unseen*.”² Not until seven years later, in 1637, did Descartes finally make public his views on animal souls, in Pt. 5 of his *Discourse on the Method*, which was for the most part a greatly abbreviated summary of the *Treatise on Man*.

Within this summary, Descartes briefly mentions the trinity of vegetative, sensitive, and rational souls, though without explicitly rejecting it:

From a description of inanimate bodies and plants I passed on to that of animals, and particularly to that of men....I contented myself with supposing that God formed the body of man...without at the first placing in it a rational soul, or any other thing which might serve as a vegetative or as a sensitive soul; excepting that He kindled in the heart one of these fires without light, which I have already described....³

But that he did reject it is clear from his letters. In writing to Regius (May 1641), a follower of Descartes and controversial professor of medicine at Utrecht, Descartes denies the existence of the threefold soul:

The first thing which I cannot approve is your saying that men have a threefold soul. In my religion this is a heretical thing to say; and quite apart from religion it goes against logic to regard the soul as a genus whose species would be the mind, the vegetative power, and the locomotive power of animals. When you speak of the sensitive soul you can only mean the locomotive power, unless you are confusing it with the rational soul; but the locomotive power does not differ even specifically from the vegetative power, while belonging to a totally different genus from the mind. [...]

There is only one soul in man, the rational soul; for no actions can be reckoned human unless they depend on reason.⁴ The vegetative power and the power of moving the body, which are called the vegetative and sensitive souls in plants and animals, exist also in man; but they should not in his case be called souls, because they are not the first principle of his actions, and they belong to a totally different genus from the rational soul.

The vegetative power in man is nothing but a certain arrangement of the parts of the body....⁵

I offer this passage simply as evidence of Descartes’ views, and not as an example of his arguments, as they are incomplete in this letter and will need to be filled out separately. Descartes made three claims that concern us here: (1) the tripartite soul is heretical, (2) a soul is an initiator or first principle of actions of which only our reason seems capable, (3) the mind, the vegetative power, and the locomotive power of animals could not all be species of the same genus because there is no generic property unifying all three, while the latter two are even of the same species (viz., as mere “arrangements of the

¹ Kenny offers a brief account of this [Kenny, p. 25]. Descartes gives several other reasons for his refusal to publish in Pt. 6 of the *Discourse*. The *Treatise on Man* was first published twelve years after Descartes’ death in the Latin *De Homine*, appearing in French two years later as *L’Homme de René Descartes*, ed. by Claude Clerselier (Paris: 1664). Religious persecution and his fear of it continued to plague Descartes throughout his life, as is evidenced in a letter to Mersenne (31 March 1641).

² Kenny, p. 26.

³ *Discourse*, pt. 5 [HR, i.109]. Descartes normally refers to the “lightless fire” as the *animal spirits*, “which resemble a very subtle wind, or rather a flame which is very pure and very vivid, and which, continually rising up in great abundance from the heart to the brain, then proceed through the nerves to the muscles...” [HR, i.115]. One must not be misled by the word ‘spirit’, here, for these animal spirits are not souls at all, but rather are fine bits of matter in motion, wholly mechanical in their nature. The animal spirits are discussed in more detail in *Passions*, arts. 7-10 [HR, i.334-36].

⁴ See Descartes’ two criteria for discerning human beings: *Discourse* [HR, i.116] and his letter to Renieri for Polot (April 1638) [Kenny, pp. 53-4].

⁵ Kenny, p. 102. Descartes and Regius broke-off relations five years later in 1646. For a brief discussion of Regius’ applications of Cartesian principles in his medical work, as well as their points of disagreement, see Phillip R. Sloan, “Descartes, the Sceptics, and the Rejection of Vitalism in Seventeenth-Century Physiology” in *Studies in the History and Philosophy of Science*, 8:1-28 (1977), pp. 22-28.

parts of the body”). Descartes assumes here that the mind itself is not merely such an arrangement of parts of the body an assumption that was being challenged by contemporary “atheists.”

Descartes also leaves unclear his view of nutritive and sensitive souls in brutes: he says only that they ought not be called ‘souls’ in the case of human beings. But two years later Descartes states in another letter (to Buitendijck, 1643) that one should not speak of animal souls at all, at least not in the proper, substantial sense. Also, as was his custom (perhaps due to assertions by his enemies to the contrary), Descartes suggests that his views are consonant with those of the biblical scriptures:

because by the word ‘soul’ we usually mean a substance, and because I think that motion is a mode of bodies, I would not wish to say that motion is the soul of brutes...I would prefer to say with the Bible (*Deuteronomy*, 12:23) that blood is their soul; for blood is a fluid body in rapid movement, and its more rarefied parts are called spirits. It is these which move the whole machine of the body as they flow from the arteries through the brain into the nerves and muscles.¹

Fromondus (1587-1653), a professor of theology at the University of Louvain had criticized the newly-published *Discourse*, and Descartes replied in a letter (3 October 1637) of the same year that...

...like the Bible, I believe, and I thought I had clearly explained, that the souls of animals are nothing but their blood, the blood which is turned into spirits by the warmth of the heart and travels through the arteries to the brain and from it to the nerves and muscles.

This theory involves such an enormous difference between the souls of animals and our own that it provides a better argument than any yet thought of to refute the atheists and establish that human minds cannot be drawn out of the potentiality of matter. And on the other side, I do not see how those who credit animals with some sort of substantial soul distinct from blood, heat, and spirits, can answer such Scripture texts as *Leviticus*, 17:14 (“The soul of all flesh is in its blood, and you shall not eat the blood of any flesh, because the soul of flesh is in its blood”) and *Deuteronomy*, 12:23 (“Only take care not to eat their blood, for their blood is their soul, and you must not eat their soul with their flesh”).²

Moreover, since these people posit so little difference between the operations of a man and of an animal, I do not see how they can convince themselves there is such a great difference between the natures of the rational and sensitive souls. On their view, when the sensitive soul is alone, its nature is corporeal and mortal; when it is joined to the rational soul it is spiritual and immortal. For how do they think sensation is distinguished from reason?

Sense-cognition, they say, is a matter of simple apprehension and therefore cannot be false; but the cognition of reason is a little more complex, and can make its way through tortuous syllogisms. This in no way seems to show its greater perfection; especially when the same people say that God’s knowledge and that of the angels is utterly simple and intuitive, a sheer apprehension free from any discursive wrapping. With respect, then, it seems that on their view the sense of animals are closer to the knowledge of God and the angels than human reasoning is.³

Here Descartes offers five reasons for accepting his doctrine on animal souls: (1) ‘animal soul’ can be reduced to a mechanical description of the animal’s behavior, and so we need not commit ourselves to a substantial soul, that is, a soul in the proper sense, regardless of whether it is rational, sensitive, or nutritive (this argument is fleshed-out in much greater detail throughout his scientific works, where he offers mechanical accounts of bodily movements and functions), (2) by rejecting the presence of substantive souls in animals, we widen the gap between brutes and human beings, which is effective in

¹ Kenny, p. 146. According to Rosenfield, this is the earliest instance of an appeal by Descartes to scripture in defense of his doctrine on animal souls [see Rosenfield, *From Beast-Machine to Man-Machine*, p. 13]; this may be due to earlier attacks, such as that by Voetius (in a pamphlet of 24 December 1641) at the University of Utrecht.

² As an indication of exegetical flexibility, Hobbes will use the same texts in his *Leviathan* (London: Andrew Crooke, 1651) to argue against the existence of *human* souls (as something non-corporeal) as well. See Pt. IV, chs. 38, 44.

³ Kenny, pp. 36-37; indentation added.

combating those who hope to circumvent the need for a rational soul by deriving reason from material nature,¹ (3) this rejection of animal souls has a biblical basis,² (4) the distinction between sensitive and rational souls is untenable since, on the Aristotelian's own account, the nature of the sensitive soul depends upon whether it is combined with the rational soul, and (5) given the Aristotelian's view of divine knowledge as non-discursive (somewhat along the lines of Kant's intellectual intuition, perhaps), the brutes with their sensitive souls would be "closer to the knowledge of God and the angels than human reasoning is." Descartes often returns to the first three of these reasons. Here, as should be clear, Descartes is arguing both against the Aristotelian trinity of souls, as well as the presence of *any* soul in brutes.

§8. *Brutes do not feel.*

The discussion above has presented some arguments (primarily in the letter to Fromondus) against the Aristotelian doctrine of souls specifically, and against the more general belief that animals have *any* kind of soul (i.e., that animal behavior requires a non-mechanical explanatory device). Examining two further claims will fill-out Descartes' discussion of the brutes: that brutes do not have sensitive souls (that is, that they do not feel), and that brutes do not have rational souls (that is, that they do not think). The latter is the topic of the next chapter, while the former will now be examined.

The claim that brutes do not feel is one of the more infamous and counter-intuitive claims for which Descartes is remembered, and it bears directly on the Aristotelian doctrine that brutes are sentient. Few people, at least initially, find this belief in the non-sentience of brutes plausible, and Descartes was well aware of this, writing in response that...

...most of the actions of animals resemble ours, and throughout our lives this has given us many occasions to judge that they act by an interior principle like the one within ourselves, that is to say, by means of a soul which has feelings and passions like ours. All of us are deeply imbued with this opinion by nature. Whatever reasons there may be for denying it, it is hard to say publicly how the case stands without exposing oneself to the ridicule of children and feeble minds. But those who want to discover truth must distrust opinions rashly acquired in childhood.³

On pain of enfeeblement let us doubt what beliefs we once rashly acquired, and make to discover the truth of the matter regarding the sentience of the brutes.

If animals can feel, then they can suffer; and because Descartes and Cartesians like Malebranche had theological grounds for denying brutes the ability to suffer, they had grounds for denying them a sensitive soul.⁴ The possession of a soul would make brutes capable of feeling pain and suffering (and not just behaving *as if* they were suffering); but since animals are without sin (not having participated in the fall with Adam and Eve), and since they have no afterlife to look forward to wherein a re-dress of imbalances of suffering or happiness might be made, the notion of animal suffering is an affront to

¹ A similar point is made in the fifth *Discourse* [HR, i.118]. And see his replies to the sixth set of objections to the *Meditations* [HR, ii.245].

² See also his letter to Buitendijk (1643), quoted below.

³ Letter to Reneri for Pollot (April 1638) [Kenny, p. 53]. **Henricus Reneri (1593-1639)** taught philosophy at Utrecht. Pollot was associated with the Prince of Orange.

On the question of brutish pains and pleasures, a leading ethicist on animal rights recently wrote the following:

Someone might say that your dog doesn't feel anything and so isn't hurt by your neighbor's kick... Someone might say this, but no rational person will, since, among other considerations, such a view will commit anyone who holds it to the position that no human being feels pain either that human beings also don't care about what happens to them. [Tom Regan, "The Case for Animal Rights" in Peter Singer, editor, *In Defence of Animals* (Oxford: Basil Blackwell, 1985), p. 15]

I cannot doubt that Professor Regan is aware of Descartes' belief in animal-machines (and thus their inability to feel); he may or not be aware of the texts suggesting that even Kant viewed brutes as incapable of pains and joys. But this passage is remarkable in its lack of argument: e.g., just how the belief that "brutes do not feel" commits one to the belief that "human beings do not feel" is left unexplained. Since Descartes certainly took himself to be rational (and indeed *was* so judging by his own criteria of rationality), the reader can only wonder at how our presuppositions have changed these past three centuries.

⁴ On this see John Passmore, "The Treatment of Animals" in *Journal of the History of Ideas*, 36:195-218 (1975), p. 205.

God's justice. Therefore, brutes must be incapable of suffering, i.e., devoid of anything like a sensitive soul.¹ There are, of course, other ways of handling this problem, but it was apparently one of the factors motivating the belief that animals were machines.²

This theological argument aside (and I have found no explicit mention of it in Descartes' writings; it originates with Malebranche, I believe), there is some question whether Descartes really *did* deny sensations and feelings to brutes.³ There are, after all, passages wherein he seems to do just the opposite:

If you teach a magpie to say good-day to its mistress, when it sees her approach, this can only be by making the utterance of this word *the expression of one of its passions*. For instance it will be an expression of *the hope of eating*, if it has always been given a titbit when it says it. Similarly, all the things which dogs, horses, and monkeys are taught to perform are only expressions of *their fear, their hope, or their joy*; and consequently they can be performed without any thought... Since dogs and some other animals express *their passions* to us, they would express their thoughts also if they had any.⁴

Although all animals easily communicate to us, by voice or bodily movement, their natural impulses of *anger, fear, hunger* and so on....

[...] I do not deny life to animals, since I regard it as consisting simply in the heat of the heart; *and I do not deny sensation*, in so far as it depends on a bodily organ.⁵

But there are also passages wherein he *denies* sensations and feelings to brutes. In his "Notes against a Program" (1647) Descartes claims that...

...the ideas of pain, color, sound, and the like be innate, that our mind may, on occasion of certain corporeal movements, envisage these ideas, for they have no likeness to the corporeal movements.⁶

And so pains, et al., cannot occur without a mind, being innate and wholly unlike bodily motions. And in *The Passions of the Soul* we find:

The same thing is to be noticed in brutes, for although they have no reason, nor perhaps any thought, all the movements of the [animal] spirits and of the [pineal] gland which excite the passions in us are none the less in them, and in them *serve in maintaining and strengthening, not as in our case, the passions*, but the movements of the nerves and muscles which usually accompany them.⁷

There is no doubt that he would not come to the conclusion that *there was any real feeling or emotion* in [brutes] as in us, but would think they were automata...⁸

¹ Note that if they were in possession of a rational soul they would also be able to suffer (like human beings), except that the possession of a rational soul would also qualify them for an afterlife, as Descartes suggests elsewhere. So this argument is targeted only against the view of there being sensitive souls in animals.

² Leibniz also recognizes this Cartesian argument against the suffering of brutes in his *Theodicee*, §250 [E. M. Huggard transl., pp. 280-81], rejecting it because he thought that "perception is not sufficient to cause misery if it is not accompanied by reflection. It is the same with happiness: without reflection, there is none." Kant also reportedly viewed the Cartesian argument as unsound, although it is not known where he thought the error lay: see the *MP Herder* [AA, 28:116; Menzer, p. 102].

³ See, for instance, John Cottingham, "'A Brute to the Brutes?': Descartes' Treatment of Animals" in *Philosophy*, 53:551-59 (1978).

⁴ Letter to William Cavendish, the Marquess of Newcastle (23 November 1646) [Kenny, p. 207]. Newcastle (1592-1676), a Royalist general, was also a correspondent of Hobbes'.

⁵ Letter to More (5 February 1649) [Kenny, pp. 244-5].

⁶ *Notes* [HR, i.443].

⁷ *Passions*, art. 50 [HR, i.356]. See also *Passions*, art.138 [HR, i.392].

⁸ Letter to Reneri for Pollot (April 1638) [Kenny, p. 54].

I do not explain the sensation of pain without the soul; for according to me, pain is only in the understanding; but I explain all the external motions which accompany this sensation in us, and which are the only things found in beasts, who do not feel pain, properly speaking.¹

We observe in animals movements similar to those which result from our imaginations and sensations; but that does not mean that we observe imaginations and sensations in them. These movements can take place without imagination, and we have arguments to prove that they do so take place in animals...²

Also in his letter to Elizabeth (1 September 1645) he says that there are two kinds of pleasure, each of which requires a mind:

Pleasures are of two kinds: those that belong to the mind by itself, and those that belong to the whole human being, that is to say, to the mind as joined to the body.³

Included with these passages should be those wherein he identifies sensation or feeling with *thought*, since this will be virtually equivalent to denying these characteristics to the brutes:

I see no argument for animals having thoughts except the fact that since they have eyes, ears, tongues, and other sense-organs like ours, it seems likely that they have sensation like us; and since *∩∩*, similar thought seems to be attributable to them... But there are other arguments, stronger and more numerous, but not so obvious to everyone, which strongly urge the opposite.⁴

You argue that if the nature of man is simply to think, then he has no will. I do not see that this follows; because willing, understanding, imagining, sensing and so on are just different ways of thinking, and all belong to the soul.⁵

But what then am I? A thing which thinks. What is a thing which thinks? It is a thing which doubts, understands, affirms, denies, wills, refuses, which also imagines and feels.⁶

For all these sensations of hunger, thirst, pain, etc., are in truth none other than certain confused modes of thought which are produced by the union and apparent intermingling of mind and body.⁷

These passages have been reconciled by various interpreters⁸ and, as Malcolm suggests, the difficulties are erased by taking into account a three-fold ambiguity of 'sensation' in Descartes' writings which Descartes himself points out:

In order rightly to see what amount of certainty belongs to sense we must distinguish three grades as falling within it.

To the first belongs *the immediate affection* of the bodily organ by external objects; and this can be nothing else than the motion of the particles of the sensory organs and the change of figure and position due

¹ Letter to Mersenne (11 June 1640) [AT, iii.85].

² Letter to Gibieuf (19 January 1642) [Kenny, p. 126].

³ Kenny, p. 169.

⁴ Letter to More (5 February 1649) [Kenny, p. 244].

⁵ Letter to Mersenne (end of May 1637) [Kenny, p. 32]. See also the letter to Reneri for Pollot (April 1638) [Kenny, p. 51].

⁶ *Second Meditation* [HR, i.153]. See also *Principles*, i.9 [HR, i.222] and *Passions*, i.17 [HR, i.340].

⁷ *Sixth Meditation* [HR, i.192]. See also his letter to Regius (January 1642), where he writes that...

...that we perceive that sensations such as pain are not pure thoughts of a mind distinct from a body, but confused perceptions of a mind really united to one. For if an angel were in a human body, he would not have sensations as we do, but would simply perceive the motions which are caused by external objects, and in this way would differ from a real man. [Kenny, pp. 127-8]

Regarding the sensations of angels, see Descartes' letter to More (August 1649). To More's question whether "angels have sensation, properly so called, and are they corporeal or not," Descartes replied that "the human mind separated from the body does not have sensation strictly so called..." [Kenny, p. 256].

⁸ For instance, Norman Malcolm in his Presidential Address "Thoughtless Brutes" in *Proceedings and Addresses of the APA*, 46:5-20 (1973).

to that motion.

The second comprises *the immediate mental result*, due to the mind's union with the corporeal organ affected; such are the perceptions of pain, of pleasurable stimulation, of thirst, of hunger, of colors, of sound, savor, odor, cold, heat, and the like, which in the Sixth Meditation are stated to arise from the union and, as it were, the intermixture of mind and body.

Finally the third contains all those *judgments* which, on the occasion of motions occurring in the corporeal organ, we have from our earliest years been accustomed to pass about things external to us.¹

The first two kinds are of interest to us here. The first pertain to brutes and human beings alike, and are purely mechanical. The second call them 'perceptions' require the union of the body with a mind, and so can exist only for human beings. The text here is unambiguous: pleasure and pain require minds that are *aware* of the appropriate sensations. A recent essayist claimed that Descartes did *not* deny sensations (in the second sense) to brutes, but he failed to offer an account of how the above three-fold distinction of sensation should then be read.²

If textual evidence is not enough, there is the intuitive evidence of Descartes' holding this view in the apparent ease with which he would nail the paws of live, unanaesthetized dogs to a board and cut-open their hearts, merely to demonstrate some principle of his to the curious.³ Who could have done this (or still do this) if they really believed that the animal was capable of suffering in exactly the same manner as human beings? For who could do the same to a human being? The difference between the two would at that point seem to be merely moral or legal, for the empathy towards the sufferer would be the same in both cases. Or so the matter appears to this author.

If it can be agreed that Descartes denied to brutes all but a mechanical response to stimuli, there remains the question as to his motivation for this ungenerous attitude. I noted at the beginning of this section that there was current in Descartes' time an important theological motivation for denying sensation to brutes. But it would be surprising if this was an overriding motivation since orthodoxy did not seem to require it.⁴

Another motivation might have been a parsimonious disposition towards one's principles of explanation. The presence of *some* kind of soul in brutes would be necessary for their perceiving, and so brutes would need to have either a rational soul, like human beings, or a sensitive soul. Descartes may have wished to avoid this plurality of souls for reasons of simplicity (and, as we have seen, he thought that the attribution of a three-fold soul in human beings to be heretical⁵); and there are a variety of reasons, to be examined in the next chapter, why he did not wish to attribute a *rational* soul to the brutes.

I would maintain, however, that the central motivation underlying Descartes' denial of perception to brutes was methodological. There is no need to attribute a sensitive soul to brutes, for their behavior can be adequately explained on mechanical principles;⁶ given Descartes' methodological predisposition for mechanical explanation, this was reason enough to deny brutes a sensitive soul.⁷

¹ From Descartes' "Reply" to the sixth set of objections [HR, ii.251]; (emphases and indentation added).

² See Cottingham, "A Brute to the Brutes?". Cottingham rightly observes that feeling involves a mingling of mind and body, but then contends that Descartes admitted feelings to brutes. Such an attribution of mentality to brutes, however, does not square with the texts.

³ See, for instance, his account of "a very striking experiment" which involves slicing off "the pointed end of the heart in a live dog," given in Descartes' *La Description du corps humain*, translated by John Cottingham as "Description of the Human Body" [PW, i.317]. The text was first published with the *Treatise on Man* in 1664.

Leonora Rosenfield offers several accounts of Cartesians who performed any manner of "cruelty" to brutes on the conviction that they were incapable of suffering; see her *From Beast-Machine to Man-Machine*.

⁴ See Passmore's account of alternative solutions to the problem of animal suffering within the Christian tradition: "The Treatment of Animals," p. 205.

⁵ See his letter to Regius (May 1641) [Kenny, p. 102].

⁶ See the letter to Mersenne (30 July 1640) [AT, iii.21].

⁷ Mechanical explanations are also given a favored status in the *Meditations*: as claimed in *Meditation* 5 and 6, the divine guarantee of our beliefs about the physical world holds only if that world is understood mechanically ("as the objects of pure mathematics" [HR, i.185, 191]); see Phillip Sloan, "Descartes, the Sceptics, and the Rejection of Vitalism," pp. 16-17.

§9. A summary of the arguments.

The rejection of the Aristotelian tri-partite division of souls is now complete. The arguments that I have found in Descartes' writings and presented above fall into three groups, being motivated by either religious, metaphysical, or methodological considerations.

(1) Of the four arguments stemming from religious considerations, one is of a purely pragmatic nature, namely, that the denial of a tripartite division of souls widens the gap between human beings and brutes, thus making it more difficult for the atheists to “draw mind out of the potentiality of matter.”¹ Further arguments are that it is heretical to ascribe multiple souls to human beings,² that scripture indicates the soul of brutes to be merely their blood,³ that it would place brutes in a position closer to the knowledge of God than are human beings,⁴ and that the suffering of innocent brutes is incompatible with God's justice.

There is little to be said concerning these arguments, other than that they were probably not as compelling for Descartes as they have at times been made out to be and, though not to be belittled, they most likely have little force for people today.⁵

(2) There are three problems which I have called ‘metaphysical’, stemming from the concepts of *soul* and *substance*. First, Descartes argues that a soul is a first principle of action, and that only *reason* seems to be capable of being this. As a consequence, there cannot be non-rational (e.g., vegetative or sensitive) souls.⁶

The soul is also meant to be a substance for Descartes, and if it can be shown that a putative soul is in fact not a distinct substance, then it cannot really be a soul. In light of this, Descartes argues that vegetative and sensitive “souls” are nothing other than different kinds of motions in bodies, and that motion is a mode of other substances, not a substance itself.⁷ (Further, since these “souls” are motions, they are reducible to a mechanical, and thus non-substantial, explanation.) Finally, Descartes' contemporary Aristotelians apparently held that the nature of the sensitive soul depended on whether it was combined with a rational soul which violates the integrity of a substance.⁸

(3) Finally, there are methodological considerations weighing against the tripartite division of souls, namely, that everything that vegetative or sensitive souls have been invoked to explain can be explained mechanically, thus making those souls unnecessary.⁹ I have argued that this was an over-riding consideration for Descartes, and that it is firmly grounded in the new Renaissance science of matter in motion. A principle of parsimony would favor limiting the mode of explanation (especially here, where the postulation of new substances is concerned), and so there is a presumption favoring mechanical explanation, given its previous use with inanimate objects.¹⁰

This mechanical view of nature is not obviously the correct one to hold, but rarely did any opposing views of nature appear as significant competitors until the 19th century and the rise of German idealism. It is ironic that Darwin whose greatest achievement was to explain the emergence and disappearance of different *forms* in the organic realm (viz., species)

¹ See Descartes' letter to Fromundus (3 October 1637) [Kenny, p. 36], his reply to the sixth set of objections [HR, ii.245], and *Discourse*, pt. 4 [HR, i.118].

² Letter to Regius (May 1641) [Kenny, p. 102].

³ Letter to Fromundus (3 October 1637) [Kenny, pp. 36-7] and the letter to Buitendijck (1643) [Kenny, p. 146].

⁴ Letter to Fromundus (3 October 1637) [Kenny, p. 37].

⁵ Given Descartes' metaphysical dualism, the motivations for which I will consider in §18, the addition of these religious considerations is *sufficient* to imply that brutes are machines; brutes must differ substantially from human beings and this is possible only if they are organized but soulless matter. But these religious considerations are not *necessary* for arriving at this belief about brutes, since any of the following motivations in combination with dualism are also sufficient.

⁶ Letter to Regius (May 1641) [Kenny, p. 102].

⁷ Letter to Buitendijck (1643) [Kenny, p. 146].

⁸ Letter to Fromundus (3 October 1637) [Kenny, p. 37].

⁹ See *Ibid.* [Kenny, p. 36], Descartes' letter to Regius (May 1641) [Kenny, p. 102], and the various passages cited in the preceding section on sensitivity in brutes.

¹⁰ It should be noted that this presumption is reversible by beginning, for example, with an organic model of the inanimate world, as Mead, Whitehead, and others have done.

should have retained this Renaissance predilection for mechanical explanation, wherein the very notion of form loses all meaning. By the beginning of the 20th century, George Mead will have argued that classical mechanics cannot account for the emergence of form (indeed, that it cannot account for form at all); but this is to get ahead of the story.

CHAPTER THREE CAN BRUTES THINK?

§10. The historical background.

What motivated Descartes' belief that animals do *not* think? Given an Aristotelian framework, one might think that demonstrating the absence of feeling in brutes would be decisive in showing the absence of thought as well. But the traditional Christian view of God and the angels as rational yet not sentient, or the more recent example of computers, to which one might attribute intelligence but not sensitivity, disallow this inference. So there needs to be a separate argument for denying thought to the brutes; and, as might be expected, one finds not one but many such arguments in Descartes' writings.

Given his dualism a motivation for which was the phenomena of rational behavior Descartes must ascribe reason at least to human beings. So the question is why he stopped there. Why not ascribe intelligence to the brutes as well? After all, the notion of animal intelligence was certainly current, and of course there was the long tradition of ascribing souls (of one sort) to brutes in Aristotelianism. We also find a biblical tradition of intelligent brutes, such as the serpent in the Garden of Eden (*Genesis*, 3) or Balaam's talking donkey (*Numbers*, 22; admittedly, here we have Yahweh opening the mouth of the donkey, unlike that of the serpent, whose mouth apparently opened of its own accord).

Descartes was surely familiar with these passages, and he cites more recent secular writings, such as those of Montaigne and Pierre Charron, wherein animal intelligence is espoused.¹ Further, several of the scholars represented in the "Objections" appended to Descartes' *Meditations on First Philosophy* expressed sympathy with the notion of animal intelligence. Hobbes wrote, in the third set of objections, that...

...a man and a beast may have similar thoughts. For, when we assert that a man runs, our thought does not differ from that which a dog has when it sees its master running.²

And in the fifth set of objections, Gassendi wrote:

In the brutes there are nerves, (animal) spirits, a brain, and a conscious principle residing therein [...] You say "I (the soul) am free and there is a power within me by means of which I can turn a man equally from fleeing and from going forward." But the imaginative principle does as much in a brute; [...] You say brutes lack reason. But while doubtless they are without human reason, they do have a reason of their own. [...] You say that they do not speak. But though they do not utter human expressions (as is natural seeing they are not man) yet they emit their own peculiar cries, and employ them just as we do our vocal sounds.³

A detailed reply to Gassendi would have been helpful; but what Descartes offers us is overly brief and equally unfriendly:

Here also you find much to carp at, but your complaints seem to require a reply no more than the preceding ones. For your queries about the brutes are not relevant here....⁴

Finally, the "divers Theologians and Philosophers" of the sixth set of objections, who had already read through Descartes' "previous replies to objections," still found difficulties with Descartes' view that brutes do not think:

The Church Fathers...along with the Platonists...seem to have believed that [thought] could be effected by corporeal motions, or even was identical with those very corporeal motions, from which they in no way

¹ Descartes mentions both of these in a letter to William Cavendish, Marquess of Newcastle (23 November 1646) [Kenny, 206-7]. See Montaigne, *Apologie de Raimond Sebond* in his *Essais*, 5th edition, with additions (Paris: Abel L'Angelier, 1588), Livre 2, ch.12, and Charron (1541-1603), *De la sagesse* (Bourdeaux: Simon Millanges, 1601), Livre 2, ch. 8.

² *Meditations* [HR, ii.68-69; AT, vii.182]: "...attamen cogitatio similis potest esse in homine & bestia...".

³ *Objections* [HR, ii.145-46]; paragraphing added.

⁴ *Replies* [HR, ii.211].

distinguished thinking.

The thinking of monkeys, dogs, and other animals seems to confirm this; for dogs bark in their sleep, as if they were chasing hares or rushing at robbers; and they are aware when awake that they run, and when dreaming, that they bark: though, with you, we recognize that there is nothing in them distinct from their bodies.

But if you deny that the dog knows that it is running or thinking, besides the fact that this is an unproved assertion, the dog himself might perhaps pass similar judgment with respect to us.... For firstly you do not behold the dog's internal mode of operation, just as he is not directly aware of yours, and secondly there is no lack of men of great attainments who at the present day concede reason to the animals or have in previous ages done so.¹

None of this is to suggest that the contrary opinion was not also to be found other than in Descartes' writings. Rosenfield, for instance, notes that both Jean de Silhon² and Pierre Chanet³ were engaged in refuting Montaigne and Charron; and the Spanish physician Gómez Pereira, made famous by Bayle's dictionary article 'Pereira', had already argued for the doctrine of animal-machines in the 16th century.⁴ I wish here only to note that neither the acceptance nor the rejection of animal intelligence was taken for granted in Descartes' day, and that we should therefore expect to find consciously-held reasons behind Descartes' own belief.

§11. Descartes' arguments that brutes are thoughtless.

The above passages suggest that not only was there adequate precedent for allowing brutes some element of the intellectual, there were arguments favoring it. Descartes nevertheless denied brutes any portion of cognition, however small, and he offered a variety of arguments supporting his denial, of which I will consider seven.

(1) *The argument from immortality.*⁵ In a passage at the end of Part Five of the *Discourse on Method*, Descartes reveals the high stakes involved in this issue:

Next to the error of those who deny God, which I think I have already sufficiently refuted, there is none which is more effectual in leading feeble spirits from the straight path of virtue, than to imagine that the soul of the brute is of the same nature as our own, and that in consequence, after this life we have nothing to fear or to hope for, any more than the flies and ants. As a matter of fact, when one comes to know how greatly they differ, we understand much better the reasons which go to prove that our soul is in its nature entirely independent of body, and in consequence that it is not liable to die with it. And then, inasmuch as we observe no other causes capable of destroying it, we are naturally inclined to judge that it is immortal.⁶

¹ *Objections* [HR, ii.235]; paragraphing added. There was also the work of Hieronymus Rorarius, made famous by Bayle's dictionary, wherein it was argued that brutes often behave more rationally than human beings. Rorarius' treatise was apparently written c.1547, and was rediscovered and reprinted in France in 1645 thus near the end of Descartes' life. See Pierre Bayle, *Historical and Critical Dictionary*, selections, translated and with an Introduction by Richard Popkin (Indianapolis: Bobbs-Merrill, 1965), pp. 212-54. The dictionary was originally published in 1697. J. S. Slotkin offers the following bibliographical reference to the Rorarius work: *Quod animalia bruta saepe ratione utantur melius homine*, edited by G. H. Ribow (Helmstedt, 1728). See J. S. Slotkin, *Readings in Early Anthropology*, p. 467n17.

² Silhon, *De l'immortalité de l'ame* (Paris: C. Iouvrnel, 1662). First published: 1630?

³ Chanet, *Consideration sur la sagesse de Charon* (Paris: C. Le Groult, 1643).

⁴ Gomez Pereira, *Antoniana margarita* (Medina del Campo: Antony Grasbeet, 1554) and *Apologia* (Medina del Campo: 1555), as discussed in Rosenfield, *From Brute-Machine to Man-Machine*, pp. 18-19; J. S. Slotkin, *Readings in Early Anthropology*, p. 39; and Pierre Bayle, *Dictionnaire historique et critique*, edited by A. J. Q. Beuchot (Paris: 1820-24), vol.11, pp. 546-64.

⁵ Arguments that brutes cannot be intelligent or rational, since such would imply their immortality, can be found in other authors. For instance, the English neuro-anatomist **Thomas Willis (1621-75)**, in a work concerning the vegetative and sensitive souls which he took to be common to brutes and human beings, indicated concern over the seemingly intelligent behavior of brutes; brutes, he claimed, could not have *rational* souls as well as sensitive and vegetative as that would imply their immortality. See *De anima brutorum* (London: Wells and Robert Scott, 1672), and Nordenskiöld's discussion of this in *The History of Biology* (New York: Tudor Publishers, 1928), p. 149.

⁶ *Discourse* [HR, i.118].

The problem here seems to be not with the ascription of souls to animals *per se* but with the denial of immortality to human beings. These two issues might be connected in Descartes' mind, however, given a view that closely tied the moral life with the afterlife. An afterlife would make sense on this view only in a context of moral beings and their hopes of a redress of earthly imbalances between virtue and happiness; consequently, the admission of patently non-moral beings into the next world might be seen as undermining the very purpose and meaning of an afterlife.¹ This may have been a consideration motivating Descartes' denial of immortal souls to brutes. It would seem to be a further step to deny them rational souls, but this is a step argued for in the *Sixth Meditation*, where Descartes holds that a unity of thought implies a unity and thus incorruptibility of the thinker. (The soundness of this will be considered below in the general discussion of Descartes' dualism.)²

Further uses of this implication for denying animal reason occur in a passage near the end of the letter to the Marquis of Newcastle (23 November 1646):

The most that one can say is that though the animals do not perform any action which shows us that they think, still, since the organs of their body are not very different from ours, it may be conjectured that there is attached to those organs some thoughts such as we experience in ourselves, but of a very much less perfect kind. To which I have nothing to reply except that if they thought as we do, they would have an immortal soul like us. This is unlikely, because there is no reason to believe it of some animals without believing it of all, and many of them such as oysters and sponges are too imperfect for this to be credible.³

And in a similar passage in a letter to Henry More (5 February 1649), near the end of Descartes' own earthly existence, he wrote:

But though I regard it as established that we cannot prove there is any thought in animals, I do not think it is thereby proved that there is not, since the human mind does not reach into their hearts.⁴ But when I investigate what is most probable in this matter, I see no argument for animals having thoughts except the fact that since they have eyes, ears, tongues, and other sense-organs like ours, it seems likely that they have sensation like us; and since thought is included in our mode of sensation, similar thought seems to be attributable to them. This argument, which is very obvious, has taken possession of the minds of all men from their earliest age. But there are other arguments, stronger and more numerous, but not so obvious to

¹ On this point compare G. S. Brett, *The Philosophy of Gassendi* (London: Macmillan and Co., 1908), p. 107. Rosenfield observes that "the notion of a paradise teeming with brute souls appealed to no one in France, although John Kildrop, Rector of Wath in England, accepted it" [*From Brute-Machine to Man-Machine*, p. 23].

A related interpretation of Descartes' reasoning here is that the worth of immortality and heavenly existence is diminished by admission of the brutes. As Gary Matthews explains:

The traditional doctrine of the immortality of the soul, among several of its psychological and religious functions, promises to give metaphysical foundation to the idea of the unique and everlasting importance of each human individual. If now even a single oyster or sponge also has an immortal psyche, the coin of individual worth is instantly devalued by a massive flooding of the market... ["Animals and the Unity of Psychology," p. 453].

But it is unlikely that Descartes thought that the mere *number* of individuals populating heaven would devalue the worth of the individual, or of the worth of heaven for that individual. In a letter to Chanut, the French ambassador to the Swedish court (6 June 1647), wherein Descartes speculated on the possible existence of rational beings on other planets, and whether Christ might have died for their sins as well, he wrote that ...we have long believed that man has great advantages over other creatures, and it looks as if we lose them all when we change our opinion. But we must distinguish between those of our goods which can be lessened through others possessing the like, and those which cannot be so lessened. [Kenny, p. 223]

He decided that the worth of such an act could *not* be lessened. Likewise, we might infer that Descartes would have been troubled not with *more* beings being admitted through Heaven's gates but that some of these beings were not rational.

² That thinking and immortality are not to be conflated should be clear; and that Descartes recognized this is obvious from the *Meditations*, where he believed that he demonstrated the existence of a *thinking* self in the *Second Meditation* but not an *immortal* self. See the "Synopsis" [HR, i.140-41]. Nevertheless, he obviously believed that thinking *implies* an immortal soul, as the letters to Newcastle and More indicate.

³ Kenny, p. 208.

⁴ This point was made in the sixth set of objections [HR, ii.235].

everyone, which strongly urge the opposite. One is that it is more probable that worms and flies and caterpillars move mechanically than that they all have immortal souls.¹

Descartes tells us something of his background assumptions in these passages. He is assuming that: (1) whatever thinks like us will have an immortal soul like us, (2) there is no reason to ascribe an immortal soul to one kind of brute without ascribing it to every kind of brute, and (3) it is absurd to attribute an immortal soul to at least some kinds of brutes, such as oysters, sponges, worms, flies, and caterpillars.

None of these assumptions are especially compelling *prima facie*, and it is unlikely that anyone would accept the second; it is difficult to imagine why Descartes did. If we assume with Descartes that the ability to think implies immortality, then (2) could as well be re-phrased in terms of thought: “There is no reason to ascribe thought to one kind of brute without ascribing it to every kind of brute.” Thus re-phrased, the assumption loses all plausibility, for the argument attributing thought to animals hinges on their possessing organs similar to our own, and the second premise, when viewed in these terms, is obviously false. While apes and other higher animals *do* have organs corresponding and highly similar to all or most of ours, this is hardly the case with oysters and sponges. While it may be plausible for many to attribute something like thought to the higher brutes, fewer would wish to extend this to the entire spectrum of animate existence.² But it is perhaps not very remarkable that a person who was so capable of finding differences between human beings and brutes would be so utterly incapable of finding any of significance between the different kinds of brutes. Such an undiscerning view of other animals might be expected of one who saw in their eyes nothing more than the blind gaze of a machine. The second premise is more plausible when read strictly in terms of immortality, for in that limited context one must ask why God would bestow it on some kinds of brutes but not others. There is, after all, a complicated tradition explaining why *human beings* were so favored over the rest of animate existence, and a similar tradition is lacking at least in Western culture for ranking brutes with respect to immortality. But since this plausibility is acquired at the expense of the first assumption (which is needed for Descartes’ argument to even get started), the argument from immortality is vitiated.

There is little point in troubling ourselves with the remaining two premises. The first is clearly grounded in Descartes’ religious beliefs, which not everyone will share. It seems to hinge on the church doctrine that all thinking beings are required to accept the Christian faith, which would be absurd if brutes were thinking beings. The third premise is an intuition not shared, for instance, by adherents of those religions which ascribe souls to all creatures, such as the various Hindu and Buddhist faiths.

(2) *The argument from analogy.* Another argument that Descartes employs against the view that animals think is found in his reply to Arnauld’s objections to the *Meditations*. Arnauld had suggested that Descartes’ denial of animal souls...

...will not carry persuasion into men’s minds, unless supported by the strongest evidence. For at the first blush, it seems incredible that there is any way by which, without any intervention of the soul, it can come to pass that the light reflected from the body of a wolf into the eyes of a sheep should excite into motion the minute fibers of the optic nerves and by the penetration of this movement to the brain, discharge the animal spirits into the nerves in the manner requisite to make the sheep run off.³

Descartes replies by pointing out that a great many *human* actions are to be understood as purely mechanical as well, such as:

the beating of the heart, the digestion of our food, nutrition, respiration when we are asleep, and even walking, singing, and similar acts when we are awake, *if performed without the mind attending to them*. When a man in falling thrusts out his hand to save his head he does that without his reason counseling him so to act, but merely because the sight of the impending fall penetrating to his brain, drives the animal spirits into the nerves in the manner necessary for this motion, and for producing it without the mind’s desiring it, and as though it were the working of a machine. Now, when we experience this as a fact in ourselves, why should we marvel so greatly if the light reflected from the body of a wolf into the eyes of a sheep should be equally capable of exciting in it the motion of flight.⁴

¹ Kenny, p. 244.

² Surprisingly, Gunderson re-iterates Descartes’ argument without noting this *non sequitur*: “Descartes, LaMettrie,” p. 203.

³ *Objections* [HR, i.85-6].

⁴ *Replies* [HR, i.103-4].

Descartes expands this list of mechanical actions in his *Treatise on Man*. In the following passage we find Descartes considering the human body as a machine, of which he says:

All the functions I have ascribed to the machine such as the digestion of food, the beating of the heart and arteries, the nourishment and growth of the limbs, respiration, waking and sleeping, the reception by the external sense organs of light, sounds, smells, tastes, heat and other such qualities, the imprinting of the ideas of these qualities in the organ of the “common” sense and the imagination, the retention or stamping of these ideas in the memory, the internal movements of the appetites and passions, and finally the external movements of the limbs (movements which are so appropriate not only to the actions of objects presented to the senses, but also to the passions and the impressions found in the memory, that they imitate perfectly the movements of a real man).¹ I should like you to consider that these functions follow from the mere arrangement of the machine’s organs every bit as naturally as the movements of a clock or other automaton follow from the arrangement of its counter-weights and wheels.²

Here Descartes’ argument is to show that the animal motion which is put forward as evidence of their ability to think has a corresponding motion in human beings, and that we know through introspection that that motion in *our* body occurs (or can occur) without our conscious effort, i.e., without thinking. Therefore it is possible for such motions to occur without thought, eliminating the justification of postulating a special soul in animals for explaining them.

(3) *The divine tool-and-die argument*. In his letter to More, Descartes offered two further arguments against the view that animals can think. The first is a little peculiar:

It seems reasonable, since art copies nature, and men can make various automata which move without thought, that nature should produce its own automata, much more splendid than artificial ones. These natural automata are the animals.³

Descartes does not mean by ‘art copies nature’ that the machinists of the world have nature in mind whenever they set out to build their next machine, but rather that we might extrapolate from human-made machines to machines that nature (or God) would make, if indeed God had the notion to do so. So we are asked to assume, first, that nature *would* make its own machines (we, as it were, are “minor creative forces” while nature is the “big creative force” and the primary thing that such creativities do is construct machines). And second, we are asked to assume that if nature *did* take to constructing machines, these machines would be much more complex than those that human beings construct.

While this argument admittedly has some plausibility, it is not clear why we should assume any kind of similarity between human and natural creativity. That these two “phenomena” share a common name seems to be as much an indication of our anthropomorphizing nature as an important truth (and it *would* be an important truth) about the creativity of nature.⁴

(4) *The argument from speech and flexible response*. The second argument which Descartes offered in his letter to More is more compelling: the absence of true speech among the brutes is a sign of the absence of thought. “Speech,” declares Descartes, “is the only certain sign of thought hidden in a body.”⁵ In an exceptional display of anthropocentrism, Descartes

¹ Descartes has throughout the essay been discussing “fictional human beings” as an expository device, thus giving his account the status of a mere hypothesis, as a possible way of looking at real human beings, but clearly not the only way. Yet given his letters and other works, we know that Descartes believed the same of real human beings that he attributed, in this essay, to this fictional human being.

² *Treatise on Man* [PW, i.107-8]. Adam and Tannery offer accounts of 17th century mechanical wonders to be found at Fontainebleau, Augsburg, Pratolino (near Florence), and Tivoli (near Rome); see [AT, xi.212-15].

³ Kenny, p. 244. See also his comparison of human and divine machines in his letter to Regius (January 1642) [AT, iii.504], and the *Principles*, Pt. 4, principle 103.

⁴ In connection with this comparison of machines human and divine, see the “Introduction” to Hobbes’ *Leviathan*: Nature (God’s art) is imitated by the art of man, we producing clocks and the like in imitation of animals. And in imitation of “that Rational and most excellent work of Nature, *Man*” we human beings create “that great LEVIATHAN called a COMMON-WEALTH, or STATE, (in Latin CIVITAS) which is but an Artificial Man.” Kant also draws an analogy between “the causality of the Supreme Cause” and nature, and human reason and its works of art in his *Prolegomena* [STW, v.36n; Beck transl., p. 108n].

⁵ Kenny, p. 245.

claims that if brutes *could* communicate between themselves, they should be able to communicate with human beings as well. Perhaps he thought little, or not at all, of the brute's obvious rejoinder, namely, that *human beings* were unable to communicate amongst themselves, since that would entail their being able to communicate with brutes as well, which is clearly not the case. He does offer some support for this claim in the letter to Newcastle:

It cannot be said that [the brutes] speak to each other and that we cannot understand them; because dogs and some other animals express their passions to us, they would express their thoughts also if they had any.¹

The argument from speech is advanced in several places in Descartes' writings, and I think that it originally appears as the first of two criteria used for distinguishing human beings from brutes. A brief detour considering these criteria will be useful in laying-out Descartes' view.

§12. Two criteria for a rational being.

Descartes offers two behavioral criteria for distinguishing human beings from brutes. We have seen that human beings and brutes are indistinguishable in terms of physiology,² and so the criteria will need to point to certain features of human behavior which brutes lack. Descartes mentions one of these features in the letter to Newcastle (23 November 1646):

None of our external actions can show anyone who examines them that our body is not just a self-moving machine but contains a soul with thoughts, with the exception of words, or other signs that are relevant to particular topics without expressing any passion.³

In the *Discourse on Method*, Descartes bills these criteria as “two very certain tests” for “real men”, namely, that the being in question (1) must “use speech or other signs,” and (2) must be adaptable or flexible in its responses to novel situations.⁴ The relevant passage from the *Discourse* is worth quoting:

If there were machines which bore a resemblance to our body and imitated our actions as far as it was morally possible to do so, we should always have two very certain tests by which to recognize that, for all that, they were not real men.

The first is, that they could never use speech or other signs as we do when placing our thoughts on record for the benefit of others. For we can easily understand a machine's being constituted so that it can utter words, and even emit some responses to action on it of a corporeal kind, which brings about a change in its organs; for instance, if it is touched in a particular part it may ask what we wish to say to it; if in another part it may exclaim that it is being hurt, and so on. But it never happens that it arranges its speech in various ways, in order to reply appropriately to everything that may be said in its presence, as even the lowest type of man can do.

And the second difference is, that although machines can perform certain things as well as or perhaps better than any of us can do, they infallibly fall short in others, by the which means we may discover that they did not act from knowledge, but only from the disposition of their organs. For while reason is a universal instrument which can serve for all contingencies, these organs have need of some special adaptation for every particular action. From this it follows that it is morally impossible that there should be sufficient diversity in any machine to allow it to act in all the events of life in the same way as our reason causes us to act.⁵

A machine that looked like a monkey would be able to pass as a monkey. But a machine that looked like a human being would not be able to pass as a human being, because it could not behave as a human being behaves. It would appear that the first test (the ability to speak) is really just a special case of the second (the ability to respond appropriately to a variety of situations: that is, flexibility or adaptability).⁶ Descartes' point with the first test is not that we are unable to imagine a

¹ Kenny, p. 207.

² *Discourse* [HR, i.110]. It is a further question as to whether he failed, with Linné, to find any *structural* differences as well.

³ Kenny, p. 206.

⁴ See also his letter to Renéri (April 1638) where he discusses the criteria [Kenny, pp. 53-4].

⁵ *Discourse* [HR, i.116].

⁶ While it would appear that the speech-criterion was derivative of the flexibility-criterion, it is the former that Descartes mentions in his later years when discussing the question of rationality in brutes or the ways of distinguishing them from human beings. Both criteria are discussed in the *Discourse* (1637) and in a letter of the following year to Renéri for Pollot

human- or divinely-built machine uttering words, or perhaps strings of words with a sentence for each of several external stimuli. What Descartes is claiming is that the machine would only be able to say those things that had been built into its structure.¹ He seems to have in mind nothing more than something like an old cash register where, upon pushing a certain button, a corresponding sentence would appear in the window, and so on to presumably any degree of *finite* complexity. But it is always beyond the powers of the machine to re-arrange words and create its own sentences as a response to novel situations *ad infinitum*. Only reason, that “universal instrument,” is capable of such a task.²

One wonders if Descartes would have been so confident of his criteria had he lived in our age of computers, and whether we should adopt those criteria, or something like them, as defining marks of being a human, or at least a rational being. There are now computer programs with the flexibility to re-arrange words into novel sentences. Is this flexibility, in having been built into the structure by the persons writing the program, explicable in mechanical terms alone? But to do justice to this problem would require more space and knowledge than is here available.³

That brutes are utterly devoid of reason is suggested by their inability to speak or respond in a creative or novel way. In his discussion of these two criteria, Descartes also offers three related arguments which might be called the arguments from idiocy, genius, and overspecialization.

(5) *The argument from idiocy and genius*. That brutes cannot speak is not due to the mere want of an appropriate speech organ, for parrots and other birds can mimic our sounds. This demonstrates, according to Descartes, that brutes have not just less reason than human beings, but that they have *none at all*; it requires, after all, very little reason to speak, of which Descartes takes idiots as proof.⁴

Similarly, animals within the same species vary in their capability “of receiving instruction.” (One wonders here how “receiving instruction” is even to be understood, apart from some use of reason.) If their soul were not of “an entirely different nature from ours” it would seem that the smartest parrot would be at least as smart as the dullest child but this does not happen. The smartest brute is yet duller than the dullest of human beings.

The idea here seems to be that if we all had the same *kind* of soul then there would be nothing preventing at least some brutes from being brighter than some human beings; since this never happens, we must not have the same kind of soul.

(April 1638). But in his letter to Newcastle (23 November 1646) he mentions only the speech criterion, as is the case in his letter to Henry More (5 February 1649), which he wrote just a year before his death the following February. Perhaps he had, by this time, combined the two criteria together as I did above and then referred always to speech because he saw it as the best illustration of the flexible and adaptive nature of human beings.

¹ Margaret Wilson notes that this is Chomsky’s reading of Descartes [see his *Cartesian Linguistics* (New York: Harper and Row, 1966)] and suggests to the contrary that Descartes is referring not to *novelty* but to *capacity* of verbal response. This latter reading humbles the Cartesian position somewhat, in light of modern-day computers and their capacious memories. See Wilson, *Descartes* (London: Routledge and Kegan Paul, 1978), p. 183.

For a discussion of the Descartes-Chomsky view of language, human beings, and brutes, see Donald R. Griffin, *The Question of Animal Awareness: Evolutionary Continuity of Mental Experience*, rev. ed., (New York: The Rockefeller University Press, 1981), pp. 75-77.

² We find a similar comment about the nature of reason in Kant’s *Anthropology*, where he discusses the human hand: nature has made them not for some specific way of handling things, but in an indeterminate manner for *all* these ways. Thus are they suitable to be used by reason.... [STW, xii.675; see also his *Refl. Anth* (AA, 15: 885) and the *Anth Dohna* (Kowaleski, pp. 368, 371)]

That is, the human hand is suitable for reason because the hand is like a “universal instrument,” not determined for one specific function — thus is it able to give expression to the universal, non-determined, open-ended reason (on this, see also §93, below).

Midgley critiques these two criteria of Descartes’, as well as the entire project of formulating criteria, in *Beast and Man: The Roots of Human Nature* (Ithaca: Cornell University Press, 1978), pp. 203-17.

³ These are complicated matters. Kant believed that everything in the phenomenal world was in principle mechanically explicable, but that human beings could understand some things only teleologically. So the question arises whether some computer programs are not best understood in this latter way as well. If so, they might count as special cases of the organic realm for Kant.

⁴ See also the letter to Newcastle (23 November 1646), [Kenny, p. 206]. Despite passages such as this, Caton maintains that the difference between human beings and brutes was for Descartes merely a matter of degree (viz. degrees of reason): see Caton, *The Origin of Subjectivity*, pp. 97-100.

Germane to this point is Descartes' belief that reason "is to be found complete in the individual," not admitting of degrees because it is a *form* and not an *accident*.¹ So we do not have the option of attributing "partial souls" to brutes to explain their diminished wit.

(6) *The argument from overspecialization.* A final argument nested in this discussion stems from the skillful nature of some brutes (e.g., the bees' ability to construct honeycomb). Descartes notes that the brute's lack of reason often allows it greater precision than human beings are capable of in certain activities, but that this is to be understood in the same terms as the precision of a clock, and should therefore count as further evidence of the brute's soulless, machine-like nature. It is a precision gained at the expense of flexibility. This is Descartes' rejoinder to those who would point to skills of brutes as evidence of their intelligence: skills *per se* must not be taken as an index of intelligence.² Thus Descartes' arguments that brutes are irrational.

§13. *The significance of speech.*

There is no question that speech is often used as a mark of selfhood or mindedness; the question remaining, however, is *why* this is so. What is so special about the ability to speak (or, more precisely, to communicate by way of some "fairly well articulated" set of signs)?

Anyone who has enjoyed the opportunity of living with people whose language is inaccessible, so that neither side can communicate easily with the other, understands how a linguistically-motivated bigotry can arise. Given the frustrations of not being able to solve mutual problems efficiently (if at all) and this inability may be the heart of the matter one can see how the lazy or mean-spirited might question the intelligence, if not the personhood, of one "who cannot speak" (i.e., cannot speak one's own language). And so there is a great deal of intuitive plausibility behind Descartes' use of language as a mark of mentality.

Further, it has nearly been an all-consuming passion to determine whether non-human beings are gifted with "articulate" communication, both for use amongst themselves and in interaction with human beings. Concerning the first, von Frisch and others have closely studied the communication among the social insects and a host of other animals; concerning the second, extensive research has been initiated in developing and testing communicative skills between human beings and brutes, especially primates like chimps and gorillas, but also whales and dolphins.

The findings of this research is often fascinating and philosophically suggestive, but the question remains as to the significance of the ability to communicate. Why does it count so heavily in our sense of selfhood? And if this ability is one of degree or, if the *articulation* of the communicative gestures is one of degree will that lead to a sense of partial selves? Or is such a notion incoherent? Language-use, for Descartes, is merely a sign of there being a mind in the individual, and it as such has nothing to do with this mind. There are two points here: first, that it just happens that people with minds also have languages, but that minds do not require a language (language-use is not a metaphysically necessary condition of mind), and second, that even as such, mind is independent of language (language-use is not a physically necessary condition of mind). With Descartes, the dependency-relation is clearly one of language-use depending on the mind, and not the other way around. So for Descartes, there is nothing especially important about language; what *is* important is that one has a soul, and thus thinks, is immortal, etc.³

¹ *Discourse*, pt. I [HR, i.82]. This is another way of drawing the mind-body distinction. Reason is an "all or nothing" affair because, in Descartes' world, something is either a thinking, rational mind, or a dead, unfeeling lump of matter (regardless of how well organized that matter may be). It is the belief that "rationality" *is* a thing of degrees that allows for a greater distinction between brutes, and less of one between human beings and some brutes. Midgley argues persuasively for the gradual nature of capacities which we lump under the name 'reason' [see *Beast and Man*, pp. 210-214].

² *Discourse* [HR, i.117]; he later makes a similar point in the *Principles*, Pt. I, principle 37, and also in the so-called "early writings", a notebook of 1616-22: "The high degree of perfection displayed in some of their actions makes us suspect that animals do not have free will" [PW, i.5]. See also the letter to Reneri for Pollot (April 1638) in [Kenny, p. 54], and the letter to Newcastle [Kenny, p. 207]. Kant makes this same argument in *MP Herder* [AA, 8:116-17]. Gunderson analyzes this "argument from overspecialization" rather thoroughly in "Descartes, LaMettrie," pp. 204-11, tracing its origin back to Montaigne.

³ Kant, as will be seen, suggested a mutual dependence between language-use and mentality, although this mutuality was not clearly developed. By the time of Mead, a clear distinction between language and mentality will have vanished altogether.

§14. Brutes that think.

I noted above several contemporaries of Descartes that claimed that brutes could think. Of them, one was Thomas Hobbes.¹ An English man of letters, Hobbes attributed thought, deliberation and free will to brutes, denying them only language and, therefore, reason (which on his view required language). Hobbes brought *all* of reality within the domain of mechanical explanation or science; this physical monism thus reduced sensation, perception, thought, and reasoning to Galilean mechanics. Brutes and human beings shared the same *natural* faculties, differing from one another only in terms of *acquired* faculties like language-use and reason—faculties acquired through education and personal industriousness. The use of language (“reckoning with words”) is seen as a new method which if assiduously applied will raise the human being above the brutes:

Besides sense, and thoughts, and the train of thoughts, the mind of man has no other motion; though by the help of speech, and method, the same faculties may be improved to such a height, as to distinguish man from all other living creatures.²

Reason, the faculty which most distinctly separates human beings and brutes, is acquired through speech, and so is absent in young children as well as brutes.³ Reasoning is an acquired skill, with which some are better practiced than others,⁴ and involves the adding or subtracting of the consequences of names, just as in arithmetic one adds or subtracts numbers.⁵ Being able to name things allows us to conjure the thought of a thing even in its absence; thus it allows human beings to remember, for instance, where they hid their food (unlike the brutes, who cannot).⁶

Hobbes wrote the third set of objections printed with Descartes’ *Meditations on First Philosophy*, and there he asserted that brutes can think:

You do not have affirmation and negation without words and names; consequently brute creatures cannot affirm or deny, not even in thought, and hence are likewise unable to judge. Yet a man and a beast may have similar thoughts. For, when we assert that a man runs, our thought does not differ from that which a dog has when it sees its master running.⁷

Descartes’ response to the above was overly brief; he indicated his disagreement with Hobbes’ view, for instance, that affirmation requires words as when one “affirms to oneself that one sees” the man running. Here Descartes must mean by ‘affirm’ to “be aware,” thus drawing the distinction between merely seeing something (having the image strike the retina) and being aware that one sees something.⁸ Given what has been said of Hobbes’ views, it appears that Hobbes means to say in

On the moral relevance of linguistic ability, see Bernard E. Rollin “Beasts and Men: the Scope of Moral Concern” in *The Modern Schoolman*, 55:241-60 (1978), and Mary Midgley, *Beast and Man*, pp. 223-24. These accounts consider the role of language in making known one’s *interests*; that Kant admitted interests only to rational beings, see Yirmiahu Yovel, *Kant and the Philosophy of History* (Princeton: Princeton University Press, 1980), p. 17, and §37, below.

¹ **Thomas Hobbes (1588-1679)** authored the third set of objections to Descartes’ *Meditations*, and shared correspondents with him (e.g., the Marquis of Newcastle). Descartes seems to have known little of Hobbes, and did not hold him in very high esteem. We learn from a letter to Mersenne (21 April 1641) that Descartes thought little of Hobbes’s objections; in explaining the brevity of his responses, Descartes wrote: “I did not think that I should have made my replies to the Englishman any longer, since his objections seemed so implausible to me that to answer them at greater length would have been giving them too much importance.”

² Hobbes, *Leviathan*, pt. i, ch. 3 [see Molesworth, *The English Works of Thomas Hobbes*, iii.16]. Kant agreed with Hobbes as to the absence of reason and speech in children, as well as the interdependency of the development of both.

³ *Ibid.*, ch. 5 [see Molesworth, iii.31, 35].

⁴ Hobbes, *Elements of Philosophy*, ch. 1 [see Molesworth, i.1].

⁵ *Leviathan*, pt. i, ch. 5 [see Molesworth, iii.29-30]. Peters and Mace suggest that Hobbes also distinguished human beings by their curiosity [“Psychology” in *The Encyclopedia of Philosophy*, edited by Paul Edwards (New York: Macmillan Publishing Co., 1967), vol. vii, p. 10].

⁶ Hobbes, *Human Nature*, ch. 5 [see Molesworth, iv.19-20, 25].

⁷ *Objections* [HR, ii.68-69].

⁸ He makes the same distinction in a letter to Plempius for Fromondus (3 October 1637) [Kenny, p. 36].

his objection that the only difference between the man and the dog in the example is that the man by virtue of his language is able to recall his running, or to put his thought in propositional form, but that the thought itself is no different than the thought in the dog.

There is, consequently, an important difference to be found between Descartes and Hobbes.¹ While they both limit language and “reason” (the meaning of which differs between them) to human beings, Hobbes seems to allow an awareness to brutes that Descartes cannot allow; brutes *respond* to stimuli, but they are not *aware*, according to Descartes. Awareness, for Hobbes, seems to be part of the seeing (hearing, etc.), and thus is shared with brutes; for, as he writes earlier in the objection, fearing or willing is just the *thought* of the thing feared or action willed, and these seem to involve awareness (they are certainly more than merely having the retina stimulated, without any consciousness of it).

Kant will also disagree with Descartes’ account of the inner experience of brutes, maintaining that brutes have representations, and that having a representation involves more than simply moving levers and gears in a machine. It’s difficult to determine the extent of the disagreement here in that they may well have different meanings attached to ‘aware’ and ‘thought’. Is Hobbes’ “being aware” different than Kant’s “having a representation” or Descartes’ “sensation in the second sense”? But in any event, Hobbes does not draw as fine of distinctions as Descartes, and consequently was vulnerable to the criticism of ignoring important differences. But when one’s philosophical agenda is to develop a monistic account of human and brute nature, it is only natural to find these differences as merely one of complexity or skillfulness, and not as requiring wholly different powers or skills as will be evident in the discussion of Mead’s naturalism.

¹ Rosenfield, on the other hand, finds no important disagreement between the two with respect to their views of brutes (*From Beast-Machine to Man-Machine*, p. 9).

CHAPTER 4 RATIONALITY AND DUALISM

§15. Explanation and the rational soul.

The above arguments have demonstrated at best that human beings possess certain unique abilities, abilities that no brute seems to possess. But Descartes wants, of course, to make the additional claim that these abilities spring from the possession of a “rational soul,” that it is this soul which is the source of our rational behavior (specifically, our language and creative response). The argument that “rational behavior requires the postulation of a soul” follows a simple formula that Descartes suggests in a few passages. In the letter to Henry More he writes:

I soon saw clearly that [the motions of animals] could all originate from the corporeal and mechanical principle, and I thenceforward regarded it as certain and established that we cannot at all prove the presence of a thinking soul in animals.¹

Here Descartes explains that his certainty that we cannot prove the presence of a rational soul in animals follows from our ability to provide a complete mechanical account of their motions (behavior). Inability to provide this account, presumably, would make their possession of a rational soul at least *possible*, but on the level of explanation their possession of a rational soul would be *necessary*, that is, necessary for the explanation. This is the move he seems to be making with human beings, and the move he would presumably also make with animals if like Kant or Mead he felt incapable of supplying a mechanical account of their motions.²

That *explanation* is the motivation for postulating or rejecting the presence of a soul is made clear in a passage near the end of his *Treatise on Man*:

In order to explain these functions [of animate bodies], then, it is not necessary to conceive of this machine as having any vegetative or sensitive soul or other principle of movement and life, apart from its blood and its spirits, which are agitated by the heat of the fire burning continuously in its heart a fire which has the same nature as all the fires that occur in inanimate bodies.³

According to Descartes, human behavior cannot be explained mechanically, i.e., it is not reducible to terms of size, shape, and motion. This is perhaps best appreciated by considering our experiences of willing, intending, and choosing these all have to do with goals or purposes, that is, with future states instead of past ones, thus lending them at least the appearance of a non-mechanical orientation. The explanation of such acts, in other words, points into the future (to desired or intended states or goals), and not into the past (to physically-describable states of matter in motion). This is roughly the difference between teleological and mechanical explanation, a distinction that will be explored in more detail in §45, below.

There are, of course, several ways of handling these phenomena of purposive behavior; one might, for instance, accept that such behavior is beyond any mechanical reduction, but ascribe it to (at least the higher) brutes as well as to human beings. Or, one might attempt to explain it mechanically, attributing it either to both brutes and human beings, or just to human beings. Finally, one might hold that purposive behavior was mechanically inexplicable, and that it was displayed by human beings alone. It was this last view that Descartes held, although he spoke of *adaptability* or *flexibility* instead of

¹ Kenny, p. 243.

² This is probably not quite right, since Descartes might consider animal souls as occult, and thus inadmissible as explanatory devices. Descartes disallowed the use of “occult properties” in explanation, presumably for the Aristotelian reason that one cannot explain or come to understand something by what is even less understood. So, for instance, animal development or reproduction is not somehow made understandable by appealing to an occult substance like an animal soul.

That Descartes *does* nevertheless rely upon the rational soul as an explanatory principle suggests that he does not view it as occult or mysterious; this might seem obvious, given his Cogito argument (wherein these very souls are what we know best). Why the souls of other human bodies should not count as occult, however, is unclear.

³ *Treatise on Man* [PW, i.108].

purposiveness. As will be seen, because rational behavior is mechanically inexplicable, its ground or source must lie beyond the physical universe in a “mental realm.” Explanatory considerations were consequently central in separating the physical from the mental.

So human beings “have” a rational soul while brutes do not and, since rational souls is the only kind of soul there is, brutes are utterly unbesouled they are, consequently, mere machines. Even the body of a human being, when viewed apart from the workings of the soul, is a machine as Descartes amply illustrated in his essays and letters. After discussing the movement of the human heart and blood, Descartes explained that this movement necessarily follows...

...from the very disposition of the organs, as can be seen by looking at the heart, and from the heat which can be felt with the fingers, and from the nature of the blood of which we can learn by experience, as does that of a clock from the power, the situation, and the form, of its counterpoise and of its wheels.¹

And in a second letter to Regius (June 1642) he wrote:

You seem to make a greater difference between living and lifeless things than there is between a clock or other automaton on the one hand, and a key or sword or other non-self-moving appliance on the other. I do not agree.²

We find a similar example in *The Passions of the Soul*, Articles 5-6: “The body of a living man differs from that of a dead man just as does a watch or automaton...when it is wound up...from the same watch or other machine when it is broken.”³ And so we find that human beings, as rational souls, differ radically from brutes, at least in the explanation of their behavior.

§16. On the origin of human beings and brutes.

One might nonetheless imagine some fraternity between human beings and brutes by supposing that they both found their origin in the same creative force, perhaps a single act of God’s creativity. But while they both *do* originate ultimately in God, this point of *common origin* is qualified by the need for *separate acts or levels of creation*.

In the *Discourse on Method*, Descartes offers a mechanistic account of the evolution of the inanimate world of plants out of a primal chaos, suggesting that this (admittedly hypothetical) account is a plausible and useful explanation for the nature of things in these realms (Pt. 5).⁴

Admitting that he lacks the information for giving a mechanistic account of the origin of human beings and brutes, he invokes the hypothesis of a special divine creation limiting this, however, to the creation of the bodies *plus* the “lightless fire” which is placed in the heart (of those animals that possess hearts, presumably), omitting any special creation of vegetative, sensitive, or rational souls.⁵

The reader *might* think that he meant for these souls to emerge (through some mechanical process) out of this bare beginning of body and “lightless fire”. This cannot be the case with rational souls, however, as he later speaks of God specially attaching them to the bodies of human beings. And as for vegetative and sensitive souls, either they emerge mechanically (in which case they are no longer non-mechanical explanatory principles), or they are empty concepts, being

¹ *Discourse*, pt. 5 [HR, i.112].

² Kenny, p. 133.

³ *Passions* [HR, i.333]; see also the passages quoted above (§11) from Descartes’ *Treatise on Man*.

⁴ *Discourse* [HR, i.107-9]. He also discusses this account in the *Principles*, pt. III, sect. 45 (Haldane and Ross do not translate this section; see PW, i.256). Here he says that the account is obviously false, but that “if we want to understand the nature of plants or of men, it is much better to consider how they can gradually grow from seeds than to consider how they were created by God at the very beginning of the world.” A similar view is expressed by Kant’s preference for *Naturgeschichte*: see §57, below. On the development of “genetic” explanations in Descartes, see Ernan McMullin’s “Introduction” to McMullin, editor, *Evolution and Creation* (Notre Dame: University of Notre Dame Press, 1985), pp. 21-27.

See also Descartes’ letter to Mersenne (20 February 1639): “...I have found nothing [in animal bodies] whose formation seems inexplicable by natural causes. I can explain it all in detail...” [Kenny, pp. 63-4].

⁵ *Discourse*, Pt. 5 [HR, i.109-10]; for these he can provide a complete mechanical account of their origin. See, for instance, the preceding note.

nothing more than the “lightless fire” and/or features of the structure given to the body. As we have seen in the passages quoted above, Descartes chose the latter. In this same section of the *Discourse* he explicitly asserts that *all* of the human bodily functions are shared with brutes, and that our uniqueness derives *solely* from our possession of a rational soul, which is through God united to the body.

So Descartes’ hypothetical account of the origin of things offers three levels or stages of creation: (1) the inanimate level which emerged through mechanical forces out of the primal chaos, (2) animate bodies, which needed to be created specially, and (3) rationally besouled animate bodies, the rational soul being divinely created and united to the body. Brutes and human beings are thus separated both by their explanatory principles and by a special act of creation.

§17. *The self is the rational soul.*

Given all that, one might still find a certain kinship between human beings and brutes in that they both consist of divinely crafted machines. Of course, brutes are nothing but their bodies, while human beings are this plus “something extra,” viz., a natural soul; still, viewed in this light, human beings and brutes would seem to share a great deal in common.

Descartes does not appear to allow, however, even this limited similarity. I mentioned earlier that he rejected the Platonic view of the soul as a “pilot in a ship,” maintaining instead that the soul was spread throughout the body with which it was joined. Despite this view of the soul as diffusely intermingled with the body, the *self* appears not to be this mind-body complex, as in the Aristotelian tradition, but rather the mind itself, the rational soul.

Although Descartes will at times speak as though the self is to be properly thought of as the mind/body complex, e.g., where the soul is called the self only in a qualified manner (“when I consider the mind, that is to say, myself *inasmuch as I am a thinking thing*”¹), it seems clear that the self is to be thought of as being wholly separate from the body.² For in the Cogito arguments of the *Discourse on Method* (“I know that I was a substance the whole essence of which is to think”³), and of the *Second Meditation* (“I am not more than a thing that thinks, that is to say a mind or a soul, or an understanding, or a reason...”⁴), and in many other passages, the self is meant to be nothing more nor less than a *res cogitans*, a thinking thing. Particularly in light of Descartes’ belief in the self’s immortality, the rational soul is meant as the be-all and end-all of the self.⁵ So while it might appear that Descartes leaves some continuity between human beings and brutes in that the human body is not significantly different from the bodies of brutes he in fact leaves none at all.

There were two paths to this identification of the self with the immaterial soul which Descartes travelled. One was the *cogito argument* (e.g., I can think of myself independently of my body or any body, and, I am *certain* of my mental states, but not of my bodily states). The other was the *explanation of rational behavior* (e.g., I cannot provide a mechanical explanation of some human behavior, so its principle must be non-physical). The majority of the preceding pages have been devoted to following the latter path, both because it is the less travelled of the two, and because I feel that it better illuminates Descartes’ distinction between human beings and brutes, as well as his motivation for holding to a metaphysical dualism.

¹ *Sixth Meditation* [HR, i.196]. And see the letter to Regius (January 1642): “the mind and body are united in a real and substantial manner...[...] We affirm that a human being is made up of body and soul” [Kenny, pp. 127, 130]; the letter to Mesland (9 February 1645) [Kenny, p. 157]; and Descartes’ Reply to Arnauld: “I thought I took sufficient care to prevent anyone thence inferring that man was merely a spirit that makes use of a body” [HR, ii.102-3].

² The nature of the mind-body relation (with respect to their separability, not their interaction) is discussed in a letter to Regius (December 1641) [Kenny, pp. 121-3]. Given this separability, Descartes calls the human being an *ens per accidens* rather than an *ens per se*.

³ *Discourse* [HR, i.101].

⁴ *Meditations* [HR, i.152]. See also the *Sixth Meditation*: “It is certain that this I [that is to say, my soul by which I am what I am], is entirely and absolutely distinct from my body, and can exist without it” [HR, i.190].

⁵ Paul Hoffman emphasizes Descartes’ view of the human being as a real unity, as opposed to the pre-eminence seemingly enjoyed by the mental aspect of the human being (the soul) in his system: see “The Unity of Descartes’ Man” in *The Philosophical Review*, 95:339-70 (1986). On this see also Daisie Radner, “Descartes’ Notion of the Union of Mind and Body” in *Journal of the History of Philosophy*, 9:159-70 (1971), and Janet Broughton and Ruth Mattern, “Reinterpreting Descartes on the Notion of the Union of Mind and Body” in *Journal of the History of Philosophy*, 16:23-32 (1978).

§18. Dualism and Descartes' science.

Given the above discussion of explanation, one might nonetheless ask why the creation of a realm of being separate from physical nature is necessary. Isn't it possible even to *admit* that human behavior by our lights appears resistant to mechanical reduction, and yet nonetheless hold that human beings (specifically, selves) are made of the same basic stuff as the rest of nature, merely manifesting a higher degree of complexity, indeed, a complexity too high for us to be able to unravel into mechanical sequences? This is the position that Mead and, to a lesser extent, Kant will assume, though they will include the entire biological realm within this mechanically inexplicable domain. Why did Descartes feel that he could move from: "I cannot provide a mechanical explanation for human behavior" to "Human behavior stands outside the mechanical framework"?¹

Margaret Wilson recently defended this dualism as having been well-motivated, given three assumptions underlying Descartes' science.² First, he believed that science must be *universal*, and this implied a universal form of explanation. Consequently, there will be admitted only one legitimate form of explanation in science. Second, Descartes was committed to *mechanism*, the view that every event in nature follows necessarily from some preceding event. The universal form of explanation must therefore be *mechanical*: every event in nature must lend itself to a mechanical explanation.³ And thirdly, Descartes assumed a form of *scientific realism* which held that the world was just how the physics of his day described it to be, namely, as variously shaped bits of extended matter at rest or in motion.

The motivations behind Descartes' dualism now come easily into view. If mechanical explanation is the only legitimate form of explanation for phenomena in nature (i.e., the world of physics), and if rational behavior (including our experiences of purposiveness and our feelings of freedom) does not lend itself to mechanical explanation, then we would seem to be compelled to hold that this behavior is a result of something *outside* of nature say, in a mental realm. Further, since there appears to be much more than so-called primary qualities of extension and motion namely, all of the secondary qualities like tastes, colors, sounds, odors and since our experience confers on these secondary qualities some degree of reality, then there must be some non-mechanical realm wherein these qualities can exist. The reality of secondary qualities cannot be accounted for in the physical world, and this non-mechanical realm (the mental) would seem adequate to the task.

Being aware of these compelling reasons behind Descartes' dualism may evoke our sympathy, but it need not evoke our assent. George Mead repeatedly pointed to the connections between Descartes' mind/body dualism and the Renaissance science of his day, and he rejected that science's mechanistic view of nature, as well as the attendant distinction between primary and secondary qualities. Mead offered in their stead an account of nature and experience based upon the nature of the organism. This view will be discussed more thoroughly in Chapter 14, below, but a brief passage from Mead's unpublished essay "The Process of Mind in Nature" might be profitably quoted here:

The conception of nature which was introduced by Galileo through his doctrine of dynamics, reduced it to a statement of matter in motion. Matter was conceived of as that which effectively occupies space...; possesses inertia...; has mass...; and has mobility. [...] The more or less tacit acceptance of this doctrine... carries with it the implication that those characters of nature which are *not* those of the effective occupation of space... *do not reside in nature*.... The simplest treatment of such characters was to place them in mind, as the effects on mind of the action of nature which was nothing but matter in motion.⁴

Apart from these motivations stemming from Descartes' scientific assumptions, there were also compelling reasons from the religious sphere for adopting a mind/body dualism. First, Descartes' dualism made for a less troublesome doctrine of *human sin*. So long as human behavior fell within the mechanical nexus of extended nature, then God having created the chaos and provided the laws would seem to be responsible for all that occurs, all the human pain and perversity. But with

¹ Kant makes a similar move to the noumenal that Descartes does in attempting to make sense of moral behavior.

² Margaret Wilson, "Body and Mind from the Cartesian Point of View" in R. W. Rieber, ed., *Body and Mind: Past, Present, and Future* (New York: Academic Press, 1980), pp. 35-55. See also her *Descartes*, pp. 182-85.

³ See *Principles*, i.28: "That we must not inquire into the final, but only into the efficient causes of created things. Finally, we shall not seek for the reason of natural things from the end which God or nature has set before him in their creation; for we should not take so much upon ourselves as to believe that God could take us into His counsels" [HR, i.230].

⁴ *The Philosophy of the Act* (Chicago: University of Chicago Press, 1938), pp. 357-8.

the removal of the human mind from the mechanically causal world, human sin and error were easily attributed to a misuse by human beings of their God-given faculties.¹ With the arrival of free will, human beings become responsible for sin and error. Second, dualism was more accommodating for the *immortality of the soul*, for if the mind is unextended then it must be simple, thus sparing it from the corruption through division to which our body is prone. This dissociated the fate of the soul from the fate of the body, and the door to immortality appeared to be at least openable, if not fully open.²

§19. Summary.

I hope to have shown that Descartes' view of the relation between human beings and brutes is more complex than often presented. We have seen (1) that Descartes denies the substantiality of nutritive and sensitive souls, and so in effect says that we should not call such aspects of things 'souls' at all, that is, everything for which these "souls" were invoked to explain can be explained mechanically, (2) that there is only one kind of soul, the rational, whose existence is indicated by our inability to explain all of human behavior (specifically: rational behavior) mechanically (3) that only human beings possess such a soul, that is, only human beings exhibit rational behavior (alternatively expressed: the motions of all non-human beings can be mechanically explained), and (4) that while a mechanical account of the *inanimate world* is possible, the existence of *animate bodies* requires a special act of creation, as does the existence of *rational souls*.

The arguments against brutes having souls have been summarized or explicitly laid-out in the chapters above; allow me to here recapitulate Descartes' reasons for postulating the existence of rational souls. That there are rational souls is argued for almost exclusively with the claim that certain behavior of human beings cannot be explained mechanically. This is supported by some assumptions underlying his science, viz., the universality of science within the physical realm and the choice of mechanical explanation as the only legitimate form of explanation for this realm. These bring us to conclude that, given the mechanical irreducibility of human behavior, we must postulate a cause (explanation) for that behavior which lies outside of nature: thus the *mental realm* as substantially distinct from the *material*.

I have examined in these three chapters Descartes' view of brutes and how they differ from human beings: brutes are machines, while human beings are besouled-machines. In terms of substance, brutes are mere matter organized into a machine (and thus of a single substance), while human beings are machines connected with a soul (a second substance). In terms of explanation, the motion of brutes requires a single principle of explanation (the mechanical), while the motion of human beings requires two (mechanical and spiritual).

To what extent do these differences depend on Descartes' metaphysical dualism? They are not implied by mind-body dualism alone, for one could just as readily ascribe mind to animals and plants, and even to lifeless matter, within the constraints of dualism. But given the motivations for dualism as suggested above, the mechanical nature of brutes follows as an immediate consequence; Descartes' deference to mechanical explanation and his belief that he was able to provide a mechanical explanation of the motions of brutes, but not of human beings, result both in a dualism and in a wide gap being set between human beings and brutes.

If, on the other hand, Descartes' dualism rested simply on his Cogito argument, the mechanical nature of brutes would not yet be motivated, and one would have to appeal to some further motivation, such as his religious beliefs. This is not to argue that the Cogito argument was not what initially motivated Descartes' dualism; but it should suggest the superfluity of the Cogito argument, given his beliefs about science and explanation.

¹ *Fourth Meditation* [HR, i.173-78]; see also the *Sixth Meditation* [HR, i.231-36], *Principles*, Pt. I, prin. 29-44 [HR, i.231-236].

² Related to these considerations of the soul's immortality is Descartes' argument for its immateriality due to its individuality, i.e., that I cannot distinguish parts within me *qua* thinking, and that I therefore must be *simple*, and therefore immaterial, since all matter is divisible (*Sixth Meditation* [HR, i.196]). But as Wilson observes, this argument does not rule out the possibility that I (my mind) am simply a *property* of matter, for it would seem that certain properties (e.g., motion) are indivisible; mind might be like motion in this respect [Wilson, "Body and Mind," pp. 47-8].

Finally, the epistemological argument from our ability to think of ourselves, as thinking, without a body, suggests that his mind/body dualism is at least conceptually *possible*, and that the mind is a logically sufficient subject, independent of body [Wilson, "Body and Mind," p. 46; HR, i.190]. This Cogito argument appears early in the second meditation, but — as Descartes notes in the "Synopsis" to the *Meditations* — a demonstration of the mind/body dualism is not possible until the *Sixth Meditation*, since prior to that we need clear and distinct ideas of both mind and body.

§20. *Beyond Descartes.*

Why reject Descartes' view of brutes? There were several reasons, some of which arose with advances in the study of nature, and some based on differences of metaphysical assumption. Three of these reasons are especially prominent: (1) one might see problems with mind-body interaction, (2) one's religious beliefs might permit more affinity between human beings and brutes in the order of things, (3) one might be committed to a science not based on mechanical explanation and/or wish to incorporate psychology into a unified science and/or believe that mechanical explanations are inadequate to the life sciences.

There are good arguments in defense of Descartes' doctrine of mind-body interaction, most of which he supplies himself. And although it has traditionally been viewed as problematic, if not incoherent, it would be odd if so careful a thinker as Descartes would be guilty of incoherence with respect to such a central doctrine. Nevertheless, equally careful thinkers, not least of which were Spinoza and Leibniz, found fault with Descartes on this point.¹

As for theological reasons for rejecting the Cartesian conception of brutes, little more can be said without trespassing the limits of this essay. But as noted above, the religious motivations can be wholly disregarded so long as the motivation from explanation remains. Here there is fundamental disagreement as to our ability to provide mechanical accounts of phenomena in the living world; the project of universal mechanism began to appear possible only by investing matter with decidedly uncartesian powers, as LaMettrie had done.² Further, the universality of mechanical explanation even within the domain of physics proper became increasingly under attack with the discovery and investigation of certain basic electro-magnetic phenomena.

Finally, although Descartes was content with the universality of his science viz., its range being limited to the physical, non-psychical, domain others desired a science which encompassed all of human experience, which of course included mental phenomena. And so there were several motivations for moving beyond Descartes some, as with the discovery of galvanism or the regeneration in the polyp,³ came about through the advance of the natural sciences, others were based on personal preferences of the theorist, and still others were based on internal difficulties of Descartes' system.

¹ As to *their* views on brutes, Spinoza mentions the brutes at least twice in his *Ethics* (Pt. 3, note to prop. 57 [Gutmann transl., p. 171] and Pt. 4, prop. 35, note to the second corollary [Gutmann transl., p. 213]. The first passage, which is more illuminating, attributes feeling to the brutes. Leibniz's different view of substance accounts for his somewhat different view of brutes; see the *Discourse on Metaphysics*, §§34-36; *The Principles of Nature and of Grace based on Reason*, §§4-6; *Theodicée*, §250; *Nouveaux Essais*, pp. 50-1, 66-7, 71-2, 113-14, 134, 142-5, 167-8, 173, 180, 232, 246-7, 271, 273-75, 313-14, 324-6, 343, 394, 399-401, 440, 471-75 [Remnant and Bennett translation].

² For Descartes, matter is inert, without any force or power; God conserves all motion in nature [see *Principles*, I.28; II.36; Kenny, p. 257].

³ A striking example of the apparent self-organizing or purposive nature of living matter came with Abraham Trembley's discovery in 1741 that polyps (fresh-water hydra) could regenerate an entire body from the tiniest severed piece; one could produce 100 polyps by cutting one into that many pieces, and letting them regenerate. This discovery made it more difficult to believe (as Descartes had) both (1) that matter was inert and (2) that living organisms were mere machines. For instance, La Mettrie held to the latter belief, while Kant insisted on the former. For background to the discovery and its affect on the French intellectual community, see Aram Vartanian, "Trembley's Polyp, La Mettrie, and Eighteenth-Century French Materialism" in *Journal of the History of Ideas*, 11:259-86 (1950), and also Virginia Dawson's dissertation: *The Animal-Machine and the Problem of the Polyp in the Letters of Bonnet, Trembley, and Reaumer* (Case Western Reserve, 1983).

CHAPTER 5 KANT AND THE MENTAL FACULTIES

§21. Introductory summary.

Giving a brief account of Descartes' view of the nature of humans and brutes is not difficult. Human bodies and brutes are complicated machines, while human bodies are also associated with individual souls, the pineal gland being the primary point of communication between body and soul. That is the core of Descartes' account, upon which various other claims are based. It is the influence of this soul, for instance, which partially exempts the human body from the nexus of natural causation by introducing its own non-natural cause. This allows for a freedom that brutes lack, since their actions are wholly governed by mechanical causation. This freedom is closely associated in Descartes' mind with the rationality that humans possess and brutes lack, for those actions which are rational are those which are mechanically inexplicable; rationality is wholly of the soul and not the body. Variable or flexible response is a feature of human behavior which Descartes cannot conceive occurring mechanically, and he therefore finds in it grounds to attribute a rational soul (i.e., a non-natural causal power) to humans.¹

It is not as easy to sketch Kant's account of the nature of humans and brutes. This is in part because it has not been that aspect of Kant's system traditionally emphasized by his popularizers. He had, for instance, no view of brutes as remarkable as Descartes' animal machines; one thinks instead of Kant's noumena/phenomena distinction, *a priori* synthetic judgments, or categorical imperatives. I intend here, however, to ignore the remarkable, which has grown slightly mundane through two-hundred years of scrutiny, and focus instead on the mundane, the unpopularity of which has made it somewhat remarkable.

Kant has no well-developed account of the nature of animals; either he never thought such an account important, or he saw it as being beyond the scope of philosophy, having passed over into the twilight realm of idle speculation. Perhaps, indeed, he said all that he thought *could* be said about animals. But still the question as to what brutes are, and how we are related to them, looms in the background of much of his work. He discusses brutes and animality in nearly every area of his philosophy and, despite the lack of any systematic account, he says quite a bit about them.²

I begin Chapter 6 by suggesting that basic to Kant's conception of brutes is his belief that they cannot make judgments [§25], that is, that they are unable to collect mental entities into logical unities (generally, by attaching predicates to subjects). Because this ability is basic to the faculties of understanding and reason, brutes are denied these other cognitive faculties as well; the understanding, for instance, involves the grouping of representations under concepts in order that the world consist of physical objects for us rather than random sensory stimuli, while reason groups the objects of experience into a science. The presence of concepts—abstractions used for unifying experience—is the mark of mentality, or "higher cognitive functions" [§27].

Because language depends on concepts, its presence offers a convenient behavioral index of the presence of mentality. Needless to say, Kant did not think that brutes had a language [§26]. In fact, he placed such importance in the *spoken* word that he even denied rationality to the congenitally deaf; reason cannot arise without the hearing of the word. Further, language-use and reason *develop*, in the species as well as the individual.

¹ One wonders if Descartes was simply a bad ethologist. His empiricism was probably as refined as that of his contemporaries, but it was an empiricism more directed to the observation of animals on the dissecting table than in their natural environment. Was he unaware, for instance, of learning behavior in animals? This would seem to count as an instance of flexible or adaptive response. Kant wrote of such learning behavior, but he explained it in terms of *instinct*, much as Mead would over a century later.

² Kant's references to brutes generally fall into one of four contexts: (1) *moral* (on the animal/rational nature of humans, human freedom, and the moral status of brutes), (2) *psychological* (on the existence and nature of animal souls), (3) *anthropological* (on distinguishing human from non-human species), and (4) *biological* (on the nature of race, genus, natural history, and natural description).

Descartes thought that language-use was the only overt behavior that indicated a being to be more than a machine; it served as a criterion of rationality, and thus also of the presence of a soul. Remember that being rational and having a soul were one and the same for Descartes, who needed the latter to explain the former. Kant, on the other hand, separated these two features so that, while he agreed with Descartes that language-use indicated the presence of reason, there was *no* overt behavior which indicated the presence of a soul or noumenal self.¹

Given the lack of judging and understanding in brutes, it is no surprise that Kant also denied them the ability to reason [§28]. Like Descartes, Kant found nothing in brute behavior that *necessitated* our ascribing reason to them. The behavioral skills of certain brutes (in social organization, or in material construction) might suggest the presence of mentality, but not to Descartes or Kant. Besides, brutes are easily fooled, are unable to adapt their behavior to changes in the environment, and they seem “bound to the present,” unable to base their behavior on future possibilities or on some other sort of non-sensible presence.

To indicate the scope of this denial of reason to brutes, I discuss in a general fashion some of Kant’s views on the nature of reason [§29]. There is only one reason, he felt, but it is a reason with several uses, each of which involves the unification of some sphere of experience, which it does through the positing of ends, purposes, or theoretical entities. Finally, I note that *being rational* and *having a noumenal self* are separate issues for Kant; while the latter seems to imply the former, the former does not imply the latter [§31].

Kant thought that the behavior of brutes was entirely conditioned by their *senses*, while humans had the capacity to determine their actions *intelligibly*; I suggest in Chapter 7 grounds that Kant had for holding this belief [§34]. Primarily, we consider brutes to be unfree because we need not think of them otherwise (similarly with reason); but furthermore, their behavior seems to lack the detachment from the senses that often marks human behavior [§33]. For instance, brutes seem incapable of inhibiting impulses: when there is food before them and they are hungry, they must eat humans, on the other hand, can refrain [§35]. Finally, inhibition requires consciousness, and it is the brute’s lack of the latter that prevents the former [§36].

Worth or value depends entirely on being free. Since brutes are not free, they lack all worth, and can be treated as mere things; they cannot be objects of duty or respect [§37]. Practical reason, on the other hand, is argued as being an end in itself, and therefore its human practitioners are likewise ends in themselves and are to be treated as such [§38]. While the unbridgeable chasm yawning between humans and brutes was for Descartes the metaphysical difference of brutes being wholly material and humans being spiritual (at least in part), for Kant the chasm was set in moral terms (though based, admittedly, on certain metaphysical assumptions): humans are of absolute worth while brutes are of no worth at all. Kant, after all, was not able to make the matter/spirit distinction that Descartes did, for Kant did not think that brutes were “mere matter” [§39]; as discussed in Chapter 8, all living things require by virtue of being alive some “immaterial principle.”² And while Kant believed that only humans possessed a noumenal *self*, brutes still possessed as objects in the world *some* kind of noumenal status. A cut and dry metaphysical distinction such as Descartes appealed to was not available to Kant, and the distinction consequently became clearest on the moral plane. The possession of higher cognitive faculties may set us apart from the brutes, but our freedom is what sets us above them.

Kant rejected Descartes’ animal-machine hypothesis for a variety of reasons, not least of which was his view that living beings require an “immaterial principle,” and thus cannot be mere material machines [§43].³ Kant chose instead a “spiritual” version of animal-mechanism which better suited his belief that inert matter was incapable of giving rise to life [§44]. And on the explanatory level, Kant thought that little of the living world was mechanically-explicable; as a consequence, the animal-machine hypothesis was not only probably false, but was worthless as a model for doing research or constructing a

¹ From those passages where Kant discusses language, it appears that language-use was only a necessary condition of being rational and not, as Descartes thought, a sufficient condition. For instance, Kant denied reason to the congenitally deaf even where they had acquired the use of language he did this because they had not acquired it in the “right way”, viz. by hearing the word. Such individuals are examples of non-rational language-users.

² Kant even allowed as possible, perhaps probable, that these “animal souls” continued beyond the creature’s earthly existence into the next, where they accompany and serve the souls of departed humans.

³ Indeed, we have no more reason to believe that *brutes* are machines, argued Kant, than we have to believe that *we* are (and not just other humans, but *myself*); see *MP Herder* [AA, 28:116].

science of biology.¹ Unlike Descartes, who believed himself in possession of, or on the point of possessing, mechanical explanations of many bodily functions and movements, Kant believed that mechanical explanation in the realm of the life sciences was closed to our limited intellects. Here humans must instead appeal to teleological explanations, which make use of goals, ends, and purposes, instead of antecedent conditions describable only in terms of motion and extension [§45]. Finally, as noted above, Kant wished to ascribe the apprehension of representations to brutes, an ability which he considered incompatible with animals being material machines [§40].

One might wonder what the difference is supposed to be between having a representation of which one is not conscious (as Kant ascribed to the brutes) and having sensory stimuli registered in the nervous system (as Descartes ascribed to brutes). They both, after all, result in a patterned response of some kind, since Kant wished no more than Descartes to attribute freedom to brutes. But Kant nevertheless maintained that his attribution of representations to the brutes constituted a break with Descartes' animal-machine hypothesis [§41]. One explanation for this might be that Kant misread Descartes as claiming that brutes did not experience sensory stimuli in even the minimal sense of "unconscious responding", there being nothing but external descriptions of their neuronal activity (in fact, as we have seen, Descartes did allow this minimal notion of experiencing the sense-data, disallowing only an *awareness* of it). Since Kant thought that providing neuro-physiological explanations of animal behavior was beyond all human capability, there were heuristic grounds for rejecting a view of brutes which limited explanations of their behavior to just that sort.

In Chapter 9 the nature of progress in humans and brutes is examined. Kant belonged to the 18th century tradition of viewing humans as "the self-perfecting animal." The human begins as an animal only *capable* of being rational, and then proceeds to make herself rational [§46]. Kant believed that reason was *innate* as a capacity [§47], but that its development required a conscious effort on the part of the human [§48]. Since nothing in nature is vain [§50], reason *must* eventually be developed, both individually and in terms of the species [§49]. The faculties within brutes can develop fully within each individual, but the nature of reason precludes its full development within the lifetime of the individual including those products of reason such as science and a just society; these central projects of reason require an ongoing effort on the part of the human community, resulting in human progress [§51].

Not just its products, but reason itself develops, and this suggests a phenomenal basis for reason (development requiring the temporality of the phenomenal world). Those passages claiming the development of reason, when tempered with other passages claiming the immateriality of mind, indicate a functionalist view of mind [§52]. Finally, Kant's ascription of learning [§53] and immortality [§54] to brutes are discussed in the context of his doctrine of progress.

The discussions of development and progress, particularly the progress of the human species, raise the question of Kant's relation to Darwin and modern theories of evolution. Despite claims to the contrary by various Kant scholars, Kant was far from espousing a transformism even remotely similar to that of Darwin, and in Chapter 10 I indicate why. There is no dearth of passages indicating Kant's adherence to the transformation of creatures (humans, brutes, plants) [§58], but these changes are always limited by the constraints of the "species" [§56]; furthermore, he rejects all mechanical accounts of transformation (such as would be advocated by Darwinians in the next century) [§57]. In conclusion, I suggest that Kant's belief in the integrity of *species*, even in the face of growing opposition to their stability, is understandable in light of the importance he placed in the development of reason, a development requiring the ongoing effort (and thus permanence) of the human community [§59]. In the remainder of this chapter I will briefly sketch some features of Kant's epistemology that will be referred to in the remaining discussions of Kant.

¹ It appears that the immaterial principle that Kant found in brutes (and plants, presumably) is what today would be called a 'functional' principle, and as such is compatible with a materialist reduction of brutes. This functionalist reading loses some plausibility in the face of Kant's speculations on the brutes' heavenly existence, but it seems to best fit the texts taken as a whole. Kant is thus perhaps not as far from Descartes on the nature of brutes as he thought.

The compatibility between functionalism and materialism is certainly not uncontested, but this is not the place to argue its finer points. Block divides functionalists between those that see physicalism implied or at least made likely by functionalism (including Lewis, Smart, and Armstrong), and those that see functionalism as showing physicalism to be probably false (here we find Putnam, Fodor, Harman, and Block himself). On this see Ned Block, editor, *Readings in the Philosophy of Psychology* (Cambridge: Harvard University Press, 1980), vol. i, pp. 175, 268.

§22. *Life, liberty, and the pursuit of unity.*

A central concern in the Kantian system is the striving for unity in human experience. Countless stimuli confront us on the pre-conceptual level — through our eyes, our ears, and through nearly every section on and in our bodies — which stimuli, according to Kant, are initially unconnected with each other, being loose and disordered. One sees, for instance, random patches and flashes of color tumbling and whirling about and undistinguished from the similar chaos found in the other sensory modes. We normally take for granted the ordered physical world of objects, overlooking this chaos that first meets the eye.

There are different metaphors available for describing what it is that Kant thinks the mind does with this chaos. Because this unification does not simply occur by itself, but rather requires an activity of the mind, we might think of it as a *gluing together* of the separate phenomena into the objects of physical nature. But whatever metaphor we choose, we need to keep separate two quite different levels of unity that Kant discusses, for their status differs not just in degree (as in the tightness of the glue's bond), but in kind. Imagine that initial world void of objects or things, and filled only with visual sensation of no particular color or intensity, audio sensation of no particular tone or pitch (likewise with the other modes) and, finally, a lack of any distinction between sensations of these different modes — a seamless, formless chaos, a sheer beingness confronting the pre-conceptual organism. This chaos involves a disorder one step below that of the “mere aggregate” that Kant juxtaposed with the “system” (this difference occurs at the level of physical objects and judgments about the world, where an *aggregate* is simply a random collection, and a *system* is a collection following a rule). One might believe, as William James did, that this is what the newborn in fact passes through before she begins to conceptualize the world.¹ Now imagine gluing these random stimuli into physical objects, ordering them in space and time wherein they exhibit distinct qualities (e.g., a determinate size, color, taste, &c.) and changes of qualities.

On the more fundamental or lower level of unity, the dust has now settled and all of those random stimuli have become objects and properties of objects, the separate representations having been glued together to form the physical world called ‘nature’. But there is still a great deal of disorder confronting the subject, which calls for a yet higher level of unification, something like a collecting of the glued objects into a system; for objects and changes within the objects confront the human as disconnected and arbitrary — the sun comes and goes, days grow longer and then shorter; animals grow, fall ill, regain health, move about and eventually die; droughts and rains come without explanation — and we wonder at this chaos and seek to unify it under some law or explanatory system. This is where religions and sciences enter to make sense of the changes encountered in the world of objects. A second realm of disorder concerns specifically human behavior, namely, opinion as to how we ought to act; ordering behavior in this area is to arrive at a system of *morality*.²

Where does all of this order come from? Kant's answer was simple yet revolutionary: the human mind orders the world according to our pre-determined patterns of sensing and knowing. Whether there is a way the aggregate stimuli *ought* to be glued together we can never know — we only know the way we in fact glue it. Further, to continue the metaphor, in our higher strivings for unity we no longer use glue but instead merely collect glued objects into a system: other rational beings (angels or extra-terrestrials of some sort)³ might collect them differently, though they, as rational beings, will still glue together the same objects that we do and so systematize the same objects of experience that we systematize.

§23. *The mental faculties.*

Kant chose to think of human mentality in terms of three separate faculties: sensibility, understanding, and reason. Judging is an essential feature of understanding and reason (which he calls “the higher cognitive faculties,” as opposed to the “lower faculty” of sensing), and a judgment is called ‘constitutive’ when made by the understanding and ‘reflective’ when

¹ See William James, “The Thing and its Relation” in *The Journal of Philosophy, Psychology, and Scientific Methods*, 2:29-30 (1905). Kant imagined something similar, as indicated in his *Anthropologie*:

The time of early childhood is not a time of experiences but rather a time of mere sporadic perceptions which have not yet been unified by any real concept of an object. [STW, xii.408; Dowdell transl., p. 10]

² On the relation between physical science and morality, see sect. 2 of “The Canon of Pure Reason” in the *KdV*.

³ See Kant's speculations about life on other planets in his *Allgemeine Naturgeschichte und Theorie des Himmels* [STW, i.377-96], published in 1755, and in his *Anthropologie* [STW, xii.688-90], published 43 years later.

made by reason. As might be inferred from the preceding, these three faculties involve different levels of unifying experience:

All our knowledge starts with the senses, proceeds from thence to understanding, and ends with reason, beyond which there is no higher faculty to be found in us for elaborating the matter of intuition and bringing it under the highest unity of thought.¹

The understanding is an object for reason, just as sensibility is for the understanding. It is the business of reason to render the unity of all possible empirical acts of the understanding systematic; just as it is of the understanding to connect the manifold of the appearances by means of concepts, and to bring it under empirical laws.²

Sensibility passively supplies spatiality and temporality as formal features to the initial phenomena within the loose aggregate of stimuli (the “manifold of intuition,” as Kant called it). Prior to that there is neither space nor time, and sensibility indicates the *phenomenal* nature of these features. At this level, spatio-temporal relations are still indeterminate.

The *understanding* actively structures this spatio-temporal manifold according to a set of twelve categories or concepts. The specifics of this need not trouble us here; suffice it to say that it is this structuring that further “glues” the spatio-temporal manifold into objects and their properties, all standing now in determinate relations to each other: e.g., we know whether one event came before or after another event, as well as how they are spatially positioned with respect to each other. After the passive attribution of spatiality and temporality by our sensibility, and the active synthesis by the understanding, the manifold of intuition has been glued as much as it will be, and the glue is set aside.

Reason now sets to work, operating free-form with the world of objects so as to unify them into some kind of system or coherent whole:

The principle peculiar to reason in general... is: to find for the conditioned knowledge obtained through the understanding the unconditioned whereby its unity is brought to completion.³

These labors of reason comprise the physical and moral sciences.⁴

This threesome of sensibility, understanding, and reason, each of which plays a part in unifying experience, is roughly embodied in the structure of the *Critique of Pure Reason*: the nature of sensibility is discussed in the “Transcendental Aesthetic,” understanding in the “Transcendental Analytic,” and reason in the “Transcendental Dialectic.” Corresponding to each of these faculties are formal components of our mental lives: the *forms* of sensibility (viz., the spatio-temporal framework wherein all experience must take place), the *categories* of the understanding (through which the space-time aggregate is unified into objects with distinct features and spatio-temporal relations), and the *ideas* of reason (which demand

¹ *KdrV* [B 355]. See also [B 367]: “Concepts of reason serve to conceive, as concepts of understanding serve to understand (the sensations).”

² *KdrV* [B 692]. See also: “Understanding...secures the unity of appearances by means of rules, and reason...secures the unity of the rules of understanding under principles” [*KdrV* (B 359)]; “Just as the understanding unifies the manifold in the object by means of concepts, so reason unifies the manifold of concepts by means of ideas....” [*KdrV* (B 671-2)]; “...that unity, which is so essential to reason and so beneficial to the understanding.... The idea of such unity is...inseparably bound up with the very nature of reason.” [*KdrV* (B 709-10, 723)]; “Reason is a faculty of principles and proceeds in its furthest demand to the unconditioned; on the other hand, the understanding stands at its service always only under a certain condition which must be given.” [*KU*, §76 (STW, x.353; Bernard transl, p. 249)]

³ *KdrV* [B 364], from the chapter on “The Pure Employment of Reason.” See also the chapter on “The Architectonic of Pure Reason”: In accordance with reason’s legislative prescriptions, our diverse modes of knowledge must not be permitted to be a mere rhapsody, but must form a system. Only so can they further the essential ends of reason. [B 860]

⁴ See *KdrV* [B 673-5]. This two-fold labor of reason is described in a footnote to the *Grundlegung*: “Teleology considers nature as a realm of ends; morals regards a possible realm of ends as a realm of nature. In the former, the realm of ends is a theoretical idea for the explanation of what actually is. In the latter it is a practical idea for bringing about that which is not actually real but which can become real through our conduct, and which is in accordance with this idea.” [STW, vii.70n; Beck transl., p. 55n]

of experience a still higher unity, giving rise to the various laws and theories of science and the commands of morality, as well as the idle speculations of bad metaphysics — all of which attain, at best, a merely hypothetical status).¹

§24. Judgment.

Rational beings are driven to unify their experiences, and *judging* is the activity that brings this about. Judgments (e.g., “That patch is to the left of this patch” or “This cow is mooing”) unify what were previously separate features of the world (e.g., the separate positions of the two patches are unified into a single relation, or mooing is attributed to the cow). As Kant wrote near the beginning of the “Analytic of Concepts”: “All judgments are functions of unity among our representations....”²

Kant speaks of the *categories* as being *constitutive* of experience, in that they underlie the very objects of experience: without them experience of physical objects would be impossible, as there would be no objects. But the *ideas* of reason are only *regulative*: they do not constitute experience but merely guide or regulate our interpretation of experience. The ideas tell us nothing about the objective world, but a great deal about how we, as humans, might best interact with this world. The categories can be thought of as acts of judgment of the understanding, while the Ideas are acts of judgment of reason — the former being constitutive judgments and the latter regulative.³

A common example illustrating the psychologically-felt importance of unifying sensory data can be found on the surface of a moon-lit lake or river, where the reflection of the moon is playing on the water’s rippling-surface. The water itself cannot be seen for lack of light all that is visible is the reflected image of the moon, constantly broken by the small ripples on the water. Now if you postulate the existence of the water and the small waves in the water, as you normally and spontaneously will, then the light-patches become unified into a system or coherent whole, and though the moon’s image is broken into the many flashing patches of light, no psychological discomfort is felt. But think-away the water and the waves, and note into what chaos the light descends and what unease is felt. The unseen water is postulated as a hypothetical structure for unifying the sensory-data.

This is only analogous to the unity achieved by an application of the categories and not an example of the application itself. The primal chaos of the unorganized manifold is far less structured than the medley of light-patches appearing and disappearing in the night’s black void. This example thus suggests that there is much left to unify even after the sensible manifold is synthesized into a system by the categories. Indeed, we might think of the disunified medley of light where the water’s presence is not postulated as the condition we are in once Kant’s categories of experience have been applied. Here the patches of light are of a determinate size, shape, and intensity, and possess a determinate position in space and time with respect to the other patches and with respect to the observer (though they may come and go too quickly to be described with much confidence), and the postulation of the water and the waves is the beginnings of a science. We see here that the level of unity that the categories attain is minimal.

Having briefly sketched some features and concerns of the Kantian system, I will now proceed to examine his views on the nature of brutes and their relation to humans.

¹ Kant occasionally mentions the “interest” of reason, which is to seek unity. See, for instance, *KdrV* [B 677-8, 683, 708f., 723, 824, 868]. The “commands of morality” are actually *necessary* (and not merely hypothetical), this being because they make claims not about the way the world *is* but the way the world *ought to be*. Laws and theories of science are only hypothetical because they *do* make claims about the world that is.

² *KdrV* [B 93-4]. See also [B 104-5].

³ While reason has an important part to play in our mental lives, a large part of Kant’s energy was devoted to humbling this highest faculty (thus, the “critique”) by showing that its role is indeed merely regulative or heuristic, and thus unable to tell us anything about how the world is in itself. See, for instance, the summary of the first critique near the end of the *Prolegomena*: Reason by all its *a priori* principles never teaches us anything more than objects of possible experience, and even of these nothing more than can be known in experience [STW, v.238; Beck transl., p. 110].

CHAPTER 6 BRUTES AND THE MENTAL

§25. *Brutes lack the power to judge.*

Are brutes capable of forming a judgment? Can they perceive items in the world — say, two piles of hay and arrive at the awareness that: “This pile is closer (larger, nicer smelling) than that pile” or “These two piles are of equal distance (size, scent)” or “Here’s a pile of hay and [turning to the next pile] here’s a pile of hay” or even “Hay here now” or at the very least “Food”?

There are different groups of judging abilities that Kant considers in his writings. First, there is the trinity of abilities in judging that some item is of a kind (e.g., “a is a P”), that two different kind-things are related in some way (e.g., “P’s are generally larger than Q’s”), or that something follows given several such complex judgments (e.g., the conclusion of a syllogism). Kant associated the first of these with simple *judging*, the second with the *understanding*, and the third with *reason*. A second grouping often encountered (though perhaps only in the early works) is between discerning *differences* and discerning *similarities*. Kant argued that brutes might be capable of the former, but not the latter (which seems to involve the use of *universals*, that is, grouping two or more items under some concept, viz., that feature wherein the similarity lies). It will turn out that even brutes capable of discerning differences need not be attributed with powers of judgment for such behavior is explicable in terms of mere natural impulse. Brutes cannot form judgments, and consequently they lack all powers of understanding and reason as well.

Kant directly confronted the question of the brutes’ ability to judge in two early published essays, and discussions can also be found in notes on metaphysics and anthropology. In the earlier of the two essays, “On the Mistaken Subtlety of the Four Figures” published in 1762, Kant defined ‘judgment’ as...

...the comparison of a thing with some attribute [*Merkmal*]. The thing itself is the subject, the attribute is the predicate. The comparison is expressed with the copulas ‘is’ or ‘are’....¹

He claims toward the end of the essay that both understanding and reason arise out of the power to judge, this being the more fundamental of the cognitive faculties. Consequently, any being capable of judging could well have the full compliment of higher cognitive faculties, which makes the decision concerning the brutes’ possession of this of some importance.

To have a “distinct concept” of some X, according to the essay, one must “clearly recognize it as an attribute of a thing,” and this requires the understanding.² Kant then argues that brutes are incapable of entertaining such things as distinct concepts: a “celebrated scholar” had...

...attributed clear concepts to the animals. An ox, he says, has in his representation of the stable also a clear representation of its attribute [i.e., sign] the door. The confusion is easy to avoid here. The clarity of the concept does not consist in that which is the attribute of a thing being clearly represented, but rather that it is recognized [*erkennt*] as an attribute of the thing...only he who frames the judgment “This door belongs to this stable” has a clear concept of the building, and this is surely beyond the capacity of the brute.

I will go further still and say that it is a quite different thing to *distinguish* things from one another, and to *recognize* the difference between them. The latter is possible only by means of judgments, and cannot occur with non-rational animals. The following division may be of great use: to *logically distinguish* is to recognize that a thing, A, is not B, and is always a negative representation. To *physically distinguish* is to be compelled by different representations to different actions [*Handlungen*]. The dog distinguishes roast meat from bread because it is affected differently by them (for different things cause different perceptions), and the

¹ “Die falsche Spitzfindigkeit der vier syllogistischen Figuren” [STW, ii.599; Abbott transl., p. 79].

² *Ibid.* [STW, ii.612; Abbott transl., p. 92].

perceptions of the former [viz., the roast] is a ground of another desire [viz., to eat] in him than the latter [viz., the bread], in accordance with the natural connection of its drives with its representations.¹

Kant here makes the important distinction of “responding differently to different stimuli” and “recognizing the difference between the stimuli,” and he claims that brutes are capable of the first only (if even that), while only rational beings are capable of the latter. Since the overt behavior will be the same in each case, there is nothing in the behavior of the brute to suggest a lack of recognition. Kant is well aware of this, but claims that...

...it by no means follows that this [differential response] is preceded in [the brute] by an act of the faculty of knowledge such that they are conscious of the agreement or disagreement of what is contained in one sensation with what is contained in another, and thus that they judge.²

The reasoning here is simple: since it is possible to think of the animal behavior as occurring *without* the use of judgments, we will assume that it does. (With humans, on the other hand, we are directly aware of our acts of judging, and so cannot proceed similarly with our own behavior.) The same argument occurs in the 1764 essay on the “Clarity of the Principles of Natural Theology and Ethics.” In offering examples of how what appear to be instances of the same word in ordinary language are actually separate homonyms, Kant brings in the topic of *distinguishing* in humans and brutes:

We say: someone distinguishes gold from brass when he recognizes [*erkennet*], for example, that the density of one metal is not found in the other. It is also said: a brute distinguishes one kind of feed from another when it consumes the one and leaves the other. Here the word ‘distinguishes’ is used in both cases, but in the first case it means something like: to recognize the difference, which can never occur without *making a judgment*, while in the second case it merely indicates that, with different representations, *different actions are performed*: here it is not necessary that a judgment should occur. In the case of the animal we only perceive that it is impelled to different actions through different sensations. This may well be possible, without the animal having to judge in the least about agreement or difference.”³

Here the same point is made: we do not *need* to attribute judging to brutes and so we *will* not. We “only perceive that it is impelled to different actions through different sensation” we perceive no internal workings such as we perceive in ourselves when we introspect. Consequently, for lack of any positive grounds to attribute judgments to the brutes (indeed, for lack of grounds that could not possibly be available, given the inherent privacy of introspection), we decide that they lack such mental powers.

In the notes for anthropology lectures delivered in the 1770’s, Kant did in fact attribute to brutes the ability to judge, but only in a qualified sense such that the “judging” was carried out by the lower cognitive faculty (sensibility), and involved only the perception of differences, and not similarities:

Power of comparative judging, in order to perceive *differences*, or *connections*, i.e., the distinction whether something stands under a rule or not. The first occurs for the understanding through the sensuous cognitive faculty, the second for the reason through the understanding in order to deduce. The first, e.g., distinguishing the kinds of grass for eating, animals can do as well.⁴

A similar claim is made in the *Reflections on Anthropology*:

¹ *Ibid.* [STW, ii.613-4; Abbott, pp. 93-4]. A parallel example occurs in the Herder lectures:

Oxen are affected differently by grass than by stones because grass affects them with a representation which is the ground of their hunger, of which the stone’s [representation] is not... They do not recognize the difference between grass and henbane but rather are differently affected. [*MP Herder* (AA, 28:66-7; see also 28:88)]

See also *MP Herder* [AA, 28:78-9]: “Brutes according to different affectation [have] different representations: different behavior; but it is not explained through [the brute’s] distinguishing [the brute] has no inner sense for representing its *status repräsentationis*.”

² *Ibid.* [STW, ii.613n; Abbott transl., p. 94n].

³ “Untersuchung über die Deutlichkeit der Grundsätze der natürlichen Theologie und der Moral...” [STW, ii.754; Wolford transl., p. 16].

⁴ *Colleg Anth 70s* [AA, 15:713].

A bird that searches for a place to rest perceives whether everything is suitable so as to keep his dwelling hidden, dry, and secure. A dog in pursuit of prey judges the best way for catching it. This judgment is quite easily possible by way of the lower cognitive faculty. With that alone can one perceive what grounds a thing contains, just as certain neighboring perceptions are often perceived at the same time as other certain perceptions, whereupon one will consider the first as the ground for the other, and consider these congruous. If an animal demonstrates a faculty of judgment, even where it has had no previous experiences — as when a young bird builds a nest — then an implanted drive is indicated.¹

The relegation of certain forms of judgment, viz., those of difference to the sensible faculty is peculiar for Kant, and certainly not his mature view (which quite clearly separates the lower faculty of sensibility from the higher faculties of judgment, understanding, and reason). But pointing to the different abilities needed for perceiving differences and similarities is consonant with his unyielding denial of concepts to brutes. And in terms of overt behavior, it is easier to detect in an organism the perception of a *difference* (viz., in the different responses evoked) than a *similarity*. Recognition of similarity manifests itself overtly as an indifference of response to the two items (although some other difference between the items might then evoke a determinate response), and the arbitrary nature of this response is not of itself suggestive of mental activity.

In the essay on the syllogism, Kant wrote that both the understanding and reason were based on the more basic power of judging. While this view of the relations between the various higher cognitive powers might have changed in the course of Kant's maturation, judging always retained a central if less foundational and more mediatory role. The "Analytic of Concepts" of the *Critique of Pure Reason* is here an ample guide to the nature of judgment: "All judgments are functions of unity among our representations," while concepts are based upon these functions of unity specifically, as being "predicates of possible judgments":

Now we can reduce all acts of the understanding to judgments, and the *understanding* may therefore be represented as a *faculty of judgment*. Thought is knowledge by means of concepts.²

The dependency of thought upon judgment remained an important tenet in Kant's critical writings. Further connections between judging and the other faculties of mind come to light in Kant's few discussions on the nature of language.

§26. *Language and the mental.*

Language-use traditionally serves as an overt mark of higher cognitive powers. It was for Descartes a certain indication of reason's presence, and it might also have been for Kant. While there are no discussions on language and reason to be found in Kant which are as straight-forward as those found in Descartes' writings, and while he did not explicitly infer the absence of reason in brutes from the absence of a developed language, there is some indication that he stood in agreement with Descartes on this point. Given Kant's view that language lies near the heart of our powers to abstract and conceptualize, it would be surprising that language did not play a role in his comparison of humans and brutes.

Language consists of concepts and so its presence and development are intimately linked with the presence and development of the higher cognitive faculties.³ In his logic lecture of May 25th, 1784, he is reported to have said:

The understanding is the faculty of rules, without which we could think no rules, indeed, without which we could not think at all. For to think is to represent something through concepts. I use a concept when I think of a manifold of intuition under a certain rule.

I can easily have a sensible representation of something, yet not have a concept of it. E.g., I am thinking of a tree; here I have a manifold of intuition, but I am thinking it under a unity and under a rule that everything that looks like this is a tree. With the mere sensory perception of the tree I have a confused representation of manifolds, and I think nothing thereby.

Animals have such sensible representations, but no concepts. I distinguish one thing from another through concepts, and recognize the thing's unity. Thus the more one has concepts, the more is our understanding

¹ *Refl. Anth* [AA, 15:161-2].

² *KdrV* [B 93-4].

³ Kant's claim that language *consists* of concepts (as opposed to, say, merely depending on them) may seem strange to those who equate language with the signs used which embody the concepts. Kant also thought that we "speak in concepts" [*Mutmaßlicher Anfang* (STW, xi.86-7; Humphrey transl., p. 50)]. There is not space to unearth Kant's philosophy of language here, however.

refined [*excolirt*].¹

Language consists of concepts — consequently, it must rise with the cultivation of the understanding, and most certainly language was much slower with humans at first, as well as being late to appear. For that reason, animals also have no language. Therefore, the understanding is also to be called the faculty of thinking.²

Not only does language consist of concepts, it is a necessary condition for their acquisition, and those humans unable to speak also cannot think.³ Further, even if one can speak, Kant placed importance in having learned to speak through *hearing* the spoken word, rather than some of the alternative means of education practiced by deaf individuals. Only the spoken word sufficed for a true language. Kant commonly describes the instincts of brutes as mere “analogs of reason.” That term reappears in a discussion of the mental lives of the congenitally deaf:

Because sounds are nothing in themselves or at any rate not objects but merely signs of inner feelings, they are the best means of expressing concepts. Persons born deaf, who must therefore remain speechless, can never arrive at anything more than an analog of reason.⁴

This unusual passage from the *Anthropology* (1798) is followed a few pages later by the claim that the congenitally deaf can “never arrive at actual [*wirkliche*] concepts, because the signs which he makes use of are not capable of universality.”⁵ Compare this with his description of thought as “speaking with oneself.” Thought is, Kant continued, ...

...consequently an “inner hearing” as well. To the congenitally deaf, speech is a mere feeling of the play of his lips, tongue, and palate, and it is scarcely possible to imagine that his speech is anything more than a play of his bodily feelings, without his having or thinking any actual concepts.⁶

¹ On translating ‘*excolirt*’ [the 3rd person singular of ‘*excoliren*’], which can be found occasionally in Kant’s writings, I presumed it to be borrowed from the Latin ‘*excolo*’, which means “to tend or cultivate carefully; to refine.” This meaning fits with his other uses of ‘*excoliren*’.

² *Logik Mrongovius* [AA, 29:1047].

³ This belief is not unique to Kant; Bonnet, for instance, “recognized the necessary connection of the inability to speak and the inability to build concepts” [Max Dessoir, *Geschichte der neueren deutschen Psychologie*, 2 vol. (Berlin: Carl Duncker, 1894), vol. i, p. 188]. Dessoir devotes a few paragraphs to the relation of language to concepts, noting the views of Sulzer, Tiedemann, Irwing, Meiers, Herder, and Tetens [*Ibid.*, pp. 251-52]. Kant apparently viewed *written* words as signifying the *spoken* word (specifically: *Tönen*), which then signify the object in the world [*MP Herder*, AA, 28: 77]. How this should occur among the mute is unclear if one must speak or sing and cannot simply point.

⁴ *Anthropologie*, “On Hearing” [STW, xii.448; Dowdell transl., p. 42]. See *Refl. Anth* [AA, 15:101]: “Because objects are not represented in the hearing, it serves well as signs of things (words).” See also [AA, 15:99]:

Hearing is a means of sociability (a tool for communicating ideas), of the requirement of reason, just as vision is [a means to] knowledge of experience...Because hearing is temporal, it accompanies all “representations of the understanding” of an object, but itself brings forth no representations of the object; consequently it is merely a perception and form of change, but not the appearance, of an object.

In general, Kant believed that — pure forms of intuition aside — we become acquainted with *space* primarily through our sight, with *time* through our hearing, and with *substance* through our touch [*Ibid.*, 15:99-100]. Compare with the similar doctrine espoused by Mead (see Chapter 16, below).

Considering the congenitally deaf as non-rational will — on Kant’s account — deprive them of any moral worth (see §37, below). Whether he ever drew such an inference seems unlikely.

⁵ *Ibid.*, “General Note on the Outer Senses” [STW, xii.454]. Nearly as deleterious to one’s conceptual fluency is having as one’s mother tongue a language too isolated and too old:

Peoples whose ancient language has remained unmixed might indeed become quite cultivated, like the Chinese, but they will never become enlightened and will remain conceptually limited. Who knows how many mixes of Celtic, Thracian, Phrygian, perhaps even Syrian, went into the language that later became Greek? English is more mixed than others, German less so, and Slavic the least. Now one must not mix but rather imitate. [*Refl. Anth* (AA, 15:637)]

⁶ *Ibid.*, “On the Faculty of Signification” [STW, xii.500]. Mead, for different reasons, also put special importance on spoken language; see Chapter 13, below.

Kant presumably placed a great deal of emphasis on the spoken word because of the temporal and non-spatial orientation of spoken as opposed to written signs. He apparently believed — and perhaps correctly — that written language was derivative from spoken language. But in any event he thought that thinking, or entertaining concepts, was impossible without a language.

Now brutes can at least hear sounds and so do not share with the congenitally deaf the obstacle of lacking an immaterial medium for signification. Kant probably assumed (although there is no explicit indication of this) that a further condition of possessing a language, and therefore reason, was that these sounds be articulated to a fairly high degree, so that brutes nevertheless lacked a language, despite their good ears. Language use was, for Kant, a mark of humanity.¹ He speculated in the *Menschenkunde* that language was invented bit by bit:

The first skills that we meet, even among the most primitive humans, are walking and speaking. How did man learn to speak? He could not have been gifted with this ability and set in the world, for even if language were innate for the first humans, there could still have arisen circumstances where it might be lost again, so he would have to possess the skill to re-invent it. Humans therefore invented language bit by bit, just as birds learned to sing and dogs learned to howl.²

In light of the above link between language and mentality, one might speak of humans “inventing reason bit by bit” as well. But perhaps neither of these claims to invention are quite true to Kant’s sentiments, for he saw these powers as lying innate in us as capacities awaiting development; the powers lay innate in the infant, and presumably within the pre-linguistic and pre-mental community of humans as well.³ See, for instance, Kant’s description of “The Character of the Species” in his published *Anthropology*:

Man as an animal endowed with the capacity for reason (*animal rationabile*) can make himself into a rational animal (*animal rationale*).⁴

Kant probably emphasized the invented aspect of these skills whenever moral considerations were weighing heavily on his mind, for he felt that humans must be solely responsible for their progress such that “they have only themselves to thank.”⁵ This contrasts with the view that the capacities for such skills unfold in the determinate manner of a blossom or leaf. Both the artificial (human-induced) and the natural aspects must be given their due to capture Kant’s beliefs here.

This is the closest Kant came to the topic of language and cognition; combined with his passages on the congenitally deaf, it is clear that he viewed our intellects and spoken language as mutually dependent. There is no thought or reason without language nor, as indicated above, language without thought. Consequently, the lack of an articulated system of sounds in brutes could have served as grounds for Kant’s denying them any higher cognitive abilities.

¹ Language is, for instance, often the first feature listed in characterizations of humans as a species separate from the brutes. See *Coll Anth 70s* [AA, 15:777].

² *Menschenkunde* [Stark, p. 366]. See parallel passages from *Colleg Anth 70s*: “First man learned to speak. Had it been innate [*anerschaffen*] in him, it would also be inherited [*angeboren*]. Birds sing. (Hunt.)” [AA, 15:620], and from *Mutmaßlicher Anfang*:

The first man could thus stand and walk; he could talk (Gen. 2:20), even converse [*reden*], i.e., speak in coherent concepts (v.23), consequently think. These are skills that he must have developed completely by himself (for were they innate [*anerschaffen*], they would also have to be inherited [*anerben*], which contradicts experience). [STW, xi.86-7; Humphrey transl., p. 50]

³ In the *Reflexionen zur Anthropologie* he observed that language pre-supposes a social existence: “If humans had not lived socially from the beginning, they could not possess a language” [*Refl. Anth* (AA, 15:604)]. This suggests a social constraint to language, and thus also to the development of human mentality (a view worked out in much greater detail by George Mead a century later). On reason and society, see also *Anthropologie* [STW, xii.678]: “The human is determined through its reason to be in a society with other humans.”

⁴ *Anthropologie* [STW, xii.673; Dowdell transl., p. 238]. For a discussion of the innateness of reason and other animal powers, see §47, below.

⁵ See for instance *Refl. Anth* [AA, 15:620-1], *Colleg Anth 70s* [AA, 15:779], *Colleg Anth 80s* [AA, 15:886].

§27. Brutes lack the power to understand.

If brutes are incapable of judging, then they are incapable of grouping representations under concepts, and thus incapable of thought. They are, in short, devoid of a faculty of understanding. What implications does this have for the inner lives of brutes?

The faculty of the understanding is the power or ability to unify the manifold of intuition by applying a certain set of constraints (with humans, there are twelve such constraints). Without the understanding there is no experience of substance, causality, or coexistence, no determinacy of qualities or sizes — in short, there is nothing but the confusing flux portrayed in the previous chapter, save that it is within a spatio-temporal matrix. Kant occasionally speaks of brute experience as though it contained physical objects (e.g., in distinguishing different foodstuffs, or in recognizing a stable door); but if he denies them an understanding, which he unflinchingly does then he cannot allow any semblance of an object into their experienced world.¹ Conjecturing on what life would be like without an understanding, Kant wrote that “all sense data for a possible cognition would never...represent objects....I would not even be able to know that I have sense data.”²

It is difficult to imagine how a human could survive for long without *some* powers of unification, and similarly difficult to imagine that a brute could. While several passages have been quoted wherein Kant claims this lack of judging in brutes, the sources were all pre-critical; consequently, we should first look to later writings before ascribing such a remarkable claim to Kant; the set of anthropology lectures which Kant published in 1798 will serve this purpose. In the Rostock mss. used in the preparation of *Anthropology from a Pragmatic Point of View*, written in Kant’s hand and presumably dating from 1796/7,³ there is a lengthy excerpted passage from the chapter on “Sensibility in Contrast to the Understanding.” Kant is primarily concerned in this passage with clarifying his views on human self-knowledge, namely, that we can experience only the phenomenal, never the noumenal, self (i.e., all our representations of ourselves are always sensible). This brings him to a discussion of the nature of knowledge in general:

All knowledge presupposes the understanding. The animal without understanding clearly has something similar to what we call ‘representations’...but [they have] no knowledge of things....⁴

Lacking a knowledge of objects in the Kantian system is the same as lacking objects in one’s experience; there are, consequently, no objects to be met with in the experience of the brutes. But how can brutes manage in a world if they lack all ability to unify their sensory manifold into objects? How can they catch prey or escape predators if their world consists of neither prey nor predators, but only indeterminate flashes, buzzes, and feelings? Kant thought that *natural instinct* would suffice: “The understanding is therefore nobler than sensibility with which animals, devoid of understanding, are just able to manage following their implanted instincts.”⁵ What humans do with the understanding in a world of objects, the brutes do with their instincts (the instincts “do” them mechanically) in a world of disunified and indeterminate sense-data.⁶

In comparing the inner lives of humans and brutes within the Kantian system, it does not take long to be struck by the profound difference the absence of a faculty of understanding makes. Lacking a *faculty of reason* is itself difficult to fathom,

¹ Recall Descartes’ unease with the possibility of brutes knowing God better than humans (in the letter to Fromondus, 3 October 1637); here in Kant’s system, given the absence of concepts and thus of phenomenal objects in the “experience” of brutes, we find the possibility that brutes sense things in themselves in a manner more intimate than humans.

² Kant’s letter to Marcus Herz (26 May 1789) [Zweig transl., p. 153].

³ On the status of this manuscript, see Weischedel’s notes at [STW, xii. 817-8].

⁴ *Anthropologie* [STW, xii.426n; Dowdell transl., pp. 261-2]. A discussion of self-consciousness begins that work, wherein Kant notes that the feature setting humans apart from all else on earth is the representation of an I. Kant then connects this with the the understanding, thereby implying its absence in brutes [*Ibid.* (STW, xii.407); see the parallel passage at *Menschenkunde* (Stark, p. 9)].

⁵ *Anthropologie* [STW, xii.505; Dowdell transl., p. 90]. See also [STW, xii.440; Dowdell transl., p. 35], *Mutmaßlicher Anfang* [STW, xi.87; Humphrey transl., p. 50]: “Instinctthat voice of God that all animals obey.”

⁶ Instinct is the brute’s “analog of reason,” these being the correlate grounds of action in their respective organisms: see *MP Herder* [AA, 28:116], *Refl. Anth* [AA, 15:167], *MP Dohna* [AA, 28:690], *MP Pölitz* [AA, 28:276], *MP Volckmann* [AA, 28:450], *Allgemeine Geschichte* [STW, xi.34; Humphrey transl., p. 29], *Mutmaßlicher Anfang* [STW, xi.92; Humphrey transl., p. 53], *KU* [STW, x.430n; Bernard transl., pp. 315-16n].

as it leaves the brutes with nothing more than unconnected objects. But denying brutes an *understanding* involves not merely denying them a science or system ordering their world; it involves denying them a world of objects altogether.¹ Here the realization is forced upon us that none of our concepts belong in the brute's world. Such notions as predator or prey, food, shelter, offspring, parent, conspecific — all of these are concepts that humans use for understanding the world of the brutes, but none exist for brutes in their own world.²

The experience of meeting the gaze of a brute — be it a pet dog or cat, or a fellow anthropoid at the zoo — suggests the counter-intuitiveness of the view that these animals are looking not at an object (specifically, a human and her eyes) but instead have their eyes merely directed at an indeterminate patch of an indeterminate color or shade of gray, and this through the mechanism of some instinct or collection thereof. Further, the pre-categorical status of brute experience is at odds with the simple fact that a brute looks at (or more correctly: the eyes of the brute are focused upon) one indeterminate patch rather than another, for such behavior suggests that these patches are not wholly indeterminate after all, possessing for the brute (that is, for those instincts governing the brute's behavior) unequal values or levels of interest.

The above observations are neither sophisticated nor dependent upon recent advances in the field of ethology; Kant was presumably as capable of them in the 18th century as one is today. But that they undermine the conjunction of his theories of the mental and his theory of the nature of brutes suggests that he never made such a simple observation — a failure perhaps as much of his culture as of his own broad-mindedness.

§28. *Brutes lack the power to reason.*

Are brutes rational? The texts allow for little question as to Kant's answer,³ and given the above, it is obvious that he never could have allowed them such an advanced cognitive ability.⁴ What is it that Kant is here denying the brutes, and what are his grounds for doing so? Apart from discussing the brutes' inability to judge, Kant often addressed their non-rationality; and while all of those considerations suggesting the brute's non-rational status will also suggest their inability to judge, I will explore separately these considerations since they are directed at the workings of reason as such, and not those of mere judgment or understanding.

If we think of reason primarily in terms of the innate feature of an organism underlying its ceaseless striving towards the unification of its sensory data (as offered up by the understanding), why would it ever occur to us that brutes might lack such a feature? The more natural assumption would seem to be that all organisms strive to unify their sensory data. Nevertheless, one finds two kinds of arguments against the rationality of brutes. First, if we can adequately explain the behavior of brutes without attributing reason to them, then we should refrain from such an attribution on grounds of parsimony. This is a methodological argument for their non-rational status, and one already encountered in Kant's discussions of brutes and the ability to form judgments. Second, Kant cites various positive grounds for denying them reason, for example, they are easy to deceive, they do not improve their skills, and they are unaware of future time; the absence of a language in brutes — as discussed above — might have also been a consideration for Kant's denying brutes reason, and would have served as a feature of overt behavior clearly separating humans from brutes.⁵

¹ Mead comes to a similar conclusion: brutes do not perceive physical objects because of their inability to empathize; see Chapter 16.

² Concepts require a "voluntary attention" which in turn requires an inner sense that brutes lack; see *MP Herder* [AA, 28:79-80].

³ See *Syllogism* [STW, ii.614; Abbott transl., p. 94], *MP Herder* [AA, 15:117], *KdrV* [B 807], *Allgemeine Geschichte* [STW, xi.35; Humphrey transl., p. 30], *Tel. Prin.* [STW, ix.150], *MP Arnoldt* [AA, 29:949], *Anthropologie* [STW, xii.600, 604-5, 683; Dowdell transl., pp. 173, 177, 246-7], *OP* [AA, 21:567].

⁴ Eisler, in his *Kant-Lexikon*, notes that there is both a wider and a narrower usage of 'reason' in Kant's writings, the wider usage referring to the entire higher cognitive faculty (i.e., understanding, judgment, and reason in the narrower sense). As should be clear by now, Kant held that brutes lack all higher cognitive faculties. See Rudolf Eisler, *Kant-Lexikon* (Hildesheim: Georg Olms Verlagsbuchhandlung, 1961), pp. 572-76.

⁵ Linguistic ability is becoming less and less a distinguishing feature, given the apparent linguistic skill learned by various brutes (under human tutelage) during the past ten years. On this see B. T. Gardner and R. A. Gardner, "Teaching Sign-Language to a Chimpanzee" in *Science*, 165:664-72 (1969); David Premack, "Teaching Language to an Ape" in *Scientific*

Several features of brutes are mentioned in one of Kant's lectures on rational psychology which suggest their non-rational status. He notes that brutes share many abilities with humans, for instance, dogs opening doors, bees constructing honeycombs and beavers their dams, wolves conspiring in the hunt.¹ But none of this is to suggest that they are *rational*, for the bee's construction skill...

...will never be improved and will remain as it did in the beginning, e.g., inborn in the bees. Animals can easily be deceived, e.g., hens [with] a piece of chalk.... Wolves that lie in ambush came to do this because they were hungry, and did not agree amongst themselves to do it. Dogs are happy at the hunt because it is in their nature...all of these are kinds of cleverness which have arisen through custom....²

Now some of these observations would seem to do little for Kant's argument. After all, some humans are scarcely less gullible than chickens, and the claim that skills in brutes never improve was not entirely believed even by Kant insofar as he attributed to young birds the ability to learn songs (not to mention the trainability of many brutes, a fact of which Kant was well aware).³

Surely the feature of animal behavior which best served Kant's belief was one that has been traditionally cited as distinguishing humans from brutes, viz., that brute behavior appears to be solely directed to their present condition and to affairs wholly of the material world. Unlike humans, brutes do not betray in their behavior any interest in the non-sensuous and thus they do not betray any possession of a faculty which might be detached from the sensuous world such as reason is purported to be.

Closely related to this absence in brutes of any non-sensuous oriented behavior is Kant's claim that there is nothing in their constitution or behavior which is future-oriented. In a discussion on the possibility of human immortality, Kant held that...

...animals merely [have] faculties for this life. Instincts, organs, faculties, nothing is superfluous, but rather everything is in the use of the present. But humans have a tremendous desire to know, and to feel passions which, if developed, make everything else trivial. Far nobler, greater (less useful) questions entangle him, which are here [in this life] useless.⁴

With humans, our orientation towards interests that extend beyond our own lifetimes is evident:

Do the characteristics of humans merely suffice for this life? Or does he have higher talents and faculties? [...] Life is too short [for science and our desire for knowledge]: there is no proportion between them. [...] The human is unsatiated by science and dies; his descendent feverishly takes up where he left off, but also dies — everything is disrupted. Newton died early....⁵

The "expectation of the future" was the third of four stages in reason's progress, as outlined in the essay on human origins:

Reason's third step...was the reflective *expectation of the future*. This ability not merely to enjoy life's present moment but to make present to himself future, often very distant time is the distinguishing characteristic of man's superiority, for in conformity with his vocation he can prepare himself in advance for

American, 227:92-99 (1972); David Premack and Ann James Premack, *The Mind of an Ape* (New York: W. W. Norton and Co., 1983); Georges Mounin, "Language, Communication, Chimpanzees" in *Current Anthropology*, 17:1-21 (1976) and Robert Fouts' reply in the same journal [17:726-31 (1976)].

¹ See also his remarks in the "Philosophisches Enzyklopädia" (1775b) that "many animals behave and build so artfully that they come quite close to humans..." [AA, 29:44-5]. Possible criteria of rationality (as in the possession of an "intellectual self") are briefly discussed in Carol A. Van Kirk, "Kant and the Problem of Other Minds" in *Kant-Studien*, 77:41-58 (1986).

² *MP Herder* [AA, 28:116-7]. It is interesting that later in this passage Kant argues that skill cannot be a mark of reason, a view also held by Descartes (see his *Discourse*, pt. 5 [HR, i.117] and *Principles*, pt. I, princ. 37).

³ Animal education is treated in §53, below.

⁴ *MP Herder* [AA, 28:109]. See Mead's discussion of brutes and the future at §77, below.

⁵ *Ibid.* [AA, 28:108]. See the parallel passages at *Anthropologie* [STW, xii.679-80] and *MP Pölitik* [AA, 28:294]. As far as Newton dying too soon, it should be remembered that he lived to be 84. Kant, who died just short of his 80th birthday, was in his late 30's when he uttered these sentiments. See also *Refl. Anth* [AA, 15:606]: "The sciences most certainly belong not to the vocation of the individual human, but to the vocation of the human race."

distant ends, though it is at the same time also the most inexhaustible source of cares and troubles, which the uncertain future arouses and from which all animals are exempt....with fear, both [husband and wife saw] at the end of a life of toil what indeed all animals inevitably face, though without being troubled by it, namely, death....¹

Although Kant does not make much use of these observations, they strongly suggest at least *one* behavioral feature (namely, a non-sensuous and/or future oriented interest) that one would expect to find in an organism possessing a non-sensuous faculty, and which seems to be lacking in brutes.

The above were arguments or hints of arguments for the non-rationality of brutes, and based on features brutes possess which rational creatures would not possess, and *vice versa*. Kant also offered a methodological argument: if we are not *required* to attribute a rational faculty to them then considerations of parsimony indicate that we should refrain from such an attribution.

Humans, on the other hand, have several reasons for attributing a rational faculty to themselves: our moral sentiments (based on introspection) require that we be free, which requires some sensuously-independent determination of the will (e.g., reason), and also our sense of a unity of consciousness (unity of apperception) suggests a non-sensuous faculty. But nothing in the overt behavior of brutes (or in that of humans, for that matter, the above both being covert) requires our attributing to them a rational faculty; we can make perfect sense of them without it. So in the Herder lectures we find the comment:

If this [animal behavior] can be explained without consciousness, then one will prefer to explain it from simpler powers yes, it can be [so explained].²

And in a lecture on animal souls, as recorded by Mrongovius in 1783, Kant asks:

Do animals really lack the higher cognitive faculty? Or is it simply hidden in them? We cannot demonstrate that they don't have it, but why assume more than is necessary for explaining certain appearances?³

There is similarly the comment in the *Critique of Pure Reason* that “in lifeless, or merely animal, nature we find no ground for thinking that any faculty is conditioned otherwise than in a merely sensible manner.”⁴ And in his response to Reinhold's defense of Herder's *Ideen*, which Kant had disparagingly reviewed in January of 1785, Kant wrote that the possibility of human reason occurring in another organic form “can be as little proved as the notion that reason is possible only in the present form.”⁵

¹ *Mutmaßlicher Anfang* [STW, xi.90; Humphrey transl., p. 53]. On the future-orientation of reason, see also *Refl. Anth* [AA, 15:164]: “The understanding is to understand [the past or present, presumably], the reason is necessary to foresee.”

This claim that reason is necessary for prediction and expectation needs to be reconciled with the common view held by Kant that habitual behavior is non-rationally based. The problem is that habitual response appears to involve an expectation of the future being like the past. Kant even writes of such an expectation in brutes in the “Preface” to the *KdpV*:

To substitute subjective necessity, i.e., habit, for the objective, which takes place only in a priori judgements, would be to deny reason the faculty of judging an object, i.e., of knowing it and what belongs to it.... It would mean only that similar cases may be expected, in a manner similar to the animals. [STW, vii.117; Beck transl., pp. 126-7]

In the Herder notes Kant distinguishes between ‘expect’ [*erwarten*] and ‘predict’ or ‘foresee’ [*voraussehen*]: “the animal expects nothing, but rather foresees it with humans is the *expectatio casuum similibium* considerably enlarged by experience” [*MP Herder* (AA, 28:76)].

² *MP Herder* [AA, 28:116].

³ *MP Mrongovius* [AA, 29:906-7].

⁴ *KdrV* [B 574]. Similar to this is the observation in the Herder notes that brutes “do not indicate that they are conscious” [AA, 28:117], in *KU* that brutes are “things which we have no reason for regarding in themselves as purposes” [STW, x.326-7; Bernard transl., p. 224], and in the syllogism essay [STW, ii.613n; Abbott transl., p. 94n].

⁵ *Rezension Herder* [STW, xii.795; Anchor transl., p. 41]. On this see also *Anthropologie*: “We cannot imagine another suitable form for a rational being than the form of man....” [STW, xii.472-3; Dowdell transl., p. 62]. This is directed more at the speculation on rational extra-terrestrials, however, than the possibility of their being a second rational species here on earth. See also *Colleg Anth 70s* [AA, 15:774]: “Human form. [It] seems to be the only one suitable for rational beings.”

To better see what in human experience Kant is denying the brutes, I will now more amply describe its role in our lives.

§29. *The uses and postulates of reason.*

There is but one reason — of that Kant is explicit.¹ But it is a reason with several uses: a purely theoretical use, a technical use, and a moral use.² The purely theoretical use is where reason orders phenomena into a system (i.e., constructs a science). The technical use parallels the instincts in animals, its purpose being the satisfaction of our bodily needs and desires (i.e., our sensuous interests);³ as suggested in the passage from the *Critique of Practical Reason*, this is a “lower use” of reason. A “higher use”, which is like the technical in that it concerns our actions, is what Kant calls the “practical” or moral use of reason. This moral use is called ‘practical’ because, unlike the theoretical use of reason in constructing physics, it concerns not so much our understanding of the world as how we ought to act in the world.⁴ Because the technical use also concerns how we ought to behave (where ‘ought’ is used in the hypothetical sense: “If you want to be happy, you ought to do...”), we might avoid confusion by calling these two practical uses of reason ‘technical’ and ‘moral’. So there are two practical uses of reason (technical and moral) and one purely theoretical use.

The important difference between the technical and the moral use is that the former is bound to our sensuous or animal existence (it concerns the satisfaction of our animal needs and desires), while the latter acts independently of this existence, thus acting in accordance with our intelligible existence. In both cases we choose freely (what Kant refers to as a “*freie Willkür*”), but only in the latter do we follow the bidding of our will (*Wille*). Although the mere possession of reason in any form is unique to humans, it is this moral use that raises our worth above that of the brutes.

Reason posits two sorts of ends, one for each use of reason. The first are ends posited within nature or its parts so as to better unify and comprehend experience. This is the same as a *reflective awareness* in that one is not simply reacting to stimuli but is also manipulating those stimuli into a system. The positing of these ends is a theoretical use of reason. The second sort of end consists of those which we posit for ourselves to pursue. These are moral ends, and positing them involves a practical use of reason.⁵

Human reason unifies experience by positing ends or purposes. The complexity of phenomena is reduced by explaining them teleologically, i.e., fitting them into a teleological system. In this manner, as will be discussed in Chapter 8, we

¹ See, for instance, *KdpV*: “Now practical reason has one and the same cognitive faculty for its basis as speculative reason, since both are pure reason” [STW, vii.212-3; see also pp. 214-4: “a single principle”]. See also *KdrV* [B 673: “a single principle”], and the “Preface” to the *Grundlegung*: “...in the final analysis there can be but one and the same reason, which must be differentiated only in application” [STW, vii.16; Beck transl., p. 8]. And see the references to an unknown root of the mental powers: *KdrV* [B 9, 677], *Tel. Prin.* [STW, ix.165-66n]: “Given the unity of substance many have believed in a single fundamental power” of the mind.

² On theoretical or speculative reason as opposed to practical, see: *KdrV* [B ix-x, 425, 499-504, 578, 661-3, 804-5, 825-33]. On technical reason or the technical use of reason, see: *Erste Einleitung* (1789) [STW, x.49; Haden transl., p. 39], *KU*, §68 [STW, x.333; Bernard transl., p. 230]. On technical-practical reason see: *Anthropologie* [STW, xii.607; Dowdell transl., p. 179]. On the practical use of reason, see: *KdrV* [B 828], *KU*, §88 [STW, x.419-20; Bernard transl., p. 307]. On the moral-practical use of reason, see: *KU*, “General Remark on Teleology” [STW, x.452; Bernard transl., p. 335], *Theorie/Praxis* [STW, xi.172; Humphrey transl., p. 89], *Tugendlehre* [STW, viii.569; Gregor transl., p. 99]. On the comparison between the moral and the technical uses of reason, see: *KU*, §88 [STW, x.419; Bernard transl., p. 306], *KdrV* [B 828], *Tugendlehre*, “Intro” [STW, viii.517; Gregor transl., p. 46], *OP* [AA, 22: 52].

³ Instinct is correlated with the understanding at *Anthropologie* [STW, xii.505] and *MP Dohna* [AA, 28:689], and with reason at *KU* [STW, x.430n; Bernard transl., pp. 315-16n], *Allgemeine Geschichte* [STW, xi.34; Humphrey transl., p. 29], and *Mutmaßlicher Anfang* [STW, xi.92; Humphrey transl., p. 53], *KdpV* [STW, vii.179; Beck transl., p. 170].

⁴ Kant briefly characterizes the theoretical and practical uses in the “Antinomy” section of the first critique:

But when we consider these actions in their relation to reason, I do not mean speculative reason, by which we endeavour to explain their coming into being, but reason in so far as it is itself the cause producing them — if, that is to say, we compare them with reason in its *practical* bearing.... [*KdrV*, B 578]

⁵ Posits being “free” acts of reason, there are presumably no non-sensuous “technical ends” possible in the Kantian system, since the aim or end of technical uses of reason is always happiness, towards which the human as an animal continuously strives. This raises the problem of a “technical reason” in general, since it is unclear what grounds there are for viewing it as a use of a non-sensuous faculty, given its subordinate role to our sensuous ends.

understand the growth of an organism in terms of the mature form towards which it is developing. Other forms of reason (e.g., that of God, or of some rational extra-terrestrial) may unify experience otherwise, but humans are such that they must do it by positing ends or purposes.

Reason, unlike the understanding, is goal-oriented. The understanding automatically (one might say ‘mechanically’) constrains the sensory manifold so that *all* experience will exhibit these constraints; reason, on the other hand, neither offers constraints nor is itself constrained, but rather reflects upon the experience that the understanding presents, and attempts to order it into a system. As noted earlier, physics is reason’s ordering of the physical world, while morality is its ordering of the intelligible world. Physics is the work of reason among the phenomena of outer sense, ordering and sorting them in an attempt to optimize our traffic with them.¹

Brutes, on the other hand, do not engage in such reflective awareness; their traffic with the world is pre-ordered for them in the form of their natural instincts:

As for animal souls, everything depends on their being conscious or not — and they do not indicate that they are, *acting instead according to a determinate plan*, for they cannot change the present situation through reflection, e.g., the beavers in Canada build even though [the dams] are always destroyed.²

Instincts serve not only as natural guides in the behavior of the individual, but as constraints. Thus, the more one’s behavior is instinctive, the less reflective it is, and also the less free. One of the more significant of those axioms posited by reason for understanding nature is the axiom that “no natural part is vain.” It is an axiom of the theoretical reason which has significant consequences for our own self-image.³

§30. Brutes possess sensibility.

Kant attributes mentality to brutes to the extent that he equates their sensibility with our “lower cognitive faculty.” In a lecture on rational psychology he mentions that “we can think of a being who has only the lower cognitive faculty, lacking entirely the higher faculty. We call these *substantias brutas*.”⁴ Sensibility is considered a “lower cognitive faculty” because it is one of two necessary-conditions for knowledge in the Kantian system, the other being the understanding.⁵ It might seem wrong-headed that a being could possess and use a “cognitive faculty”, and nevertheless fail to cognize anything, but such is Kant’s terminology.

Because brutes are sensible creatures, they will have representations, as well as feelings and desires. In fact, an animal is among the *living* only insofar as it “has the capacity to follow its own representations and to alter its condition.”⁶ Mollusks,

¹ Again we run into some difficulties in the Kantian system concerning his distinction between theoretical and technical uses of reason. It seems likely that a proper comprehension of the world is basic to a maximization of the creature’s material well-being, which consequently blurs the line between the theoretical and technical domains.

² *MP Herder* [AA, 28:117]. Kant *did* consider brutes capable of a qualified form of *reflection*. See *Erste Einleitung* (1789): “Our reflection (which even occurs in animals, although only instinctively; that is, not in a relation to a resulting concept, but rather to an inclination to be determined)...” [STW, x.24; Haden transl., p. 16].

³ For example, the argument that practical reason is an end in itself; see §38, below, for a further examination of this.

⁴ *MP Mrongovius* [AA, 29:906].

⁵ Sensibility is the “lower cognitive faculty” while understanding, judging, and reason are among the “higher cognitive faculties.” See also the *Refl. Anth* [AA, 15:162], where Kant speaks of brutes possessing a “power of cognition” (*viz.* sensibility)

The higher/lower faculties distinction was current in Kant’s day: see Dessoir, *Geschichte der neueren deutschen Psychologie*. On the ability to judge, see *Syllogism* [STW, ii.599]. For general discussions of this ranking, see *Anthropologie* [STW, xii.425, 505] and *KdrV* [B 169-70].

⁶ *MP Volckmann* [AA, 8:449]. The *Metaphysics of Morals* opens with this very claim:

The appetitive faculty is the faculty to cause through one’s representations the objects of those representations. The faculty of a being to act commensurate with its representations is called ‘life’. [STW, viii.315; Gregor transl., p. 7]

Compare with Mead’s description of life as “a certain systematic physico-chemical process...which so selects what it reacts upon as to maintain the process” [*PP*, p. 70].

and even sensitive plants are attributed the “capacity for representing and desiring.”¹ But although brutes might have all the representations of the external senses that humans do,² they lack a consciousness or an awareness of those representations. Brutes may feel pleasure and pain, but their experience is void of either happiness or dread.³ Brutes experience all that humans do of the external world, but they experience nothing of the inner world which looms so vast and deep in the life of the humans. And while this outer world of the brute has all the *content* of our own, i.e., all the same representations, it has virtually none of the *form* or order that characterizes human existence.

§31. *Being rational and being free.*

Rationality is a necessary condition of being free, according to Kant, and consequently brutes are not free.⁴ But being free is not a necessary condition of being rational, and so it is possible within the Kantian system that there be rational beings that are not free.

As it turns out, while Kant did not think that reason *must* be noumenally-based (and thus free of sensible determination), he did think that it *was in fact* so based, and that we must posit this noumenal grounding. Freedom, on the other hand, *must* be noumenally-based if it is to occur at all, since it is by definition a non-phenomenal (i.e., non-mechanistic) form of causal agency. If reason is noumenally-based (which it need not be) and if that reason is causally efficacious (which it need not be) then the rational creature is *a fortiori* free, for reasons to be discussed in the next chapter. There are consequently two ways that a creature might be rational yet fail to be free; Kant, nevertheless, assumed that all rational creatures were free, presumably because he believed that humans were the only creatures that were rational (and with which we were acquainted) and that there were special grounds for at least assuming that we were free.

That reason need not be noumenally-grounded is implied in those passages wherein its development is discussed,⁵ as well as in the following passages from the “Doctrine of Virtue,” Pt. II of the *Metaphysic of Morals*:

The human in the system of nature (*homo phenomenon, animal rationale*) is a being of slight importance and shares with the rest of the animals, as offspring of the earth, a common value (*pretium vulgare*). Although man has, in his understanding, something more than they and can set his own ends, even this gives him only an *extrinsic* value in terms of his usefulness (*pretium usus*).... But the human regarded as a *person* — that is, as the subject of morally practical reason — is exalted above any price; for as such (*homo noumenon*) he is not to be valued as a mere means to the ends of others or even to his own ends, but as an end in himself.⁶

Man as the subject of the moral legislation which proceeds from the concept of freedom and in which he is subject to a law that he himself gives (*homo noumenon*) is to be considered different (*specie diversus*) from man as a member of the sensible world who is endowed with reason.⁷

and in a passage from the *Critique of Practical Reason*:

Man is a being of needs, so far as he belongs to the world of sense.... But still he is not so completely an animal as to be indifferent to everything which reason says on its own and to use it merely as a tool for

¹ *Logik Nachlaß* [AA, 16:7].

² *MP Pölitz* [AA, 8:76].

³ *MP Herder* [AA, 8:117], *Colleg Anth 70s* [AA, 15:661], *Colleg Anth 80s* [AA, 15:859].

⁴ This is *human freedom* (freedom in the “full sense”), and not merely the freedom “as uncaused cause” of the Third Antinomy (which need not be grounded in reason).

⁵ Development would seem to require a temporal (and therefore a phenomenal) basis, since development or progress implies the passing of time, which is a form of the phenomenal world. On reason developing, see §51-52.

⁶ *Tugendlehre*, “Von der Kriecherei” [STW, viii.568-9; Gregor transl., p. 99]. In each of these passages, what concerns us is that Kant here associates rationality with the phenomenal self — not the familiar doctrine of the dual nature of humans (i.e., the phenomenal self/noumenal self).

⁷ *Ibid.*, “Von der Pflicht des Menschen gegen sich selbst, als dem angeborenen Richter über sich selbst” [STW, viii.574n; Gregor transl., p. 104n]. See also §34 of the *Tugendlehre*:

[The use of sympathy to further benevolence] is called the duty of *humanity* (*humanitas*) because it regards man not merely as a rational being but also as an animal endowed with reason. [STW, viii.593-4; Gregor transl., p. 125]

satisfying his needs as a sensuous being. That he has reason does not in the least raise him in worth above mere animality if reason only serves the purposes which, among animals, are taken care of by instinct; if this were so, reason would be only a specific way nature had made use of to equip man for the same purposes for which animals are qualified, without fitting him for any higher purpose.... He has reason for a yet higher purpose, namely, to consider also what is in itself good or evil, which pure and sensuously disinterested reason alone can judge....”¹

Note that in all three of these passages Kant wishes to distance reason from our moral worth. He suggests the possibility that reason is “only a specific way nature had made use of to equip man for the same purposes for which animals are qualified...”, that is, as a mere correlate of instinct, which for Kant lacks all claim to a noumenal status. Should reason not be noumenally grounded, humans would fall much closer to the brutes in terms of worth, differing from them only in our being *rational*. Being merely natural faculties and thus part of the mechanical nexus of the phenomenal world, reason and instinct would share the identical function of transforming stimuli into behavioral responses for the maximization of the individual’s well-being.² Remember that the existence or non-existence of a noumenal self³ or noumenal realm cannot make any difference to our experience (if it did, then there might be possible an empirical proof of the noumenal self’s existence or non-existence). Everything would go on as before, with or without such a noumenal self.⁴

Of course, being rational and being free are often intertwined. For instance, the positing of ends and following self-imposed rules for attaining those ends is considered to be a mark (perhaps a defining mark) of reason, and positing and following ends surely requires freedom (as it would make little sense to speak of “positing ends” or “following rules” if one was not free). Likewise, actions grounded in reason are distinguished from those grounded in the sensibility, with the implication that the former action is transcendently free while the latter is sensuously-necessitated. As will be discussed in the following chapter, Kantian freedom can be and often is construed as the dual-claim that reason is independent of the senses and is causally-efficient.

Despite this common association of rationality and freedom, their separateness needs to be emphasized, especially in a study comparing humans and brutes where it is our being free, and not our being rational, that places us above the brutes in moral worth for Kant. As a mere drive or impulse for unity, reason need be associated with neither free agency nor any other noumenal feature; to unify experience so as to understand what is, and yet not be free, is at least conceivable. Only in positing ends and following rules are both reason and freedom required. In determining what ought to be, reason is “speaking by itself,” independent of sensuous inclination. As in the quote from the second *Critique*, “[the human] is not so completely an animal as to be indifferent to everything which reason says *on its own*.” The moral use of reason implies noumenal agency, while the merely theoretical use does not. In the next chapter I will show why being free depends upon being rational, and what some of the implications for brutes of Kant’s doctrine of freedom are.

¹ *KdpV* [STW, vii.179; Beck transl., p. 170]. Here Kant again alludes to a possible connection between rationality and the phenomenal self, except that here it is seen more as a mere possibility, and not as the way things actually are — unlike the later passages occurring in the *Tugendlehre*, which *do* suggest that rationality is seated in the phenomenal self. In either case, it appears that Kant wishes to remain agnostic on the noumenal basis of reason.

² Passages suggesting that reason is *not* a part of our animal side include all of those which contrast our animality with our intelligence, such as *Refl. Anth* [AA, 15:658]: “Man is a twofold subject, as animal and as intelligence.” See also *Ibid.* [AA, 15:661, 663, 675].

³ That is, not just an “unperceived knower” but a free and moral agent.

⁴ Kant elsewhere seems to locate self-consciousness in the phenomenal self as well. In the 1796 essay on the nature of philosophy, he wrote:

Apart from the characteristic of self-consciousness, which marks humans from all other animals, and which the human is because he is a rational animal (to which also, because of the unity of consciousness, only one soul can be attached)... [Verkündigung, 1796b (STW, vi.406)]

(Emphasis on the rational instead of the animal, however, would mitigate this.) In the *Opus postumum* Kant suggests a physical basis of thoughts: “the nerves...are the originator of the thoughts which animate the subject” [AA, 21:137].

CHAPTER 7 BRUTES AND FREEDOM

§32. *Brutes are not free.*

Human freedom is not, as a topic in the Kantian system, known for its pellucidity; and in raising the question as to whether he thought brutes free I must unfortunately raise this very specter of human freedom, noumenal agency, and all the attendant paraphernalia. But brevity will pervade the discussion of these issues which, central that they may be to Kant's system, are not the focus of this study.

I will examine first those passages wherein humans and brutes are compared with respect to freedom, and then move on to Kant's claims that value resides only in free creatures. Although we cannot *know* that humans are free while brutes are wholly determined, Kant felt that there were grounds for at least *positing* human freedom but not brutish freedom. Kant's stance on freedom is especially noteworthy when combined with his view that having worth or value depends upon being free. This resulted in a complete devaluation of brutes, who consequently ranked no higher than inert objects.

One can find in Kant's manifold writings the beliefs that: (1) only humans are free (i.e., free from sensuous motivations), (2) the inability of brutes to inhibit their sensuous impulses is an indication that they are not free, (3) the behavior of brutes is well-ordered (and therefore comprehensible by our reason) because of their lack of freedom, but that human behavior, because of our freedom, is threatened by chaos unless we ground our actions in rational principles, (4) freedom requires the possession of reason and the power of "conscious choice," (5) freedom is the sole source of value, and consequently brutes are without value, having the status of inanimate objects. In the next chapter I explain why Kant nevertheless rejected Descartes' animal-machine hypothesis, even though it would seem implicit in his denial of their freedom.

§33. *Sensuous and rational conditions.*

There is no question in the texts that Kant denied freedom to the brutes. We find him saying in the lectures on ethics (1775-80) that, while...

...all animals have the faculty of using their powers according to choice, this choice is not free. It is necessitated through the incitement of stimuli [*Reize und stimulos*], and the actions of animals involve a *bruta necessitas*.¹

The same sentiments appear twenty years later in the "Introduction" to the *Tugendlehre* (1797), with the difference between free human action and brute behavior depending on whether an action is determined by pure reason, or by some sensory impulse:

Choice that can be determined² by pure reason is called free choice. That which is determined only by inclination (sensuous impulse, stimulus) would be animal choice (*arbitrium brutum*). Human choice is such that,

¹ *Ethik*, "Duties to Oneself" [Menzer, p. 151; Infield transl., p. 121]. All animals seem to have this power of choice even flies and frogs [MP Herder, AA, 28:105]. With respect to the translations, I have chosen to maintain a consistency in translating 'Willkür' as 'choice', and 'Wille' as 'will'. This moves the discussion to the level of an act (viz. a choosing) being free or not, as opposed to what might be taken as a mere power or entity. For Kant, will is reason in its causally-determinate mode. The power of choice is attributed to brutes both early (in the above quote) and late in Kant's career; for the latter, see *Tugendlehre* [STW, viii.578; Gregor transl., p. 109].

² The mere capability of choosing a rational determination of one's action makes *every* choice a free one, and thus an act of reason. The 'can' suggests that sometimes one's choice is sensuously-determined, not that one *rationaly chooses* to follow one's inclinations, but that one's very choosing is sensuously determined (and therefore non-rational). Kant nevertheless rejects this possibility in the next sentence, and so the mere capacity of rational choice makes all choice rational. (An uncharitable reader might find here the suppressed premise that "can implies is" which, when combined with Kant's more famous "ought implies can," leaves one with the curious implication that "ought implies is" a conclusion perhaps true within the realm of holy wills, but certainly not among the finite brethren.) See Allen Wood's discussion of this mere need

while it can be affected by impulses, it cannot be determined by them. Hence in itself (apart from an acquired faculty of reason) it is not pure, but it can still be determined to actions by pure will. Freedom of choice is this independence from sensuous impulse [*Antriebe*] in the determination of choice.¹

In “The Canon of Pure Reason” of the *KdrV*, the difference between human and brute choice is set in terms of pathological and rational motives:

A choice is purely animal (*arbitrium brutum*) which cannot be determined save through sensuous impulses, that is, pathologically. A choice which can be determined independently of sensuous impulses, and therefore through motives which are represented only by reason, is entitled free choice (*arbitrium liberum*)....²

In the lectures on ethics, this distinction between the choice of humans and brutes is drawn according to the form of “moral compulsion” which is possible within a particular individual:

All compulsion [*Zwang*] is either pathological or practical. Pathological compulsion is the necessitation of an action *per stimulus*. Practical compulsion is the necessitation of some ungladly performed action *per motiva*. Because of free will, no human can be pathologically compelled. Human choice is an *arbitrium liberum* because it is not necessitated *per stimulus*. Animal choice is an *arbitrium brutum* and not *liberum* because it can be necessitated through *stimulos*.³

The kind of compulsion to which an individual is susceptible is even seen as defining the individual’s status as human or brute: “Compulsion is not *neceßitatio arbitrii sensitivi*, but rather *intellectualis*: for were it *neceßitatio per stimulus*, the human would be an animal.”⁴ While this freedom is, in fact, a thing of degree (some humans being scarcely freer than brutes)⁵, and although it is a fact of daily human experience that we are susceptible to sensuous inclinations, it is the fact that we *need not* follow these inclinations that distinguishes us from the brutes:

A choice is sensuous, in so far as it is pathologically affected, i.e., by sensuous motives; it is animal (*arbitrium brutum*) if it can be pathologically necessitated. Human choice is indeed an *arbitrium sensitivum*, not, however, *brutum* but *liberum* for sensibility does not necessitate its action. There is in man a power of self-determination, independent of coercion through sensuous impulses.⁶

§34. Grounds for considering brutes unfree.

Kant does not want to deny brutes a causally-efficacious will. Indeed, that they exhibit patterns of stimulus/response in their behavior may be all that Kant means by having a will. But he felt that this will of brutes was wholly determined by antecedent sensory stimuli. Even though human reason may, in some hidden fashion, be itself entirely conditioned by sensory stimuli as well,⁷ the choosing of brutes is at least lacking in this obscurity of causal history (or so the reader is left to

for the *capacity to choose freely*: Wood, “Kant’s Compatibilism” in Allen Wood, editor, *Self and Nature in Kant’s Philosophy* (Ithaca: Cornell University Press, 1984), pp. 78-9.

¹ *Tugendlehre* [STW, viii.318; Gregor transl., p. 10].

² *KdrV* [B 830].

³ *Ethik* [Menzer, p. 34; Infield transl., p. 28].

⁴ *MP Mrongovius* [AA, 29:897]. See also *MP Herder* [AA, 28:97].

⁵ *MP Herder* [AA, 28:99]: “The freedom of some humans is scarcely distinguishable from the freedom of animals.” This is apparently dependent upon the person’s use of reason: “Reason raises him over the animals, and the more he acts according to it, the more moral and, at the same time, freer he becomes” [*MP Mrongovius*, AA, 29:900]. A similar intimation that freedom is of degrees occurs in the *MP Herder* [AA, 28:97]. And in one of the early notebooks from an anthropology lecture we find the comment that there is “in us animality (sensuousness) and intelligence (understanding). Yet is one human more sensuous than another. This means: more animalistic and less spiritual than the other in thought and willing” [*Colleg Anth 70s* (AA, 15:675)].

⁶ *KdrV* [B 562]. Compare with *MP Dohna* [AA, 28:677]: “An *arbitrium* which is determined *per stimulus* is called *brutum*. We are affected *per stimulus* but not determined.”

⁷ See *KdrV* [B 831]: “That our reason has causality, or that we at least represent it to ourselves as having causality...”; *MP Mrongovius* [AA, 29:903]: “But because reason always comes from other causes, the human is merely free *secundum quid*”; and *MP Pölitz* [AA, 28:267]: “Spontaneity *secundum quid* is when one acts spontaneously under a condition.”

conclude). If Kant allows that brutes are creatures with the power of choice, why does he think that brutes lack the power to “choose freely”?

There are two components to a claim about free choice, namely, that the individual possesses some sensuously unconditioned faculty, and that this unconditioned faculty is capable of conditioning the choice. In a central passage from the comments on the antinomies, we find a paragraph devoted to each of these components:

Man is one of the appearances of the sensible world, and to this extent one of the natural causes the causality of which must stand under empirical laws. As such he must also have an empirical character, just like every other natural thing. This character we come to know through the powers and faculties which he reveals in his actions. In lifeless, or merely animate, nature we find no ground for thinking that any faculty is conditioned otherwise than in a merely sensible manner. Man, however, who knows all the rest of nature solely through the senses, knows himself also through pure apperception; and this, indeed, in acts and inner determinations which he cannot regard as impressions of the senses. He is thus to himself, on the one hand phenomenon, and on the other hand, in respect of certain faculties the action of which cannot be ascribed to the receptivity of sensibility, a purely intelligible object. We entitle these faculties understanding and reason. The latter, in particular, we distinguish in a quite peculiar and especial way from all empirically conditioned powers, for it views its objects exclusively in the light of ideas, and in accordance with them determines the understanding, which then proceeds to make an empirical use of its own similarly pure concepts.

That our reason might have causality, or that we at least represent it to ourselves as having causality, is evident from the *imperatives* which we deliver-up to the practicing powers [*ausübende Kräfte*] in everything practical. ‘Ought’ expresses a kind of necessity and of connection with grounds which is found nowhere else in the whole of nature. The understanding can know in nature only what is, has been, or will be. [...] ¹

In the first paragraph of the above passage, Kant points to the presence in humans of a causally-isolated faculty which can serve to determine our choosing, resulting in a *free* choice, that is to say, a choice unconditioned by sensory stimuli. This faculty he finds in reason. As for brutes, Kant claims that “we find no ground for thinking that any faculty is conditioned otherwise than in a merely sensible manner.”

In the second paragraph, Kant suggests that this unconditioned faculty is causally efficacious, i.e., that reason, which is thought to be free in its being uncaused, is also practical in that it can affect changes in the world. Kant does this by considering of our use of ought, as well as our presuppositions and expectations surrounding our so-called rational actions. ²

This argument for the free choice of humans, and the absence of such in brutes, has its peculiarities. First, Kant implies that it is the overt behavior of “lifeless, or merely animal, nature” that provides no grounds for ascribing a non-sensible faculty to these non-human individuals, while with humans we come to know their “powers and faculties revealed in their actions”. But rather than proceeding to note instances of overt human behavior which *do* indicate such a faculty, he instead explains how humans are unique (with respect to their own experience) given the privileged access of introspection (“through pure apperception”), which indicates the non-sensible faculties of understanding and reason. But this way of going about the problem implies that, were we lacking our introspective access, we would have no grounds for attributing a non-sensible faculty to humans; that is, the behavior of humans no more implies the presence of non-sensible faculties than does the behavior of brutes. ³ This is troubling, since one then needs to extrapolate from ones’ introspective findings about oneself to

¹ *KdrV* [B 574-5].

² The agnosticism suggested in the text by the sentence: “that our reason has causality, or that we at least represent it to ourselves as having causality...” is echoed a few pages later at [B 578]: “Sometimes...we find or at least believe that we find, that the ideas of reason have in actual fact proved their causality...”. Whether these passages are indications of Kant’s reluctance to assert the causal efficacy of reason, or if they are rather to be taken as allusions to the practical claims that we *must* represent reason as being causally efficacious, is not made plain by the text. Not until the second *Critique* is this practical claim clearly made.

³ That the possession of reason is imperceptible in one’s behavior is also suggested in the *Träume*, Ch. I: “The power of understanding is an inner property which I could not perceive in these elements anyway, even if it was in all of them...” [STW, ii.933; Goerwitz transl., pp. 51-2]. See also *Colleg Anth 70s* [AA, 15:663]: “It is from the body alone that we call someone human; we presume the inner [i.e., the mental]”; [*Ibid*, 15:778]: “Linnäus can find nothing in the body”; *Refl. Anth* [AA, 15:612]: “In animals of the same kind one draws the difference according to their nature, not temperament, because one alone observes their affectability...”; and *Syllogism* [STW, ii.613-4; Abbott transl, pp. 93-4].

what other creatures must find about *themselves*. But why this extrapolation should extend only to humans no longer remains clear, given the lack of any significant behavioral differences. Of course there *are* behavioral differences (which will be considered below) but Kant does not mention any of them here, so that his discussion on introspection actually weakens his claim that brutes lack a non-sensible faculty.

Having tried to prove the unconditioned nature of a faculty (reason) in humans, Kant then attempts to show that this unconditioned faculty can determine our choosing, and thus determine events in the phenomenal world. Oughts (imperatives) are delivered up as *rules* for choice (*ausübende Kräften*). They are not delivered up for the understanding, either in its own use or in the sciences, which it underlies. As Kant maintains later in the text, the ground of “natural actions” is always an appearance (coupled, presumably, with the structural features of cognition), but there are some actions whose grounds include one of these imperatives (i.e., a concept), which at least appears to be a product of our reason, uninfluenced by our sensibility.¹

Kant argues here for the causality of reason in two different ways. First, with an argument from our usage of ‘ought’. ‘Ought’ is applicable only to a certain sphere of human behavior, namely, to those actions which at least appear to be controlled by our free choice, and thus at least immediately independent of all sensuous grounds. We do not apply ‘ought’ outside of this sphere of actions. Second, Kant points out that these actions themselves presuppose the causal efficacy of reason, as otherwise the acts would be always attempted in vain.

But if these considerations leave the reader unconvinced, Kant advances on the next page an argument with perhaps more hope of success, namely, one based on observable behavior:

Sometimes, however, we find, or at least believe that we find, that the ideas of reason have in actual fact proved their causality in respect of the actions of men, as appearances; and that these actions have taken place, not because they were determined by empirical causes, but because they were determined by grounds of reason.²

Here Kant is appealing to human behavior to prove the causal efficacy of reason on choosing, and how could this ever be “proved” except by those instances where a man acted against all his sensuous inclinations (so far as we or he could tell) and followed instead some command of unconditioned reason? This is surely why Kant so often emphasized this kind of case in his moral writings — not because acting against one’s inclinations is necessary for acting morally (since it is not), but because it, if anything, illustrates both the unconditioned nature of reason and its causal efficacy in what we choose.³

This suggests that there might be arguments denying brutes the ability to choose freely (i.e., to choose independently of sensuous inclination) based on observations of their behavior. And in fact one finds several passages where just such an argument is made.

§35. *Inhibiting an impulse.*

One behavioral feature that could be expected of an individual capable of free choice is that it would act contrary to its inclinations should it ever “want” to, where the “desire” to so act would issue not from the senses (consequently not being a true desire) but from some faculty independent of the senses, such as that of reason. Acting contrary to an inclination can be thought of as inhibiting one sensory impulse, or the response to that impulse, and allowing in its place the response either to

See also *Träume* on “inner properties” and the claim that *if* one believed there to be an inner reality to a thing, one might legitimately infer that it thinks like us; on this see C. D. Broad, *Religion, Philosophy, and Psychical Research* (New York: Humanities Press, 1969), pp. 130-37, especially the discussion of Leibniz and perception (p. 135).

¹ Might this be influenced by the structure of our cognitive faculties? Kant would insist that it is not, and that we have no grounds for thinking that it is, while we do have grounds for holding the contrary.

² *KdrV* [B 578].

³ Recall the prefatory remarks to the second edition of the *KdrV*: “the consciousness of freedom rests exclusively on the clear exhibition of duties, in opposition to all claims of the inclinations” [B xxxii-xxxiii].

some other sensory impulse, or to some dictate of reason. The first is to choose between inclinations,¹ while the second is to choose duty (as dictated by reason) over inclination. Kant is interested in this latter case, which can be thought of as choosing the intelligible over the sensible, or as transposing the grounds of one's actions from the physical plane to the ideal. This inhibition is unique to humans:

It is always possible to leave an action undone, regardless of all sensuous impulses [to the contrary]. Humans can be compelled in a relative [*comparative*], but not an absolute [*stricte*] sense. This is the nature of *liberi arbitrii*. Animals are necessitated *per stimulus*. Therefore a dog must eat when it is hungry and there is food before it; but a human in the same situation can refrain.²

In his 1783 course on metaphysics, Kant is recorded as saying:

Because of this [legislative reason] are humans free, for they can choose between sensibility and understanding; were he to act according to his sensibility he would become similar to animals. But reason raises him over the animals, and the more he acts according to it, the more moral and, at the same time, freer he becomes.³

In the 1786 essay on the early development of the human race, Kant described as the second step of reason's progress the ability to control the passions by hiding the object of desire. Here the discussion is in terms of *instinct* rather than sensuous inclination, but the result is the same, namely, the replacing of physical grounds with intelligible or ideal grounds:

Next to the instinct for nourishment [which catalyzed the first step in reason's progress], by which nature preserves each individual, the most dominant is the instinct for sex, whereby she cares for the preservation of the species. Once aroused, reason did not hesitate to demonstrate its influence here as well. Man soon found that sexual attraction... is capable of being prolonged and even increased... and he thereby discovered the weariness that accompanies the appeasement of mere animal desire. The fig leaf (Gen. 3:7) was thus the product of a far greater expression of reason than the one displayed in the first stage of its development... *Refusal* was the feat whereby man passed over from mere sensual to idealistic attractions, from mere animal desires eventually to love...⁴

And during a discussion of taste and luxury in the lectures on *Menschenkunde* given in 1788, Kant noted that...

...we are capable of these idealistic pleasures [e.g., in painting, music, and the sciences] once we cultivate the taste. The more that he can put something in place of the animal needs of the senses is the human free from them.⁵

A theme which can be found throughout Kant's writings on history and human progress is that the goal and destiny of the race is to substitute rational for sensuous grounds of action whenever possible. There were at least two reasons why Kant preferred human action to be rationally ordered. First and foremost, such a rational ordering of human actions and their social context is necessary for attaining the moral good, and it was in this rationalization of society that human progress lay. This was a practical interest of his, and will be discussed in Chapter 9; a theoretical interest in the substitution for sensuous grounds of human action was that it was only through this, thought Kant, that our existence had any hope of being ordered so that it could "make sense" to us.⁶ Without order, we are a lost and forsaken tribe in an otherwise well-ordered universe. We can think, after all, only that which can be ordered under a rule or concept:

¹ For example, as noted in *KdrV* [B 830]: "...we have the power to overcome the impressions on our faculty of sensuous desire, by calling up representations of what, in a more indirect manner, is useful or injurious...." Here we weigh probable outcomes, and choose that which offers the most pleasure or the least pain.

² *Ethik*, "Moral Compulsion" [Menzer, p. 34; Infield transl., p. 28]. Kant considered insane those humans who cannot restrain their sensuous inclinations; see *Ibid.*, "Self-Mastery" [Menzer, p. 184; Infield transl., p. 146].

³ *MP Mrongovius* [AA, 29:900].

⁴ *Mutmaßlicher Anfang* [STW, xi:89; Humphrey transl., pp. 51-2]. Related to this are the many passages wherein humans are described as having given-up their instincts for the rule of reason: see *Ibid.* [STW, xi:87; Humphrey transl., p. 50], *Refl. Anth* [AA, 15:615, 635-6, 639-40, 643, 645, 646], *Colleg Anth 80s* [AA, 15:859, 886].

⁵ *Menschenkunde* [Stark, p. 288].

⁶ Recall the opening passage to the *Allgemeine Geschichte*: "Since in their endeavors men proceed neither merely instinctually, like animals, nor yet according to a fixed plan, like rational citizens of the world, it appears that no systematic

The understanding is the faculty of rules, without which we could think no rules, indeed, without which we could not think at all. For to think is to represent something through concepts.¹

Consequently, *everything* in nature is rule-governed, so far as we are concerned, including animal and human behavior.² But there are different kinds of order, as discussed in Chapter 5: what is not ordered according to the constitutive understanding simply cannot exist for us, while that which resists regulative laws of reason may exist, but can make neither sense nor a science. Given the complexity of organisms, the constitutive underpinnings of human and animal behavior are hidden from view (viz., the mechanistic underpinnings). We are thus left with regulative foundations of order: at this level occurs our talk of animal instinct and human reason, ordering their respective behavior. The need for system is consequently not satisfied by our actions *being* merely law like; rather, they must follow the *idea* of the law. Our actions must be raised above the sensuous plane of falling stones and preying wolves to the intelligible plane of rational motives. In Kant's famous phrase:

Everything in nature works according to laws. Only a rational being has the capacity of acting according to the representation of laws, i.e., according to principles, or a will.³

But, given human freedom, rational order at the human level easily falls apart, for we need not choose to follow principle over sensuous inclination:

Freedom is the inner value of the world. But...freedom unrestrained by rules of its conditional unemployment is the most terrible of all things. The actions of animals are regular; they are performed in accordance with rules which necessitate them subjectively. Mankind apart, nature is not free; through it all there runs a subjectively necessitating principle in accordance with which everything happens regularly. Man alone is free....If the freedom of man were not kept within bounds by objective rules, the result would be the completest savage disorder. There could then be no certainty that man might not use his powers to destroy himself, his fellows, and the whole of nature. I can conceive freedom as the complete absence of orderliness, if it is not subject to an objective determination. ...The universal law is therefore as follows: Let thy procedure be such that in all thine actions regularity prevails.⁴

Here inhibition amounts to "restraining one's freedom," and replacing sensible with rational grounds. Doing so furthers the ends of humanity, which includes the cognitive enterprise of completing science.

Phrases like "restraining one's freedom" are later dropped by Kant as imprecise: since freedom is grounded in reason, freedom as such need not be restrained. Rather, our free choice must be channeled towards choosing principles of actions (maxims that are public or objective in the sense that they are capable of universal recognition and respect) and away from choosing merely subjective grounds of action (namely, one's sensuous inclinations which, in being selfish by definition, cannot be expected to appear justified — and thus "reasonable" — in the eyes of the community).

Our freedom puts us in a predicament unique among animals. On the one hand, it opens up for us the possibility of now acting on rational principles, thus making possible what Kant was to call "the kingdom of ends" — a society where each human is treated by all the rest as an end. But on the other hand, it has the effect of estranging us from one another: the brutes (had they the necessary insight) can recognize in the behavior of fellow brutes universal laws governing that behavior

history of man is possible (as perhaps it might be with bees or beavers)" [STW, xi.34; Humphrey transl., p. 29]. Unlike Leibniz, for whom the human task was simply to discern an order already present in the world, Kant emphasized our need to *create* order [see Yovel's discussion of this: *Kant and the Philosophy of History*, pp. 133-34]. Buffon shared Kant's view of our earthly task: "Among living beings [Man] *establishes* order, subordination, and harmony" [*Natural History*, Smellie transl., vol. 20, p. 455].

¹ *Logik Mrongovius* [AA, 29:1047].

² See *Ibid.* [AA, 29:1045-6], *Logik Herder* [AA, 24:3], *Logik Blomberg* [AA, 24:20, 26-7], *Logik Philippi* [AA, 24:311].

³ *Grundlegung* [STW, vii.41; Beck transl., p. 29].

⁴ *Ethik*, "Duties to Oneself" [Menzer, pp. 152-3; Infield transl., p. 122]. Note the prototype of what Kant later developed into the categorical imperative.

Kant often described humans as "an animal in need of a master": *Allgemeine Geschichte* [STW, xi.40-41; Humphrey transl., pp. 33-34], *Theorie/ Praxis* [STW, xi.164, 169; Humphrey transl., pp. 84, 87], *Refl. Anth* [AA, 15: 533, 540, 620-1, 644, 647-8], *Colleg Anth 70s* [AA, 15:783, 785], *Colleg Anth 80s* [AA, 15:889, 893]. See especially *Colleg Anth 70s* [AA, 15:785]: "in this he is lowered beneath the animals."

(viz., natural instincts). Likewise, angels and saints can recognize in the behavior of their peers such universal laws (viz., laws of reason), but human behavior lands squarely in neither realm, and therefore lacks the easy recognizability of its grounds: “man has abandoned instinct and not yet accepted the law of reason.”¹

It is in this sense of being free to choose between sensuous and intelligible conditions of our actions that freedom sets us beneath the brutes even beneath the stones: “the motions of matter hold to a certain determinate rule, but human willfulness [*eigensinn*] is without rule.”² In the anthropology notes from the 1770’s we find:

Although he is free, man is a creature in need of a master. In this is he lowered beneath all animals, who can maintain themselves in a society without requiring a master. The cause of this lies in his freedom, whereby he is not driven by instincts of nature, which make all the members of a species concordant, but by feelings and whims (or through principles), which is a certain tendency to evade that guiding principle which reason prescribes, and to make exempt from this principle one’s whims and inclinations.³

And to quote again from the ethics lectures:

The man who gives free rein to his inclinations sinks beneath the animals for he then lives in a state of disorder which does not exist among animals.... All evil in the world springs from freedom. Animals live according to rules because they are not free. But free beings can only act regularly if they restrict their freedom by rules.⁴

Thus we see the importance that Kant placed on “the man of character.” Kant distinguished between a physical and a moral use of character:

the first is man’s mark of difference as a sensuous, or natural, being; the second is the mark of a rational being endowed with freedom. The man of principles has character; *of him we know definitely what to expect*. He does not act on the basis of instinct, but on the basis of his will.⁵

The importance of ordering our behavior with respect to the rest of society is emphasized throughout Kant’s writings in the many passages wherein he speaks of humans “needing a master,” as well as those related passages arguing that humans — and humans alone — require training.⁶

§36. Freedom and consciousness.

That freedom and the higher cognitive faculties are related should now be clear: “being free” amounts to “being free of sensuous impulses,” which requires a non-sensible faculty to direct the will. That faculty is what Kant calls ‘reason’, so in the Kantian framework being free requires that one be rational.⁷ As part of this rationality, or in addition to it, one must also

¹ *Colleg Anth 80s* [AA, 15:894]. See also *Allgemeine Geschichte* [STW, xi.34; Humphrey transl., p. 29].

² *Bemerkungen zu den Beobachtungen...* (undated, e) [AA, 20:93].

³ *Colleg Anth 70s* [AA, 15:785].

⁴ *Ethik*, “Duties to Oneself” [Menzer, p. 153; Infield transl., pp. 122-3].

⁵ *Anthropologie* [STW, xii.625].

⁶ On the need for a master, see the note citing the relevant passages, above. As for those passages indicating Kant’s belief that humans were unique in their need for training, see: *Ethik* [Menzer, p. 314; Infield transl., p. 249], *Pädagogik* [STW, xii.697; Buchner transl., pp. 101-2], *Anthropologie* [STW, xii.676; Dowdell transl., p. 240], *Refl. Anth* [AA, 15:620-1, 647-8], *Colleg Anth 70s* [AA, 15:790-1], *Colleg Anth 80s* [AA, 15:886].

⁷ But recall that a creature might be rational yet not free, in the sense of having a will which was determinable by reason. Reason, for all we know, might not have any causal powers. In such a situation, reason would have a theoretic use in explaining events, and constructing a science, and it would even still have its practical use of indicating what we ought to do. But it would not bring about any changes in the phenomenal world a failure that we would nevertheless not notice.

It is helpful to keep separate those circumstances (possible worlds, if you will) wherein reason can *actually* affect the will, and circumstances where it only *appears* that it can. But so long as it *appears* that reason has this practical employment, then Kant will say that reason *does in fact* have such an employment, and in saying this, Kant is not illicitly slipping-in some theoretical claim about the noumenal world, but rather is stipulating what he means by reason’s practical employment. Practical reason makes posits as to the noumenal world (e.g., freedom, immortality of the self, and the

be *conscious*. Inhibition is not merely one stimulus overriding another, and so in a sense “preventing” one stimulus/ response pattern in favor of another. Rather, it is the “conscious” inhibition of the response to some stimulus, the inhibition perhaps being accomplished by bringing to mind or attending to some other stimulus whose response one desires to evoke. That humans are able to do this at least suggests that they are free.

Brutes are unable to redirect their attention to either another present stimulus, a remembered stimulus, or a concept, any of which might evoke a different responsive action; as Kant notes in the *Anthropologie*, humans have the unique capability of “strengthening or sustaining a feeling by centering attention on certain local impressions.”¹ The young Kant was sympathetic with the view that freedom was based on certain fundamental cognitive abilities.² In one of our earliest recordings of his lectures, those notes taken by Herder in the early 1760’s, the discussion on freedom — so reminiscent of Spinoza — is associated with a discussion of Descartes’ animal-machine hypothesis, and with questions of consciousness. The passage, rough in the original, is as follows:

Freedom. Animals (by hypothesis) have a faculty to act as they choose, but they cannot conceive [*vorstellen*] the ground-of-motion: they are not conscious so as to act from a desire for [this choice]. This desire is a desire within a desire, and is with humans the essence of freedom: otherwise I could not distinguish my soul from the other necessitating grounds in nature. Animals are not machines, but they act like them, where desire is considered as an extra gear. Humans can think something over if an object has already made its impression. He can desire to be rationally self-conscious.

The extent of freedom — everything depends on the grounds, insofar as one can become conscious of them: the less one is conscious, the smaller is one’s freedom. The freedom of some humans is scarcely distinguishable from the freedom of animals. In others is this desire more subordinate; the more I subordinate it (by practice, for example), the freer I become.³

Five points are made here: (1) brutes have a faculty of choice, and act according to their choice, (2) brutes are not conscious of the *motivation* (that is, that which conditions the will) to act, (3) consciousness of this motivation is the essence of freedom, without which I could not distinguish *natural inclinations* (“necessitating grounds in nature”) and *rational motives* (“my soul”), (4) being *conscious* of the grounds involves being able to choose between grounds (e.g., inhibiting one impulse/ground in favor of another the “desire within a desire” or “thinking something over”), and (5) one’s freedom is in direct proportion to the consciousness of the grounds of one’s actions. The last three points are of immediate interest to us here.

Although “practical freedom” should seemingly concern only overt acts, consciousness of the grounds of these actions lies at the heart of being free. Even a sensuously-motivated act is presumably free so long as the agent is conscious of this motivation.⁴ In the above passage, Kant speaks of the initial motivations — whether sensuous or rational — as choices;

existence of God), but whether these posits are “true” or “false” is moot. So long as the appearances leave open the possibility for freedom, practical reason will posit that freedom as actual.

¹ *Anthropologie* [STW, xii.526; Dowdell transl., pp. 108-9].

² Since morality requires freedom, these cognitive abilities cannot be too restrictive, lest not all humans be admitted as moral agents. The mature Kant clearly did not want to make moral worth or responsibility a function of intellectual abilities.

³ *MP Herder* [AA, 28:99; Menzer, pp. 138-39]. Earlier in the lectures Kant implies that brutes are conscious but that they “are not conscious of themselves or their existence,” unlike rational beings (*viz.* humans); see *MP Herder* [AA, 28:74]. For a modern amplification of the desire within a desire, see Harry Frankfurt’s discussion of first- and second-order desires in “Freedom of the Will and the Concept of a Person” in *The Journal of Philosophy*, 68:5-20 (1971). The view that some humans are scarcely freer than brutes is echoed in the *Colleg Anth 70s* [AA, 15:676]: “Still one human is more sensuous than another. This means: more animalistic and less spiritual than the other in thought and will.” The linking of freedom and self-awareness is reminiscent of Spinoza, and appears to be unique to Kant’s earlier writings. It need not be seen as incompatible with his more mature views of freedom, however, if one takes the above passage as dealing not with being free *per se*, but with freely choosing intelligible grounds of one’s actions instead of freely choosing sensuous grounds. This is a distinction that Kant did not clearly make until the *KdpV*.

⁴ Here, one does not simply follow one’s sensuous inclinations which is all that brutes can do; rather one *chooses to follow* those inclinations, just as one might choose to follow reason’s guidance instead. If this were not the case, then people could not be blamed for *not* following reason. Only freely chosen actions are properly blameworthy. Thus choosing to follow one’s sensuous inclinations, if ever blameworthy, must be possible.

humans then have a second-order choice, which is to choose between these various sensuous and rational motivations. The human ability to make this second-order choice — in effect, to inhibit all but one choice — underlies human freedom.¹

The same difference of consciousness between humans and brutes is noted briefly near the end of Kant's 1762 essay on the syllogism, but with the difference that Kant had apparently not yet worked-out his criterion of "acting contrary to sensuous inclinations" as a mark of reason's presence in an organism. Herder's lecture notes from the same period had Kant claiming that brutes "cannot conceive the ground-of-motion," and in this essay Kant writes that...

...it is quite a different thing to *distinguish* things from one another, and to *cognize the distinction* of things. The latter is only possible by means of judgments, and cannot be accomplished by a non-rational animal.²

Kant had defined 'inner sense' in this essay as the ability to make as objects of thought our representations. This is presumably the same as becoming aware of (remembering) a past representation. One calls up a past representation which then serves as a ground for one's action, rather than whatever representation is immediately presenting itself. "To be conditioned in a sensible manner,"³ I presume, is just to be unable to redirect one's awareness (and thus to control the grounds of one's actions) away from those representations immediately present to some past representation. Perhaps this is also the same as 'the power to set an end,'⁴ which would just be to continue invoking some representation whose response one desired.

In this essay we are really left at an impasse, since Kant concedes that there is no overt behavior of brutes that indicates an absence of *covert behavior* (e.g., thought processes, inferences, &c.), and the most he can say is that it is *possible* that brutes lack covert behavior (having instead merely physical mechanisms which perform the distinguishing functions) and that we consequently *need* not infer from their overt behavior any covert behavior, such as is found in oneself. He clearly does not show that we *must* not make such an inference, or even that such an inference would most likely be wrong. As already seen, it is only in later works that Kant pointed to the presence or absence of those overt actions which at least seem to contradict one's sensuous inclinations in deciding upon the presence or absence of these covert cognitive acts.

§37. *Brutes are things.*

Brutes are mere things. Moral worth depends upon being free, and since Kant considers brutes to be unfree, he also considers them void of all worth. The consequence is Kant's now notorious view that we can dispose of brutes however we best see fit, the only constraint being that our actions towards them not harm our relations with humans. The duties to brutes are thus indirect, a view also held by St. Thomas, and thus a view of not ignoble or unorthodox pedigree.

Freedom is the worth of one's life:

We shrink in horror from suicide because all nature seeks its own preservation; an injured tree, a living body, an animal does so; how then could a man make of his *freedom, which is the acme of life and constitutes its worth*, a principle for his own destruction?⁵

Freedom is even responsible for value in general:

Freedom is...the highest order of life, which serves as the foundation of all perfections and is their necessary condition.... If the choice of all beings were so bound to sensuous impulse, the world would possess no value. The inherent value of the world, the *summum bonum*, is freedom in accordance with a choice which is not necessitated to action. Freedom is thus the inner value of the world.⁶

¹ This ability is, of course, the topic of many discussions throughout the Kantian texts, it being central to that well-known (if often misunderstood) doctrine that the moral worth of an action depends upon the grounds motivating it.

² *Syllogism* [STW, ii.613; Abbott transl., p. 93]. Kant defines 'judgment' at the beginning of the essay as "the comparison of a thing with some attribute. The thing itself is the subject, the attribute is the predicate..." [STW, ii.599; Abbott transl., p. 79]. See §25, above.

³ *KdrV* [B 574].

⁴ *Tugendlehre*, "Introduction" [STW, viii.522; Gregor transl., p. 51].

⁵ *Ethik*, "Suicide" [Menzer, p. 150; Infield transl., p. 150].

⁶ *Ibid.*, "Duties to Oneself" [Menzer, pp. 151-2; Infield transl., pp. 121-22].

Elsewhere Kant places value in our *humanity*,¹ in our “righteous will,”² and in our being persons,³ especially insofar as persons are self-conscious.⁴ But it appears that even in these cases value must lie in the free choice of the human or person, since Kant says that it does not lie in reason *per se*,⁵ and Kant does not suggest any other locus (such as a soul).

But regardless of what it is about humans that bestows upon them so much worth, it is clear that non-humans are utterly lacking it. Humans are forbidden from inflicting self-harm, for instance, because...

...man can only dispose over things; beasts are things in this sense; but man is not a thing, not a beast... The Romans forbade their slaves to commit suicide because they did not belong to themselves but to their masters and so were regarded as things, like all other animals.⁶

In the often quoted lecture on our “Duties Towards Animals and Spirits,” from the lectures on ethics collected by Paul Menzer, we learn that so-called duties to brutes are really just indirect duties to humans, since brutes cannot be the objects of duty:

So far as animals are concerned, we have no direct duties. Animals are *not self-conscious* and are there merely as means to an end. That end is man. We can ask ‘Why do animals exist?’ But to ask, ‘Why does man exist?’ is a meaningless question... If a man shoots his dog because the animal is no longer capable of service, he does not fail in his duty to the dog, *for the dog cannot judge*.⁷

Why does Kant find value in a free choice and no where else? The answer concerns the issue of *ends*: first, there is the progress of the human species, by way of self-perfection, which leads to its final destiny or end — all of which is possible only given the ability of humans freely to choose that end, thereby ordering their actions according to its idea. Second, something might be valuable, either as an *end* or as a *means* to some valued end. Here one finds an argument to the effect that human choosing (*qua* practical reason) is its own end, and thus not a means to anything else. From this Kant suggests

¹ *Ibid.*, “Care for One’s Life” [Menzer, pp. 195-6; Infield transl., p. 156]: “Humanity in our own person is an object of the highest esteem...” But in the *Colleg Anth 70s* [AA, 15:788] we learn that “freedom is the single and alone the worth of human nature.”

² *KdrV* [B 425].

³ *KdpV* [STW, vii.300; Beck transl., p. 259], *Tugendlehre* [STW, viii.568-9; Gregor transl., p. 99]: “The human in the system of nature... is of slight importance and shares with the rest of the animals... a common value... But the human regarded as a person... is exalted above any price.”

⁴ *Anthropologie* [STW, xii.407; Dowdell transl., pp. 9-10]: “That the human can have among his representations an I raises him infinitely over all other living beings on earth. Through this is he a person...”

⁵ *KdpV* [STW, vii.300; Beck transl., p. 259], *Tugendlehre* [viii.568-9; Gregor transl., p. 99]. And see *Colleg Anth 70s* [AA, 15:788]: “Freedom is the single and alone the worth of human nature...”

⁶ *Ethik*, “Suicide” [Menzer, p. 190; Infield transl., pp. 151-2]. Midgley writes of Kant and his view of brutes that he...

...cannot quite get around to saying what his theory certainly implies that animals are things. He does say in his lecture on “Duties Towards Animals and Spirits” that they “are not self-conscious [...]” But he does not actually call them things, nor does he write-off their interests. [from “Persons and Non-Persons” in Peter Singer, editor, *In Defence of Animals*, p. 57]

But this is mistaken on two counts. First, Kant *does* call brutes ‘things’, as the quoted passage indicates; see also *Tel. Prin.* [STW, ix.151]; *KdpV* [STW, vii.210; Beck transl., p. 193]; *Tugendlehre* [STW, viii.569; Gregor transl., p. 99]: “Tieren als Sachen”; *Anthropologie* [STW, xii.407; Dowdell transl., pp. 9-10]: “things, among which are the irrational animals”. Second, Kant explicitly denies to them, as irrational beings, any *interests*; see *KdpV* [STW, vii. 200-1; Beck transl, pp. 186-7]: an interest “can never be attributed to a being which lacks reason”; and *Grundlegung* [STW, vii.97n; Beck transl., p. 79n]: “we therefore say only of a rational creature that he takes interest in something; irrational creatures feel only sensuous impulses.

⁷ *Ethik* [Menzer, pp. 302-4; Infield transl., pp. 239-41]. The connection here between cognitive and moral features (namely, beings lacking self-consciousness can be treated as means, or beings unable to judge cannot have rights) may seem odd, but the arguments may have been collapsed, so that these cognitive features were merely criteria of some deeper feature which did in fact have moral implications. Or, Kant changed his mind about how morality and cognitive abilities are related; for his mature view is that they cannot be too closely related, since the simpleton and the genius are to possess the same amount of moral worth.

that the choosing of a rational agent is valuable in and of itself, and the source of all value.¹ The first ground for limiting value to human freedom will be covered in the discussion on progress, found in Chapter 9. The second ground is briefly discussed below.

§38. *Practical reason is its own end.*

A rather unassuming argument occurring in the early pages of the *Foundations of the Metaphysics of Morals* has the effect of completely disenfranchising all non-rational creatures from moral considerations. It involves putting forth what Kant takes to be the best explanation of the existence of practical reason.² The argument seems to go as follows: Our best explanation of the practical nature of reason (that is, the fact that reason can affect our choosing and therefore issue in actions) is that reason is meant as an end in itself. *Instinct*, after all, is generally the best guide to our behavior when that behavior is aiming at some end for which instinct is suited, such as happiness. Nature would thus have given our power of choice over to instinct altogether if such a power was meant merely as a means to some end. That nature did not give our behavior completely over to instinct indicates that our choosing must be valuable in itself, that is, be an end in itself.

A glance at this well-known text illustrates the above argument in Kant's own words. In the fourth paragraph of the first section, Kant introduces the problem to be solved:

There is something so strange in this idea of the absolute worth of the [rational, or human] will alone... that we may have misunderstood the purpose of nature in its appointment of reason as the ruler of our will.³

Kant then proceeds in the next paragraph to consider ends or purposes in nature, so as better to understand nature's purpose in making reason practical. First, he introduces a teleological principle:

In the natural constitution of an organized being, i.e., one suitably adapted to life, we assume as an axiom that no organ will be found for any purpose which is not the fittest and best adapted to that purpose.⁴

In the manner of an indirect proof, Kant next considers the possibility that our practical reason has the function or purpose of attaining our *happiness*; he suggests that practical reason is ill-suited for this task, instinct being the better means to such an end:

Now if [the creature's] preservation, its welfare — in a word, its happiness — were the real end of nature in a being having reason and will, then nature would have hit upon a very poor arrangement in appointing the reason of the creature to be the executor of this purpose. For all the actions which the creature has to perform with this intention, and the entire rule of its conduct, would be dictated much more exactly by instinct, and that end would be far more certainly attained by instinct than it ever could be by reason.⁵

This passage amounts to a pre-emptive rejection of all Darwinian or survivalist accounts of the emergence of practical reason (as opposed to theoretical uses of reason, which might still have advantages for our survival).⁶ Instinct is by far the better guide to our well-being; reason, when given over to practical affairs, tends to be disruptive of our welfare.

¹ These are complicated matters, and require more space than is here available. Kant has other arguments for the move from rational willing (specifically, the good will) being good *as an end* to it being *intrinsically* good, which are suggested in Christine M. Korsgaard, "Two Distinctions in Goodness" in *The Philosophical Review*, 92:169-95 (1983); see also her "Kant's Formula of Humanity" in *Kant-Studien*, 77:183-202 (1986): "On Kant's view it is human beings, without capacity for valuing things, that bring to the world such value as it has" [p. 202].

² As opposed to an explanation of *how* reason can be practical, regarding which Kant notes (near the end of the *Grundlegung*) that doing so would "overstep reason's bounds" [STW, vii.96; Beck transl., p. 78].

³ *Grundlegung* [STW, vii.19-20; Beck transl., pp. 10-11].

⁴ *Ibid.* [STW, vii.20; Beck transl., p. 11]. Note that a teleological explanation of the living world supports the view of humans as free, in that reason is seen as being an end in itself and wholly unconnected from the physical needs of the organism.

⁵ *Ibid.* [STW, vii.20; Beck transl., p. 11].

⁶ One might also read this as a rejection of *technical* reason. For isn't Kant saying here that technical applications of reason normally fail, and that reason in its practical applications was meant for moral use only? See the four steps in the essay on our "speculative beginnings": we are the end of nature because reason is not merely technical (*viz.* intelligence) but is an

In fact, we find that the more a cultivated reason deliberately devotes itself to the enjoyment of life and happiness, the more the man falls short of true contentment.¹

Given the axiom of fittedness, this observation is tantamount to saying that the purpose of practical reason is not to serve as a means to an end (which end would be our happiness, in some form or other). But since it *must* have some purpose, Kant is left with supposing that it is an end in itself. He sums-up his argument in the seventh paragraph:

Reason is not competent to guide the will safely with regard to its objects and the satisfaction of all our needs. . . . But reason is given to us as a practical faculty, i.e., one which is meant to have an influence on the will. As nature has elsewhere distributed capacities suitable to the functions they are to perform, reason's proper function must be to produce a will good in itself and not one good merely as a means, for to the former reason is absolutely essential.²

The implications of this argument are, as might be suspected, far reaching.³ Moral worth is now limited to individuals with practical reason; value (that is, being worthy in itself, and not merely as a means to something else) rests solely on the possession of such a will and the freedom from "natural inclination" that it allows. By denying brutes reason, and therefore any practical uses of reason as well, Kant denies them all moral standing, condemning them to the status of mere things, and to the treatment proper for such entities.⁴

Kant and Descartes are consequently of a mind with respect to the treatment of animals, and for both this lack of moral worth is a result — direct for Kant, indirect for Descartes — of brutes not being free. It is a direct result for Kant since value itself resides in freedom; it is indirect for Descartes since not being free is a consequence of being a machine, which has the further consequence of lacking moral worth.

end in itself as *practical* [*Mutmaßlicher Anfang* (STW, xi.88-9; Humphrey transl., pp. 51-3)]. This is the rise of a "new form" of reason [see Yovel, *Kant and the Philosophy of History*, pp. 192-3].

¹ *Ibid.* [STW, vii.20-21; Beck transl., p. 11].

² *Ibid.* [STW, vii.21-22; Beck transl., p. 12].

³ Not everyone thinks this. Paton considers this argument as "subsidiary" and as a mere "first introduction to the part which Kant conceives reason to play in action"; see H. J. Paton, *The Categorical Imperative* (Philadelphia: University of Pennsylvania Press, 1971), p. 44.

⁴ On the connection of morality and rationality see Bernard Rollin, "Beasts and Men," pp. 245 seq. Christina Hoff argues that, in denying moral worth to brutes, Kant illegitimately moved from the premise that "rational beings are ends-in-themselves" to "*only* rational beings are ends-in-themselves" (see Hoff, "Kant's Invidious Humanism"). While not addressing Hoff's article, Korsgaard's emphasis on the value-conferring nature of human choice can be read as a defense of Kant's position: see Christine Korsgaard, "Kant's Formula of Humanity," pp. 187-88, 197-202.

CHAPTER 8 BRUTES ARE NOT MACHINES

§39. Rejecting the animal-machine hypothesis.

The doctrine of universal causality of the phenomenal world, a direct and desired consequence of arguments in the *Critique of Pure Reason*, coupled with the view that only humans enjoy a noumenal agency, if anything does, certainly suggests an animal-machine hypothesis similar to Descartes. So one might feel well-advised to ignore Kant's rejection of that hypothesis in the Herder notes, and assume the rejection as part of a pre-critical position that was later abandoned; likewise with similar comments in the *Dreams of a Spirit-Seer* (1766), another "pre-critical" work. But that the hypothesis is again rejected in the *Critique of Judgment* (1790), a mature work by any standards, indicates that we must reconcile Kant's doctrine of universal mechanism with his rejection of Descartes' animal-machine hypothesis. It is my opinion that Kant believed brutes to be completely enmeshed in the mechanical nexus of the phenomenal world, with nothing like noumenal agency to offer them the theoretical underpinnings of practical freedom. Consequently, Kant thought of brutes as machines, but not as the materially-explicable machines of Descartes. Kant found the needed distinction in Leibniz: brutes are machines of a spiritual as opposed to a material nature.

We have already considered a passage from one of Kant's lectures on empirical psychology recorded by Herder in the early 1760's. In this passage concerning the nature of freedom is the claim that "animals are not machines, but they act like them, where choice is considered as an extra gear."¹

And later in the semester, in a lecture on rational psychology, we find this startling paragraph:

Consequently, merely according to the similarity [of our external behavior] do I judge that the inner condition of the other [i.e., the brute] involves thinking and sensing like mine, for my behavior is regarded by him just as his is regarded by me. I therefore have just as much cause not to take him as a machine as to take myself as one. The dog moves itself, seizes things, cries - thus are animals thinking beings that have desires, grounds for acting. Just as Descartes had the paradoxical opinion of animal-machines, so must I likewise say of humans, and even of myself, only to a greater degree: if that one howls like a machine, then I speak like one.²

In his *Dreams of a Spirit-Seer*, published in 1766, Kant again rejects the animal-machine hypothesis, this time for explanatory reasons. He first mentions the hypothesis in a discussion of the different biological theories of Maupertuis, Boerhaave, Hoffmann, and Stahl:

Maupertuis attributed the lowest level of life to the organic food particles of animals; other philosophers [e.g., Hoffmann, Boerhaave] see nothing in them but dead clumps which only serve to enlarge the gears of the animal machines.³

Kant then notes his reservations concerning non-mechanistic accounts in science, but suggests that such accounts are at times appropriate — a foreshadowing of his later view, most notably in the *Critique of Judgment*, that non-mechanical accounts must comprise the bulk of the life sciences:

The appeal to immaterial principles [as Stahl had done] is a refuge of lazy philosophy, and is a mode of explanation to be avoided if at all possible.... I am nevertheless convinced that Stahl, who wished to explain

¹ *MP Herder* [AA, 28:99]. Another rejection of the Cartesian hypothesis can be found in the metaphysics lecture-notes edited by Pölitz [AA, 28:274-5]: "Animals are not merely machines or matter, but have souls...."

² *Ibid.* [AA, 28:116]. This is one of the few passages where the "problem of other minds" is hinted at, and Kant's sympathy is clearly with an analogical argument from overt behavior. That he takes the analogy so much farther in this lecture than in other, more reliable, works suggests that we have here more polemic than indication of Kant's true sentiments. (Kant nowhere else, for instance, ever allows that brutes can *think*; thought is a product of the faculty of the understanding, and Kant will not allow brutes this faculty.) On the question of other minds, see also the second section ("Vom Egoism") in the *Anthropologie* [STW, xii.411].

³ *Träume* [STW, ii.938; Goerwitz transl., p. 57].

animal changes organically, was often closer to the truth than Hoffmann, Boerhaave, and others, who omitted immaterial powers, holding instead to mechanical grounds....¹

Kant again explicitly rejected Descartes' hypothesis in the *Critique of Judgment*. Towards the end of that work, he considers possible proofs of the existence of a moral God, including proofs by analogy, and in a footnote explains how an analogy between humans and God might work by considering analogies between humans and brutes. This context offered him yet another occasion to reject Descartes' animal-machine hypothesis:

Analogy (in a qualitative signification) is the identity of the relation between grounds and consequences (causes and effects) [...]

Thus we conceive of the artificial constructions of beasts by comparing them with those of men, by comparing the ground of those effects brought about by the former, which we do not know, with the ground of similar effects brought about by men (reason), which we do know; i.e., we regard the ground of the former as *analogon* of reason. We try at the same time to show that the ground of the artisan faculty of beasts, which we call instinct, specifically different as it is in fact from reason, has yet a similar relation to its effect (the buildings of the beaver as compared with those of men). But then I cannot therefore conclude that because man uses *reason* for his building, the beaver must have the like, and call this a *conclusion* according to analogy.

Yet from the similarity of the kind of effect of beasts (the ground of which we cannot immediately perceive) to that of humans (of which we are immediately conscious), we can quite rightly conclude *according to analogy* that beasts too act in accordance with *representations* (not as Descartes has it, that they are machines), and that despite their specific difference they are yet generically (as living beings) one and the same as humans.

The principle of our right so to conclude lies in the sameness of the ground for counting animals and humans (*qua* humans) as of the same genus, with respect to the aforesaid determination, so far as we compare them with each other according to their overt behavior. It is *par ratio*.

Just so can I conceive the causality of the supreme world cause according to the analogy of an understanding by comparing its purposive products in the world with the artificial works of men — but I cannot decide anything analogically from those properties in humans, for here the principle of the possibility of such a method of reasoning is lacking, viz., the *paritas rationis* for counting the Supreme Being in one and the same genus with man (in respect of the causality of both). The causality of the beings of the world, which is always sensibly conditioned (as is causality through understanding), cannot be transferred to a Being which has in common with them no generic concept save that of a thing in general.²

There is much of interest in this passage, but what concerns us presently is that it provides us with a rejection of the Cartesian hypothesis from late in Kant's career. While the Herder lectures (1762-64) and the *Dreams of a Spirit-Seer* (1766) both stem from what has been called Kant's "pre-critical" period, that is, before his Critical Philosophy had developed fully, the *Critique of Judgment* was the last of the three critiques, appearing in 1790 and thus well into the mature period. Consequently, this rejection should be taken as consonant with the mature philosophy (at least as consonant in Kant's own eyes).

§40. *Brutes have representations, feelings, and desires.*

The above-quoted passage offers one suggestion as to why Kant rejected the animal-machine hypothesis, namely, he believed "that beasts too act in accordance with *representations* [*Vorstellungen*]," and that this is incompatible with being a machine. That it is the brute's capacity for representations which is at issue here is further supported by the Volckmann notes of a metaphysics lecture on psychology:

We call an animal 'living' because it has the capacity to follow its own representations, even to alter its condition. Descartes, and later Malebranche, maintained that the animal's principle of life has no *vim repraesentativam*, and that they act only according to general laws of matter. But to think of animals as machines is not possible, for one would then deviate from all analogies of experience, and the proposition that man himself is a machine is utter lunacy, for we are conscious of our own representations, and all of natural science rests on the proposition that matter cannot have representations. Everything machine-like is external and consists in relations in space: our thought can of course concern itself with things in space, but it is not itself in space; but thoughts would have to be objects of outer intuition if they were machines. That thought is

¹ *Ibid.* [STW, ii.939; Goerwitz transl., pp. 58-9].

² *KU* [STW, x.430n; Bernard transl., pp. 315-6n]; indentation added.

a mechanism is therefore absurd, which would be to make thought an object of outer sense for its own consciousness. Matter might indeed be a necessary requirement for the support of our thoughts, but thought itself is not mechanical.¹

This stands in direct opposition to Descartes' animal-machine hypothesis. Machines lack mental lives in both Descartes' and Kant's accounts, and representations are taken as unequivocally mental. But since brutes have representations, according to Kant, then brutes are not machines. Kant may have believed that thoughts depend upon certain motions within the central nervous system (CNS), but he explicitly rejected the view that thoughts (and the mind) are *located* in the CNS. Given the many passages attributing representations to brutes, we would appear to have found in this a satisfactory explanation for Kant's rejection of the animal-machine hypothesis.²

Kant further expanded the mental lives of brutes by attributing *feelings* and *desires* to them. This is implied in the following denial of brute understanding:

The human has sense to perceive, understanding to think, and a will to choose or reject. If he had nothing more than a sensitive faculty for representing and desiring, he would be like a sensitive plant or a mollusk. Only he has understanding.³

Likewise, in a discussion in the Herder notes on the properties of a thinking being, we find that...

...all thinking beings have three dimensions: (1) representation, e.g., Leibniz's monads, (2) representations and feelings, thus desire, actions, and nothing more, e.g., animals [acting] outwardly not from thoughts. The outer change of a being from the inner principle is through mere choice [*Willkür*] thinkable, (3) consciousness of the entire condition of the representations and desires. We know of only humans with these three abilities, and more are not thinkable.⁴

In a letter to Marcus Herz (26 May 1789) Kant implicitly attributes "feelings and a faculty of desire" to brutes; and indeed, the mere fact that brutes can sense suggests that they share with humans the standard panoply of feelings and with these feelings the desires to experience pleasures and avoid pains.⁵

§41. *Brutes lack consciousness.*

Had Kant attributed a *consciousness* of these representations to the brutes, and not just the representations themselves, then his disagreement with Descartes would have been complete. But Kant was no less opposed than Descartes to their being conscious. Recall the passage from the Herder notes:

Animals...are not conscious....The extent of freedom — everything depends on the grounds, insofar as one can become conscious of them: the less one is conscious, the smaller is one's freedom. The freedom of some humans is scarcely distinguishable from the freedom of animals.⁶

In the 1775 lectures collected under the title "Philosophical Encyclopedia," Kant opens his discussion of empirical psychology with the topic of consciousness:

¹ *MP Volckmann* [AA, 28:449]. See the parallel definition of 'life' at *OP* [AA, 21:566], quoted at §43, below, and *Tugendlehre* [STW, viii.315; Gregor transl., p. 7].

² See *MP Herder* [AA, 28:117]: if Leibniz's monads have representations, so do brutes; *Logik Mrongovius* [AA, 29:1047]: "Animals have such representations, but no concepts"; the *Letter to Marcus Herz* (26 May 1789): "they would (if I thought of myself as an animal) be bound together as representations"; *Letter to Beloselsky* (summer 1792): "the mere apprehension of the representations... is solely for the brutes"; *MP Arnoldt* [AA, 29: 929, 1033]: the *vis repraesentiva* of Leibniz's monads; *MP Pölitz* [AA, 28: 274]: "beings, which have merely sensitivity and the power of representations — and these are animal souls"; *Ibid.* [28:276]: "therefore animals have all the representations of the outer senses"; *Refl. Anth* [AA, 15:166]: "Animals have apprehensions, but not apperceptions and cannot, therefore, make their representations universal."

³ *Logik Nachlaß* [AA, 16:7].

⁴ *MP Herder* [AA, 28:117]. On the inconceivability of non-human thinkers, see also *Anthropologie* [STW, xii.472]: "We cannot imagine any other suitable form for a rational being than the human form."

⁵ On pleasure and pain, see *Colleg Anth 70s* [AA, 15:661].

⁶ *MP Herder* [AA, 28:99]; see also [AA, 28:83, 89].

The first thing that I notice is consciousness. This is not a special thinking, but rather that under which I can bring all remaining representations, etc.; it is the condition and the form under which we are thinking beings, or intelligences. All living beings are either *substantia bruta repraesentativa* or *intelligentia*. The main, and nearly the only, difference between animals and humans is consciousness, but that is also so great that it can never be replaced with something else. Many animals behave and build so craftily that they come quite close to humans, but all are without consciousness.¹

In the essay on the syllogism, Kant reminds the reader that our only knowledge of the nature of brutes comes from their overt actions and that, even though this behavior might at times *suggest* that brutes are conscious, we need not draw such an inference:

It is in fact of the greatest importance to attend to this in the investigation of animal nature. In observing them [i.e., brutes] we are aware only of overt actions, the difference of which indicates different determinations of their desire. But it by no means follows that this behavior is preceded by an act of the faculty of knowledge within them, such that they are conscious of the agreement or disagreement of what is contained in one sensation with what is contained in another, and thus that they judge.²

And in a sketch of a letter to Alexander, Prince of Beloselsky, dating from the summer of 1792, Kant elaborates on the relationship between representations and consciousness:

[First, in] the division of the faculty of representation, [there is the sphere of] mere apprehension of the representation: *apprehensio bruta* without consciousness (which is solely for animals), and the sphere of apperception, i.e., the concept; the last comprises the whole of the sphere of the understanding.³

Brutes apprehend but do not apperceive, a point made earlier by Leibniz.⁴

Further, this lack of consciousness deprives one of the ability to experience dread or happiness:

¹ *Philosophische Enzyklopädia* (1775b) [AA, 29:44-45].

² *Syllogism* [STW, ii.613-14; Abbott transl., p. 94]. Patricia Kitcher, with reference to the discussion of brutes in Kant's letter to Herz (26 May 1789), suggests that Kant *did* ascribe consciousness to brutes, but in a different sense than the consciousness involved in the unity of apperception (see "Kant's Real Self" in Allen Wood, editor, *Self and Nature in Kant's Philosophy*, pp. 140-41). She apparently has in mind by this weaker sense of consciousness the mere "having of representations" (as discussed in §40, above). Kitcher posed the dilemma that either brutes were without consciousness (in which case Kant was saddled with the animal-machine hypothesis), or brutes served as examples of conscious beings which nevertheless lacked self-consciousness. The latter horn of the dilemma undermined Kant's doctrine of apperception which, according to some interpreters such as Paul Guyer, requires that all conscious beings be self-conscious as well. In this regard Kitcher's observations are similar to those made earlier by Karl Ameriks in his discussion and criticism of Guyer's account of apperception [see Ameriks, "Kant and Guyer on Apperception" in *Archiv für Geschichte der Philosophie*, 65:174-86 (1983)]. Here Ameriks suggests that:

Kant's approach to the issue of subhuman awareness is to find a middle ground between extreme Cartesians (who deny all subhuman awareness) and Leibnizians (who say awareness is privileged only quantitatively, or in its "degree of clarity"). [*Ibid.*, p. 186]

³ *Briefwechsel* [Schöndörffer, ed., pp. 573-4]. See also *Refl. Anth* [AA, 15: 166]. Kant owned a copy of Beloselsky's book, *Dianyologie ou tableau philosophique de l'entendement* (Dresden: 1790), upon which Kant was commenting in his letter; see Warda, *Immanuel Kants Bücher* (Berlin: Martin Breslauer, 1922), p. 44. On Kant's relation to Beloselsky and Russian culture and science of the time, see Arsenij Gulyga, *Immanuel Kant*, translated into German by Sigrun Bielfeldt (Frankfurt am Main: Insel Verlag, 1981), pp. 268, 323-29.

⁴ But for Leibniz, apperception (consciousness) was the soul's awareness of sensations, which need not involve concepts or judging; for Kant, on the other hand, apperception did require concepts. This distinction between apperception and apprehension is often mentioned by Leibniz as the feature distinguishing humans from brutes: see Robert McRae, *Leibniz: Perception, Apperception, and Thought* (Toronto: University of Toronto Press, 1976). In the *New Essays* humans apperceive (are aware) while brutes merely perceive [Remnant and Bennett transl., pp. 133-4]. See also §35 of the *Discourse on Metaphysics*: "the difference between intelligent substances [humans] and those which are not intelligent [brutes] is quite as great as between a mirror and one who sees." And see *The Principles of Nature and of Grace* (1714) [in Leibniz, *Philosophical Papers and Letters*, translated and edited by L. E. Loemker (Dordrecht: D. Reidel, 1969), pp. 636-42].

Consciousness — inner sense — is therefore the distinctive character of rational beings. [...] Animals are not capable of happiness, for this depends upon consciousness....¹

To be able to say ‘I’ [is] the special faculty of being an object to oneself (small children do not [have this faculty]). Personality. There is not just pain, but distress over the pain, etc. Happiness and unhappiness (not just pleasure, but joy). Merit and guilt. Understanding and reason. In this faculty, to relate one’s condition to oneself.²

Happiness, of which the animals know nothing, arises not from the tendency towards sensuousness, but from the principles of reason. Principles chase away passion and strengthen the soul.³

§42. *Animality as mechanical.*

Although — unlike Descartes — Kant allowed representation, feelings, and desires to the brutes, he shared with Descartes the view that brutes were unconscious. What is more, Kant often emphasized the *mechanistic* nature of animality. In the *Doctrine of Justice* he makes plain his belief that animals operate solely within a mechanical world. We must trust the moral law that we sense within, Kant writes, for...

...to regard the moral law within us as deceptive would bring about the horror-inspiring wish to dispense with reason altogether, and to consider it and its principles as thrown into the same mechanism of nature as the rest of the animals.⁴

In his *Religion within the Limits of Reason Alone*, the animality of humans is characterized as “physical and purely mechanical self-love,”⁵ and this animal existence is elsewhere described as being characterized by a “mechanical organization”.⁶ Prior to the rise of a nature which was specifically human, according to the 1796 essay on a perpetual peace in philosophy, nature worked in humans as it does now in the brutes, namely, in a wholly mechanical fashion:

Here is nature represented in humans, just as it is active in animals, a nature prior to humanity and therefore in its generality, acting solely in order to develop powers which man can later employ according to laws of freedom; but this activity and its stimulation is not practical [i.e., free], but rather only mechanical.⁷

In a peculiar closing statement to his essay on enlightenment, Kant is perhaps alluding to this mechanical past of humans:

Once nature has removed the hard shell from this seed for which she has most fondly cared, viz., the inclination to and vocation for free thinking, the germ gradually reacts upon a people’s mentality (whereby they become increasingly able to act *freely*), and it finally even influences the principles of *government*, which finds that it can profit by treating men, *who are now more than machines*, in accord with their dignity.⁸

¹ *MP Herder* [AA, 28:117].

² *Colleg Anth 70s* [AA, 15:661].

³ *Colleg Anth 80s* [AA, 15:859].

⁴ *Rechtslehre* [STW, viii.478-9; Ladd transl., p. 128].

⁵ *Religion* [STW, viii.672-3, 683; Green and Hudson transl., pp. 21-2, 30].

⁶ See the 3rd Thesis of the *Allgemeine Geschichte* [STW, xi.36; Humphrey transl., p. 31].

⁷ *Verkündigung* (1796b) [STW, vi.405]. See also *Frieden* [STW, xi.241; Humphrey transl., p. 133]: “in [this theory] man is thrown into the same class as other living machines....”

⁸ *Aufklärung* [STW, xi.61; Humphrey transl., pp. 45-6]. I see several possible readings of this passage. First, if we view human animality as mechanical (as Kant does) then this suggestion that humans were once machines is just a reference to a prior animality (see §58, below). Or, this may simply refer to an earlier and (for Kant) unacceptable mode of governing: “the mechanical management of men under the regiment of others is everywhere the surest means of maintaining lawful order” [*Anthropologie*, STW, xii.523]. Or, the statement might be meant ironically, condemning the government’s practice of treating humans *as if they were machines*. Compare with *Frieden* [STW, xi.241; Humphrey transl., p. 133].

We have seen, on the one hand, that Kant clearly rejected Descartes' animal-machine hypothesis, and that one motivation for doing this was his belief that brutes enjoyed a minimal mental life of representations, desires, and feelings — all of which are incompatible with their being material machines. On the other hand, we noted in Chapter 6 how limited the mental lives of brutes are, including all absence of judging and consciousness, in Chapter 7 that brutes are necessarily determined by the sensible stimuli impinging on them, and in the present chapter that animality — be it in brutes or humans — is consistently characterized in mechanistic terms. No doubt many factors conspired in the development of this unique view of brutes; my intention here has been primarily to make plain that view, but a few suggestions as to how Kant arrived where he did might be in order.

First, although Kant agreed with Descartes that matter was inert, Kant also believed that life could not arise out of mere matter, given this inertness. Consequently, Kant often spoke of an “immaterial principle” in brutes, and even of them possessing souls which might survive into an afterworld after the decay of their bodies.

Second, methodological considerations disallowed attributing to brutes any non-sensible cause for these actions, as already noted. Moral considerations (e.g., the desire to keep the moral sphere exclusively human and/or rational) may have also played a part here. Consequently, some form of determinism for brutes was in order, but problems with Descartes' material determinism encouraged Kant to adopt some alternative form. Kant distinguishes in a passage of the *Critique of Practical Reason* between Cartesian and Leibnizian versions of determinism, the latter falling on the ideal, rather than the material plane, and it seems likely that Kant would have been more sympathetic with the Leibnizian version. With such a choice in view, Kant could reject Descartes for another, more attractive form of determinism.

Finally, and for related reasons, Kant did not believe, as Descartes did, that mechanical explanations were possible in much of the life sciences, and certainly not in explaining reproduction and growth, regeneration, and even common patterns of behavior. I will look at each of these in turn.

§43. *Inert matter, life, and thought.*

Like Descartes, Kant took matter to be inert or lifeless¹; but unlike Descartes, and like La Mettrie, he did not believe that animal behavior was reducible to statements of motion and extension.² Consequently, Kant appealed to an immaterial principle which vivified each living being, plants as well as animals.

Kant's concept of matter played a large role in several of his views about humans and brutes. For example, he rejected any attempt at grounding human mentality in matter, or providing a material explanation of it, because the unity of our consciousness (“the unity of apperception”) could not be based on something *infinitely divisible*, which matter is.³ Apart

¹ By ‘inert’ Kant means lifeless: any change in matter is the result of some *external* principle (‘life’ is defined as “the capacity of a substance to determine itself to act from an *internal* principle”). But unlike Descartes, Kant still believed matter to be *active* (consisting of both attractive and repulsive forces); these forces, however, bring about change only externally, between separate parts.

See *KU* [STW, x.323, 345; Bernard transl., pp. 221, 242], *MAdN* [STW, ix. 109-10; Ellington transl., pp. 104-6], *KdrV* [B 876], *MP Herder* [AA, 28:115-6], *Träume* [STW, ii.936-7; Goerwitz transl., p. 55], and see Ameriks, *Kant's Theory of Mind*, pp. 27-8. That Kant was behind the times in holding this view is suggested by Sloan's comment that “the inertness of matter and of nature were rejected after the 1750's for empirical as well as philosophical reasons” [“The Question of Natural Purpose” in McMullin, editor, *Evolution and Creation* (Notre Dame: University of Notre Dame Press, 1985), p. 132].

² LaMettrie held that humans were machines as well as brutes; but to make this position at all plausible he needed to find in matter, in addition to extension and motion, the faculty of feeling — something Kant was unable to accept, given his commitment to matter's inertness. See LaMettrie, *Natural History of the Soul*, as reprinted in *Man a Machine*, pp. 159-61. See John Yolton's characterization of Joseph Priestley as the British representative of this “new materialism” in Yolton, *Thinking Matter: Materialism in Eighteenth Century Britain* (Oxford: Basil Blackwell, 1984), pp. 107-25.

³ There are several sources of this view in Kant. The best known is in the B-edition “Paralogism” section of the *KdrV* (B 419-20). See also: (1) the letter from Carl Arnold Wilmans which was received by Kant in September of 1797 and printed as an appendix to Section One of *Streit*, (2) Kant's letter to Wilmans written sometime after 4 May 1799, (3) the short essay by Kant which was attached to Sömmering's work on the brain [STW, xi.259], and (4) *Fortschritte* [STW, vi.648; Humphrey transl., p. 151]. As for the infinite divisibility of matter, see Chapter Two, prop. 4, of the *MAdN*: “Matter is divisible to infinity, and indeed into parts each of which is again matter” [STW, ix.56; Ellington transl., p. 49].

from being infinitely divisible, matter is also *inert*, which precluded for Kant the derivation of anything living from matter. Life cannot emerge from what is lifeless.

Both of these claims appear to be rooted in the lack of any *unity* in matter. Unity is manifested by form, and matter is formless.¹ A concept is a unity of representations, judgments unify representations or concepts, and thus thought itself demands a high-level of unity, such as is found in the unity of apperception. It follows that matter, wholly lacking in any principle of unity, cannot think. Living processes in general involve a high degree of unity, namely, some *form* which seems to guide the growth and reproduction of the organism. It again follows that matter, being devoid of any formal unity, cannot support or give rise to living things. In each of these cases, it would appear that a non-material principle was required. Matter can be the principle neither of the *self* (*qua* conscious being) nor of *life*; it is this latter claim which I will now explore.²

The Herder lecture notes provide an early example of Kant's view of matter:

As soon as we see matter moving itself, we judge that it is an animal, no matter how shapeless it may be...[revealing by its motion] an inner principle of movement. This principle must be immaterial because matter in itself is dead and must be moved by some different being.³

Hylozoism, taken from the Greek words *hylé* (matter) and *zoa* (life), is the doctrine that matter itself is alive, or possesses as part of its nature a life-principle. In rejecting this doctrine in the *Critique of Judgment* (1790), Kant argued that...

...the possibility of living matter cannot even be thought: its concept involves a contradiction, because lifelessness, *inertia*, constitutes the essential character of matter.⁴

The fullest explanation as to why Kant believed matter to be inert can be found in the Third Chapter of the *Metaphysical Foundations of Natural Science* (prop. 3), where Kant claims that: "Every change of matter has an external cause." This is the law of inertia, the second of the three laws of "universal mechanics," and is the mechanical correlate of the category of causality (as discussed in the *Critique of Pure Reason*).⁵ Being spatial, matter is for us entirely an object of the outer or intersubjective world, and all of its changes must be brought about by principles which, in order to be intersubjective cannot be "inner" or in any manner hidden from public view. This is just to say that the cause of any change in matter cannot be internal.

If changes in matter are wholly brought about through outer determinations, what would an *inner* determination or principle be? Since they are inner, we could only know of them privately through introspection, and of these Kant wrote that...

...we know of no other internal principle of a substance to change its state but *desire* and no other internal activity whatever but *thought*, along with what depends upon such desire, namely, *feeling* of pleasure or displeasure, and appetite or *will*.⁶

¹ See, for instance, *KdrV* [B 322]: "Matter and Form. These two concepts underlie all other reflections, so inseparably are they bound up with the employment of the understanding. The first signifies the determinable in general, the second its determination."

Form and unity do diverge in Kant's writings. See for instance the gloss to the Rostock mss. of the *Anthropologie*: "(1) Formation [*Bildung*] through cold or warm, crystalization in which a solvent... (2) the mechanical formation of shape [*Gestalt*]..." [STW, xii.480n]. What is important is the absence of unity: "Nature, considered as a mere mechanism, can produce its forms in a thousand different ways without stumbling upon unity..." [*KU*, §61: "The Objective Purposiveness of Nature" (STW, x.306; Bernard transl., p. 206)].

² The relation of matter and the self will be discussed below in §52; see also the chapter on the immateriality of the soul in Ameriks, *Kant's Philosophy of Mind*, pp. 25-83.

³ *MP Herder* [AA, 28:115; Menzer, pp. 101-2]. See also *KdrV* [B 420, 876]: "The mere concept of matter (impenetrable, lifeless extension)..."; *Anthropologie* [STW, xii.480n]; *MP Pölitz* [AA, 28:272]; *MP Dohna* [AA, 28:687].

⁴ *KU* [STW, x.345; Bernard transl., p. 242].

⁵ On the correlation of mechanical laws with the categories of relation, see: *MAdN* [STW, ix.118-9; Ellington transl., pp. 114-6].

⁶ *MAdN* [STW, ix.105; Ellington transl., p. 105]. See a parallel passage in *Träume* [STW, ii.935n; Goerwitz transl., p. 54n].

These are the inner determinations of living beings, ‘life’ being defined as “the capacity of a substance to determine itself to act [viz., to think or feel or will] from an internal principle [viz., desire].¹

But still one might think that life could emerge from lifeless matter; and indeed, Kant suggests this possibility in a famous passage from §80 of the *Critique of Judgment*:

The agreement of so many genera of animals in a certain common schema...allows a ray of hope...that here something may be accomplished by the aid of the principle of the mechanism of nature (without which there can be no natural science in general). This analogy of forms...strengthens our suspicions of an actual relationship between them in their production from a common parent..., i.e., from man, down to the polyp, and again from this down to mosses and lichens, and finally to the lowest stage of nature noticeable by us, viz., to crude matter. And so the whole technique of nature...seems to be derived from matter and its powers according to mechanical laws (like those by which it works in the formation of crystals).²

Other passages indicate, however, that Kant did not believe life could emerge from mere matter.³ In a footnote occurring shortly after the above passage, Kant enumerates three kinds of generation, viz., (1) *generatio aequivoca*, and two different kinds of *generatio univoca*: (2) *gen. heteronyma*, and (3) *gen. homonyma*, of which Kant finds only the last to be acceptable.⁴

Generatio aequivoca is what is now more commonly referred to as spontaneous generation, or the emergence of a living organism from non-living matter.⁵ *Generatio univoca* is an organism being produced by one or more other organisms, of which there are two possibilities: that these are all of the same species (*homonyma*), or that they are of different species (*heteronyma*). Spontaneous generation is “absurd,” according to Kant, while he conceded that there might be found some instance of *generatio heteronyma*, although experience has yet to offer us one.

As it turns out, however, Kant favored a view of generation suggestive of spontaneous generation. In §81, which immediately follows his discussion of the three kinds of generation, Kant compares the doctrines of *occasionalism* (whereby “the supreme cause of the world would...furnish immediately the organic formation on the occasion of every union of intermingling materials”) and *pre-established harmony* (which “regards every organized being as generated by one of like kind, either as an educt or a product”). Kant rejects the former as being antagonistic to science, and of the latter he finds two varieties: (1) *individual preformation* (also called ‘evolution’ or ‘involution’) and (2) *generic preformation* (also called ‘epigenesis’).⁶ The first views the organized being as a mere educt, having existed in miniature from the original creation of the world, increasing in size with time. This he sees as being no more conducive to a science than the doctrine of occasionalism. The second variety views the organism as a product, having been produced by the “formative power of nature” in conformity with the dispositions or nature of that kind of being. Kant favored this theory of epigenesis, whose most current advocate was Johann Friedrich Blumenbach (1752-1840), a naturalist teaching at Göttingen and whom Kant

¹ *MAdN* [STW, ix.109; Ellington transl., p. 105]. See also *Träume* [STW, ii.934n; Goerwitz transl., pp. 52-3n]: “whatever in the world comprises a principle of life appears to be an immaterial nature. For all life rests on the inner faculty to determine oneself according to choice.” In the *Opus postumum* [AA, 21:566] we read: “Life, in the strict sense of the word, is the capacity of spontaneity of a physical being to respond [*wirken*] in accordance with certain of its representations.” A gloss to ‘physical being’ in the above quote reads: “Matter responds [*wirkt; agit*], animals (e.g., spiders) act [*thut; facit*], humans behave [*handelt; operatur*].” See also the following passages discussing the necessity for an immaterial principle in animals: *OP* [AA, 21:34, 85, 210-11, 558; 22:56, 369, 419].

² *KU* [STW, x.374; Bernard transl., pp. 267-8]. On the formation of crystals, see also §58 [STW, x.291-2; Bernard transl., pp. 194-5], and §58, below.

³ There are two questions here: was nature *ever* capable of producing living beings from dead matter, and, is nature *now* capable? Kant rejected the latter possibility, but was unwilling to claim that nature was never so capable. There are passages suggesting his acceptance of the view that nature’s productive capacity was greater early in the history of the earth.

⁴ *KU* [STW, x.375n; Bernard transl., pp. 268-9n].

⁵ *Generatio aequivoca* is that “by which is understood the production of an organized being through the mechanics of crude unorganized matter” [*Ibid.*].

⁶ *KU*, §81 [STW, x.399; Bernard transl., pp. 272-73].

praised in the text of the third Critique.¹ I will return to this topic of organic production in a later chapter, and here wish only to note that epigenesis was seen by Kant as suggestive of spontaneous generation, in that he felt required to again assert his rejection of that doctrine. Important here is his view that life emerges only from *organized matter*, i.e., matter with certain dispositions to combine and act in certain ways.

In all physical explanations of these formations, [Blumenbach] starts from organized matter. That crude [i.e., unorganized] matter should have originally formed itself according to mechanical laws, that life should have sprung from the nature of what is lifeless, that matter should have been able to dispose itself into the form of a self-maintaining purposiveness — this he rightly declares to be contradictory to reason.²

If life cannot emerge from mere matter, if life requires an immaterial principle, then the existence of immaterial beings gains plausibility. Twenty years before the publication of the *Metaphysical Foundations of Natural Science*, Kant had similarly argued for the inertness of matter, and with it for the existence of immaterial beings. He wrote in his *Dreams of a Spirit Seer* (1766) that...

...the characteristics of dead matter which fills the universe are stability and inertia; it further possesses solidity, expansion, and form, and its manifestations, resulting from all these three causes, admit of *physical* explanations which, at the same time, are mathematical and, collectively, are called mechanical. But let us direct our attention to the kind of beings which contain the cause of *life* in the universe — those which therefore neither add to the mass and extent of lifeless matter, nor are influenced by it according to the laws of contact and collision, but which rather, by inner activity, move themselves and dead matter as well — and we shall find ourselves convinced, if not with the distinctness of demonstration, still with the presentiment of well applied reason, that immaterial beings exist.³

While Kant and Descartes agreed that there were immaterial beings or souls, Kant attributed souls even to the brutes. Since life could not be materially grounded, Kant found himself returning to a view similar to Aristotle's in that an immaterial principle was necessary for any living being, and not just humans. What is more, Kant even suggested that these animal souls were immortal, passing into the afterworld upon the dissolution of the creature's body where they might further serve the souls of departed humans.⁴ Although this was little more than speculation on Kant's part, it is a view directly suggested by the inertness of matter and the irreducibility of living organisms to material terms. As a consequence, while it initially appeared that Kant should have accepted the Cartesian hypothesis of animal-machines, it now appears that Kant was in total opposition to Descartes on the nature and destiny of the brutes.

§44. *Material vs. ideal determinism.*

Kant described two different kinds of natural mechanism, one in apparent reference to the Cartesians, and the other stemming from Leibniz:

All necessary events in time according to natural law can be called the 'mechanism of nature', even though it is not supposed that things which are subject to it must really be material machines....whether the subject in which this evolution occurs be called *automaton materiale* when the machine is impelled by matter, or, with Leibniz, *automaton spirituale* when it is impelled by ideas. And if the freedom of our will were nothing else than the latter, i.e., psychological and comparative and not at the same time also transcendental or absolute, it

¹ *KU*, §81 [STW, x.381; Bernard transl., p. 274]. See J. F. Blumenbach, *Über den Bildungstrieb* (Göttingen: 1789). Kant owned a copy of this work, as well as a copy of Blumenbach's earlier *Handbuch der Naturgeschichte* (Göttingen: 1777), both of which were copiously annotated by Kant on this, see Arthur Warda, *Immanuel Kants Bücher*, p. 27. See also Kant's mention of Blumenbach and "formative power" in his essay on the use of teleological principles [STW, ix.164n].

² *KU* [STW, x.381; Bernard transl., p. 274].

³ *Träume* [STW, ii.936-7; Goerwitz transl., pp. 55-6]. Later in the same chapter, Kant described the two positions between which he intended to remain: "Hylozoism makes everything alive; materialism makes everything dead."

⁴ See *MP Herder* [AA, 28:116-17], *MP Mrongovius* [AA, 29:906-7], *MP Dohna* [AA, 28:690], and the discussion at §54, below.

would in essence be no better than the freedom of a turnspit which when once wound up also carries out its motions of itself.¹

When the dog is served-up meat, motions set in action.... With animals...this is an external necessity as in machines: thus are they called *spiritual automata*. But with humans, the chain of determining causes is cut in every case....²

These passages suggest one reconciliation of Kant's attributing both mentality and determinism to the workings of brutes: Kant views brutes as turnspits but, with Leibniz, he views them as spiritual turnspits, not as the material machines which Descartes had characterized them as being. Kant unequivocally denied brutes any chance of transcendental freedom, making them *some* sort of turnspit and his rejection of Descartes' materialism leaves them with the only alternative of being turnspits of the spiritual variety.³

In the note from the *Critique of Judgment*, Kant's rejection of the Cartesian hypothesis followed immediately upon his attribution of representations to brutes. To repeat that passage:

From the similarity of the kind of effect of beasts...to that of humans...we can quite rightly conclude *according to analogy* that beasts too act in accordance with *representations* (not as Descartes has it, that they are machines)....⁴

This supports Kant favoring the "spiritual determinism" of Leibniz over Descartes' materialism. Brutes still are machines but they are machines capable of representing the world and responding to those representations: they are consequently more than a collection of material gears and levers. This interpretation of the note from the *Critique of Judgment* is further supported by the lecture notes on metaphysics written down by Dohna. It was probably January of 1793 that Kant gave the lecture on rational psychology wherein he discussed the topic of animal souls and Descartes' rejection of such:

Can life be a property of matter? Animals are wholly lacking in consciousness; their conduct occurs according to laws of imagination, which nature has laid within them by analogy. That principle, which guides the animal as *analogon rationis*, is called instinct, the faculty to carry-out actions without consciousness, for which humans require consciousness....

Descartes and Malebranche wanted to deny animals of souls, the latter from theological grounds (why should they suffer?, they have committed no offence, &c.); but this is a weak argument. It is clear that we do not need to attribute understanding to animals for they practice without instruction, nature having laid within them the drive. The subject of representation in each living being is something different from matter, and animals have souls....⁵

The second paragraph is especially revealing here. Note that immediately after rejecting Descartes' and Malebranche's position, Kant claims that it is not necessary to attribute understanding to the brutes on his own view. This is a legitimate worry, for it might appear that attributing souls to brutes would involve attributing cognitive faculties like the understanding as well; Kant wanted to make clear that this was not the case, and offers some reasons why a besouled creature need not have an understanding. He then makes the claim that the subject of representations "in each living being is something different from matter."

¹ *KdpV* [STW, vii.222; Beck transl., pp. 202-3]. See also *MP Herder* [AA, 28:96]. Leibniz speaks of monads as spiritual automata in the *Monadology*, §18 [and see the editor's note at AA, 28:1382].

² Reflexion #3855 [AA, 17:313].

³ See also his discussion of clocks and turnspits in the *MP Pölitz* [AA, 28:267].

⁴ *KU* [STW, x.430n; Bernard transl., p. 316n].

⁵ *MP Dohna* [AA, 28:690]. Note the connection between having an understanding and learning from instruction. Kant elsewhere allows for instances of the latter in certain brutes, creating a tension in his denial of an understanding to them. See §27 (above) and §53 (below) on learning in brutes.

This is apparently equivalent to his rejecting physiological projects, such as those involving Descartes' doctrine of "material ideas"¹, in that our sciences are not adequate to the task of giving such physiological explanations. These representations determine (i.e., necessitate) the behavior of the brutes, but they are not to be considered as material; the determinism that Kant is here affirming must therefore be of the Leibnizian variety. Brutes are spiritual, not material, turnspits.

§45. Mechanical and teleological explanation.

Another reconciliation of Kant's mechanism with his rejection of Descartes' animal-machine hypothesis is found in his views on explanation in the life science. While Descartes believed that all natural events were amenable to mechanical explanations, Kant felt that teleological explanations were necessary for human inquirers, given the complexity of the mechanical nexus in the phenomenal world.

Two traditional forms of explanation are mechanical ('physical', 'natural') and teleological ('non-mechanical', 'final', 'rational', 'intelligible', 'free', sometimes called 'formal'). In general, mechanical explanation grounds the occurrence of an event or the existence of a state in antecedent events or states, while a teleological explanation grounds them in consequent events or states.² In both the Cartesian and Kantian system, to explain an event mechanically is to reduce the conditions of that event to terms of extension and motion (which ought to be the same as providing an efficient cause which is that event's sufficient condition). A teleological explanation, on the other hand, explains an event by way of an idea, purpose, or goal, as though the event was brought about in order to attain that goal or purpose. The difference turns on whether one orders the event in a system (= science) from the beginning (mechanically) or the end (teleologically).

Both Descartes and Kant were *explanatory dualists* to the extent that they accepted these two separate modes of explanation. To explain an event for either of them was to describe the conditions sufficient for bringing about the event, and this was expressed in terms of causality. Since they both accepted two different forms of causality, mechanical and teleological, they were both explanatory dualists in some sense. But Descartes and Kant differed in the status and scope they ascribed to each kind of causality. Kant's view of the status of non-mechanical causality was rather more guarded than Descartes': the most that Kant wished to claim was that "causality through freedom is at least *not incompatible with nature*."³ On the other hand, the scope of explanation that Kant ascribed to this "causality through freedom" was considerably wider

¹ On Kant's discussion of material ideas, see: *Träume* [STW, ii.933, 956], *Anthropologie* [STW, xii.478], *Sömmering* [STW, xi.256]. Dowdell refers us to Descartes, *Über die Lehre von den materiellen Ideen*, which is critiqued by H. S. Reimarus in the *Göttingisches Magazin der Wissenschaften und Litteratur* (Hrsg. G. Ch. Lichtenberg and G. Forster), vol. 1, pp. 27 seq., 351 seq. (1780). [See Dowdell's translation of *Anthropologie*, p. 269]. On the vanity of physiological explanations of behavior, see esp. the "Preface" to the *Anthropologie* [STW, xii.399; Dowdell, p. 3] and to the *Refl. Anth* [AA, 15:801]. Baumgarten (*Metaphysik*, §416) and Platner (*Neue Anthropologie* [Leipzig: S. L. Crusius, 1790], §§334-357) both used this notion of material ideas in discussing the mind; see Dessoir, *Geschichte der neueren deutschen Psychologie*, p. 180.

² The justification of ascribing these two forms of explanation to Kant is as follows: (1) it is suggested in certain passages that giving the cause of something is to explain it, (2) there are two kinds of causes or causal principles: nature and freedom, (3) therefore, there are two kinds of explanation as well: mechanical and teleological. The first point is suggested at *KdrV* [B 654]: "Reason could never be justified in abandoning the causality which it knows for grounds of explanation which are obscure"; [B 568]: "All actions must admit of explanation in accordance with the laws of nature". The second point is suggested throughout Kant's work.

Assuming that there *are* two kinds of explanation, however, they will not be of identical status, for mechanical causality enjoys a grounding in the phenomenal world (as argued in the "Second Analogy" of *KdrV*) which teleological causality does not. As in *KU*, §65, mechanical causality is considered *real* (viz. a product of the understanding, and as such an objective aspect of the phenomenal realm), whereas teleological causality is merely *ideal* (viz. a product of reason, employed regulatively to comprehend the existence and maintenance of organized beings) [STW, x.320; Bernard transl., p. 219]. This difference is indicated at *KU*, §61: "The teleological act of judgment is rightly brought to bear...upon the investigation of nature, but only in order to bring it under principles of observation and inquiry...without any pretense to *explain* it thereby. It belongs therefore to the reflective and not to the determinant judgment" [STW, x.306; Bernard transl., p. 206].

³ *KdrV* [B 586]. Kant argued in the *KdpV* that this teleological causality was possible, in some undefinedly stronger sense, because morality required it. But this still fell short of being an item of knowledge.

than Descartes had allowed. While Descartes appealed to non-mechanical causation to explain only a fraction of human actions, explaining the rest of nature mechanically, Kant's appeal ranged across the entirety of organic nature.

Like Descartes, Kant preferred mechanical explanation, but he did not think that our limited intellects were capable of providing this in the organic realm¹:

The *privilege of aiming* at a merely mechanical method of explanation of all natural products is in itself quite unlimited, but the *faculty of attaining* thereto is by the constitution of our understanding, so far as it has to do with things as natural purposes, not only very much limited but also clearly bounded. [...] It is therefore rational, even meritorious, to pursue natural mechanism...as far as can be done with probability.²

In an often-quoted passage from §76 of the *Critique of Judgment*, Kant wrote that...

...we cannot adequately cognize, much less explain, organized beings and their internal possibility according to mere mechanical principles of nature, and we can say boldly it is alike certain that it is absurd for men to make any such attempt to hope that another Newton will arise in the future who shall make comprehensible to us the production of a blade of grass according to natural laws which no design has ordered.³

Matter's inertness or lifelessness, its purely external and mechanical nature, that is to say, its lack of any inner principle of action, precludes a material grounding or explanation of any organized being. In a discussion of "purpose in nature" Kant contrasts the *moving power* [*bewegende Kraft*] of a machine with the *formative power* [*bildende Kraft*] of organized beings:

In a watch, one part is the instrument for moving the other parts, but the wheel is not the effective cause of the production of others. ... A watch wheel does not produce other wheels; still less does one watch produce other watches, utilizing (organizing) foreign material for that purpose. ... An organized being is then not a mere machine, for that has merely *moving* power, but it possesses in itself *formative* power of a self-propagating kind which it communicates to its materials. ... it organizes them, and this cannot be explained by the mere mechanical faculty of motion.⁴

Mechanical grounds of such features of the living world as reproduction, growth, and self-maintenance "can certainly be *thought* without contradiction, but cannot be *comprehended* [*begriffen*]."⁵ This passage suggests what I take to be Kant's mature position on the animal-machine hypothesis: brutes can be thought of as machines and according to the universal causality of the phenomenal world they *are* machines, but they cannot be comprehended or understood as machines, and consequently, as a *scientific* (as opposed to a metaphysical) *doctrine*, Descartes' hypothesis is worthless.

¹ Rather, "an intuition other than sensuous" (i.e., an intellectual intuition) would be required for such a task.

² *KU*, §80 [STW, x.373; Bernard transl., pp. 266-67]. See also *KU*, §82:

The greatest possible effort...in the attempt to explain them mechanically is not only permitted, but we are invited to it by reason, notwithstanding that we know from the subjective grounds of the particular species and limitations of our understanding...that we can never attain thereto. [STW, x.386-7; Bernard transl., p. 279]

See also the early *Beweisgrund* [STW, ii.680-1]: "it is absurd to consider the first production of a plant or animal as a mechanical effect according to general laws of nature...."

³ *KU* [STW, x.352; Bernard transl., p. 248]. See also §67:

The internal form of a mere blade of grass is sufficient to show that, for our human faculty of judgment, its origin is possible only according to the rule of purposes. [STW, x.327; Bernard transl., p. 225]

and §77:

In a thing that we must judge as a natural purpose (an organized being), we can no doubt try all the known and yet to be discovered laws of mechanical production, and even hope to make good progress therewith, but we can never get rid of the call for a quite different ground of production for the possibility of such a product, viz. causality by means of purposes. Absolutely no human reason (in fact no finite reason like ours in quality, however much it may surpass it in degree) can hope to understand the production of even a blade of grass by mere mechanical causes. [STW, x.364; Bernard transl., p. 258]

⁴ *KU*, §65 [STW, x.322; Bernard transl., pp. 220-21].

⁵ *KU*, §64 [STW, x.318; Bernard transl., p. 217].

CHAPTER 9 PROGRESS IN HUMANS AND BRUTES

§46. The self-perfectible human.

Jean-Jacques Rousseau and Lord Monboddo both found the uniqueness of humans in their ability to perfect themselves, and Kant falls within this tradition.¹ While the abilities of brutes may develop, true progress is a feature unique to humans. Our self-perfectibility follows naturally from our rational nature and our practical freedom to adopt as maxims of behavior those principles which we deem good. The human proposes an end to herself² (reasoning, as it were, morally) and then pursues that end in her actions: such was self-perfection for Kant.

Indeed, the primary manifestation of reason is in the progressive or perfectible nature of humans and, as a necessary condition of this, the spontaneous nature of human willing that allows us to order our lives according to our freely chosen ends. In distinguishing the human species from all other species of terrestrial creation (and so *non-rational* species),³ Kant writes in the *Anthropology* that the human...

...is capable of perfecting himself according to purposes which he himself adopts. Consequently, man as an animal endowed with the capability of reason (*animal rationabile*) can make himself a rational animal (animal rationale).⁴

This passage involves two claims: (1) that reason exists in the human as an innate capacity, and (2) that this capacity will not develop on its own, but must be brought to actualization through human effort. These claims will be examined in §47 and §48, respectively.

Reason is an innate capacity in the human in need of development, but unlike the capacities or talents of brutes, reason does not develop naturally, requiring instead a disciplined effort on the part of humans — an effort important for Kant, who saw in it the assumption of responsibility for our destiny, both individually and as a society.

¹ See *Colleg Anth 80s* [AA, 15:895]: “Man is an animal that perfects itself, and not merely the individual but also, and primarily, the species. He cannot maintain himself in the natural condition.” See also *Anthropologie* [STW, xii.685]; *Colleg Anth 70s* [AA, 15:779]; and *Refl. Anth* [AA, 15:648]: “The character of humanity is to develop to perfection through freedom.” But Kant would agree with Tetens that perfectibility by itself is too indeterminate to serve as the distinguishing mark of humans; see Johann Nicolai Tetens, *Sprachphilosophische Versuchen* (Hamburg: Felix Meiner Verlag, 1971), p. 104.

See John Greene’s discussions of **Rousseau (1712-1778)** and **Lord Monboddo (James Burnet; 1714-1799)** in *The Death of Adam*, pp. 201-18. Margery Bailey describes Monboddo as “the Scottish judge whose insistence that man had once worn tails earned him the sobriquet of the *judge a posteriori*” [in her “Introduction” to James Boswell, *The Hypochondriack* (Stanford: Stanford University Press, 1923), vol. i, p. 93]. For relevant passages from Monboddo, see Slotkin, *Readings in Early Anthropology*, pp. 206-8.

² See *Grundlegung*: “Rational nature is distinguished from others in that it proposes an end to itself...” [STW, vii.71; Beck transl., p. 56]. On the German enlightenment view of the progressive improvement of the human species, see J. B. Bury, *The Idea of Progress* (London: Macmillan, 1920), pp. 28-59; and see John Passmore, *The Perfectibility of Man* (New York: Charles Scribner’s Sons, 1970), especially pp. 216-21.

³ That is, non-human forms on earth. Kant maintained throughout his philosophical career that there were probably — at least possibly — rational forms of life on other planets. On this, see *Himmels* (1755) [STW, i.377-96] and *Anthropologie* (1798) [STW, xii.683, 688-90].

⁴ *Anthropologie* [STW, xii.673; Dowdell transl., p. 238]. See also the *Menschenkunde*: “To arrive at the true vocation of humans, one must note that he is an animal that can perfect himself, the [other] animals being incapable of this” [Stark, p. 367]. The paragraph continues with the remark that our true vocation is attainable only in the species, and not in the individual: “But this is the least; far more important is that the entire human species perfect itself.”

Kant subscribed to the maxim that nothing in nature is vain, that is, that every potentiality is to be actualized and that every part plays a role in the system [§50]. The prominence of this maxim for Kant is indicated in its being the “First Thesis” in his essay on a universal history:

All of a creature’s natural capacities are destined to develop completely and in conformity with their end.¹

Consequently, the capacities of organisms are to be developed fully, and with brutes this is possible within the lifetime of each individual. But reason and its products cannot be fully developed within the lifetime of any individual, requiring instead the wider stage of human history. It is only here, in the history of the species, that science and a just society (the theoretical and practical products of reason) can be fully actualized [§49]

Human progress is based on our freedom and rationality, and it is consequently because humans are endowed with reason that development moves beyond the level of the individual to encompass the development of the species as well. Not only are the products of reason to be developed, however, but reason is as well, both within each individual human and in the species [§51]. This suggests a phenomenal basis of reason (for development, insofar as it involves the passage of time, cannot be a feature of noumena), but given Kant’s unyielding belief that reason and understanding cannot be material, we are required to view reason as a functional system within the phenomenal world — if not as a noumenal aspect of the self, which of course it might be [§52].

Perhaps surprisingly, Kant allows for the ability of at least some brutes to learn skills and pass them on to the next generation, but he avoids the implication that brutes therefore possess some higher sort of cognitive faculty by claiming that this learning is wholly explicable in terms of instinct [§53]. Further, he even allows for the possibility of an afterlife for brutes, wherein they might continually progress individually (although never so much as to acquire reason; see §54). These are two forms of brute progress that Kant allows, thus softening the line between humans and brutes — a line still dominated by the features of reason and freedom. I turn now to the first of our topics, namely, reason’s innateness, and the responsibility of humans to affect its development.

§47. Reason is innate.

Rationality, like the instinct of brutes, is considered an inborn faculty, a set of skills or abilities the capability or disposition for which already lies within the individual. This Kant says in the *Metaphysik Arnoldt*, lecture notes from the winter semester of 1794/5:

All concepts are acquired, but not all from the senses. On the contrary, the faculty for acquiring concepts through the development of features [*Merkmale*] is inborn.²

The “faculty for acquiring concepts” is the rational faculty, as made clear later in the same paragraph:

For example, the rabbit seeks to outwit the dog in the chase, the dog learns through practice the artifice of the rabbit, and seeks to overcome him. Of course, there are not concepts here, as animals have no rational faculty....³

Reason’s innateness is implied in the *Anthropologie*, in whose opening chapter Kant writes that the absence of weeping or smiling in the newborn human...

...until after it is three months old appears to be based on the development of certain notions of offense and injustice, which point toward reason.⁴

He later returns to the newborn’s sense of justice in his discussion of the passions:

The fact that the baby’s feeling of discomfort does not originate from bodily pain, but from a vague idea (or an analogous representation) of freedom and its suppression, perceived as an injustice, is disclosed a few months after the birth by the tears accompanying the crying....The young of other animals play, while the

¹ *Allgemeine Geschichte* [STW, xi.35; Humphrey transl., p. 30].

² *MP Arnoldt* [AA, 29:949].

³ *Ibid.*

⁴ *Anthropologie* [STW, xii.407; Dowdell transl., p. 10].

young of human beings already begin to quarrel with each other. It appears as if a certain concept of justice (which applies to external freedom) develops together with the animality; consequently, it is not something that is gradually learned.¹

Combining these two passages — the first, which associates the sense of justice with reason, and the second, which indicates a parallel between the development of one’s sense of justice and of one’s animal development — further suggests that reason was for Kant an inborn faculty of humans.

§48. *Brutes don’t wear boots.*

The innateness of reason in humans therefore parallels the innateness of instincts in brutes. But while the innate faculties of brutes develop naturally in the individual, the innate faculties of humans (at least some of them) require active nurturing for them to develop fully. Thus faced with this step-motherly nature, humans must resort to pulling themselves up by their own bootstraps. This self-perfection, a progress which is intentional, is a defining mark of humans:

Discipline, or training, changes animal nature into human nature. An animal is already fully equipped through instinct; a foreign reason² has made complete provision for it. But man needs his own reason. He has no instinct, and must arrange the plan of his behavior.³

And again: “Man can become man through education only. He is only what education makes him.”⁴ In his anthropology lectures from the WS 1791/2, as recorded in the notes by Dohna, Kant claimed that...

...nature gave [humans] no artificial drives; rather, he must be educated, that is, informed and taught, and not merely fed. It is beyond our reason to know how the first humans thought, spoke, or got on in the world and maintained themselves. Humans require education, that is, (1) instruction, (2) discipline, for regardless of whether he is at odds with nature he *must* be sociable, at least in his family, and must be forced to this. *Discipline* is the limiting of the singular will of the creature under certain rules, in accordance with purposes.⁵

While our bodily structure will develop no less spontaneously than that of any brute, humans have capacities which will develop only if the human actively pursues their development. The perfection of the human is therefore a human accomplishment, and not simply a natural unfolding of all of one’s dispositions. Kant had moral or religious grounds for believing in this *active* nature of human development,⁶ but what is of concern to us here is simply the contrast of this active perfection with the passive development of animal talents.

§49. *Individual and species perfection.*

While both reason and instinct will develop in the individual (except in cases of certain physical impediments) the “open-endedness” of reason allows for an active cultivation of reason by the entire community (especially across generations), thus providing for a level of development not to be found among the instinct-burdened brutes.⁷ The passages quoted above suggest no more than an ontogenetic development of rationality, the same developmental process repeating itself in

¹ *Ibid.* [STW, xii.604n; Dowdell transl., p. 176n].

² This refers to a postulated designer of the organism, such as God.

³ *Pädagogik* [STW, xii.697; Buchner transl., p. 102].

⁴ *Ibid.* [STW, xii.699; Buchner transl., p. 107]. See *Anweisung* [Stark, p. 120]: “Man is apart from the songbirds, which must learn to sing from their parents the only animal which must be educated. He can be gradually brought to perfection through education.”

⁵ *Anth Dohna* [Kowalewski, pp. 367-8].

⁶ Namely, that we would then be *responsible* for our perfections, and thus be deserving of whatever happiness accrues as a consequence. Kant discusses this perfection as being *active* in the third thesis of *Allgemeine Geschichte* [STW, xi.36; Humphrey transl., p. 31], *Refl. Anth* [AA, 15:618, 639]. On the need for *responsibility*, see *Refl. Anth* [AA, 15:620-1], *Colleg Anth 80s* [AA, 15:886]. That this self-development is a *duty*, see *Grundlegung* [STW, viii.515-7, 580-82; Gregor transl., pp. 45-6, 110-114].

⁷ This open-endedness is just our ability to inhibit impulses (see §35). Progress is possible because of this ability to substitute one representation for another as the ground of action, including wholly ideal posits which might be future-oriented, thus substituting future for present concerns.

each individual, and with each mature organism arriving at pretty much the same level of rational competence (allowing for natural differences of mental powers). It is conceivable that while humans actively pursue the development of their talents, and while the talents of brutes develop naturally, such development is fully attainable in each individual human and brute. But this is not what Kant thought. Rather, while he agreed that individual *brutes* enjoyed the full development of their talents, Kant had grounds for believing that the full development of human talents was possible only within the species as a whole; reason develops *within the species*, advancing (perhaps sometimes retreating) from generation to generation.¹

The progressive nature in humans is directly tied to human freedom and rationality. First, it is only because we are *free* that we can act according to our own ends, and thus “progress”:

All animals have a natural character which they cannot alter. Man has a free will, which can shift one’s temperament and, for that reason this temperament does not describe the essence of his character, but rather from this is he himself its creator through freedom.²

Second, as we come closer to our ends, our lives and the structure of the society become increasingly rational, that is, determined by a rational (as opposed to some non-rational or merely sensuous cause). It is reason that raises development beyond the level of the individual to the level of society and the species:

Regarding the purposes of nature, we can assume the principle that she wants every creature to arrive at its own vocation through the proper development of all inherent tendencies, so that at least the species, if not every individual, accomplishes nature’s purposes. Among the irrational animals this actually happens, reflecting nature’s wisdom. But regarding man, only the species reflects this principle. On earth we know of only one species of rational beings, the human species, in which we also recognize only one natural tendency for this purpose, namely, to bring about sometime in the future the development of the good out of the evil through its own efforts.³

There is much in this passage wanting clarification. First, the “purposes of nature” and the “vocation”⁴ of creatures must be seen in the context of §22. Positing purposes for nature, or vocations for the different organisms, is reason’s way of ordering experience into a system. Second, to attain one’s vocation is just to perfect one’s skills or to develop or actualize one’s natural tendencies. Linking the cultivation of one’s natural talents to the attainment of one’s vocation appears to be a stipulative definition of ‘vocation’. Third, for reasons to be explored later, Kant believed that *reason* is the only faculty which cannot be fully developed within the lifetime of the individual. As a consequence, rational organisms were unable to attain to their vocation in their lifetimes. But, since “nothing in nature is vain” (another postulate for systematizing experience), this vocation must eventually be reached. The vocation mentioned here is what we might call ‘actualizing the just society’, but Kant elsewhere mentions *the completion of science* as our vocation; this gives us two complimentary

¹ This *phylogenetic* development of reason is a theme found throughout Kant’s writings. Indeed, some scholars see it as central to understanding Kant’s system in general; see, for instance, Yirmiah Yovel, *Kant and the Philosophy of History*.

The following passages all concern the claim that the brutes’ vocation is attainable individually, while the vocation of humans is attainable only within the history of the species: *MP Herder* [AA, 28:108], *Ethik* [Menzer, pp. 305-7, 313, 317-19; Infield transl., pp. 242-4, 249, 252-3], *Pädagogik* [STW, xii.701-2; Buchner transl., pp. 110-11], *Menschenkunde* [Stark, p. 367], *Allgemeine Geschichte* [STW, xi.35; Humphrey transl., p. 30], *Anweisung* [Stark, pp. 120-1], *Anthropologie* [STW, xii.676; Dowdell transl., p. 240], *Refl. Anth* [AA, 15:606, 647-8], *Colleg Anth 70s* [AA, 15:620-1, 635-6, 779, 781-2], *Colleg Anth 80s* [AA, 15:859, 885].

² *Colleg Anth 80s* [AA, 15:866].

³ *Anthropologie* [STW, xii.683; Dowdell transl., pp. 246-7].

⁴ ‘Bestimmung’ is the word translated as ‘vocation’, and occasionally as ‘determination’ or its synonyms. Prior to Kant, ‘Bestimmung’ normally referred to a thing’s “inner essence” (in the Aristotelian tradition) or “ground of being” (in the Platonic); metaphysical undertones persist in Kant’s use despite the change of context. Kant also applied the term to human action and the moral life — a use best exemplified in Fichte’s *Bestimmung des Menschen* (1800). Here ‘Bestimmung’ should imply to the reader a necessity or determinacy; one is perhaps closest to the meaning if one thinks of vocation as a “calling” (as in: “to follow one’s calling to the priesthood”), but without any *explicit* religious overtones. For an historical overview, see the articles ‘Bestimmung’ and ‘Bestimmung des Menschen’ in Joachim Ritter, editor, *Historisches Wörterbuch der Philosophie* (Stuttgart: Schwabe and Co., 1971), vol. i, pp. 850-59.

vocations, the one theoretical (science) and the other practical (society).¹ Furthermore, in this passage Kant places the attainment of our vocation in the future of the human species but, as will be seen below, such attainment might occur in the individual as well *if* an after life is postulated, preferably one lasting a long time (e.g., infinitely long). And so we add a second tier to our two-fold vocation: one worldly, the other divine.² Finally, since Kant believed that only humans are rational (among terrestrial species), he believed that brutes are capable of attaining to their vocation *individually* (in their own lifetime) but humans only *collectively*, in the future of their species.

To summarize the above, the line of reasoning seems to run as follows:

- (1) Nothing in nature is vain. Therefore, all potentialities (skills, talents, dispositions, faculties) in nature are to be actualized (completed, perfected, fully expressed), for mere potency would be useless or vain.
- (2) Organisms have faculties, and their vocation is the full-expression of these faculties.
- (3) Reason is the only faculty which cannot be perfected in a single life-time; therefore, rational organisms cannot attain their vocation (at least as individuals).
- (4) Humans are rational, brutes are not.
- (5) Brutes can actualize all their faculties within the lifetime of the individual, while humans cannot.
- (6) Since nothing in nature is vain, there must be some other way that the human vocation is attained; that way is in the progress of the human species.

That Kant considered brutes to be non-rational has already been discussed above in §28, and that organisms have faculties or capacities seems in little need of discussion. Those steps needing further explanation are the axiom that nothing in nature is vain, and the belief that reason is a talent requiring many generations to develop fully.

§50. No natural part is vain.

Kant believed that the life sciences depend upon the axiom that nothing in nature is vain and, in particular, that no part within a plant or animal exists without reason, or purpose, or a role to play in the welfare of the organism. In the section of the *Critique of Judgment* on “the principle of judging of internal purposiveness in organized beings,” Kant writes:

This principle, which is at the same time a definition, is as follows: An organized product of nature is one in which every part is reciprocally purpose [end] and means. In it nothing is vain, without purpose, or to be ascribed to a blind mechanism of nature. [...]

It is an acknowledged fact that dissectors of plants and animals...assume as indisputably necessary the maxim that nothing in such a creature is vain, just as they lay down as the fundamental proposition of the universal science of nature, that nothing happens by chance.³

¹ On this see those passages contrasting our *animal* with our *moral vocation*: *Mutmaßlicher Anfang* [STW, xi.94n; Humphrey transl., p. 55n], *Theorie/Praxis* [STW, xi.131, 167; Humphrey transl., pp. 63, 86], *Frieden* [STW, xi.217-27; Humphrey transl., pp. 120-7], *Anweisung* [Stark, pp. 120-5], *MP Mrongovius* [AA, 29:916], *Refl. Anth* [AA, 15:522, 555].

² These two tiers come together in a comment from the *Colleg Anth 80s*:

...that all inherent tendencies of its nature be purposefully developed, and indeed, that not only the *species*, but also every *individual*, will eventually fulfill its entire vocation. [AA, 15: 896]

³ *KU*, §66 [STW, x.324-5; Bernard transl., pp. 222-3]. In the following section is written:

The principle of reason belongs to it only as a subjective principle or maxim: viz. everything in the world is some way good for something; nothing is vain in it. [STW, x.328; Bernard transl., p. 225]

A modern reader naturally thinks of the problem of so-called vestigial organs when reading this passage, but it was not until Darwin that an account of form and function was given that made admissible the presence of such functionless parts.

This is not a casual aside of Kant's, but an interest to which he devotes considerable attention,¹ and in the metaphysics lecture notes taken by Mrongovius in the summer semester of 1783, the principle that nothing in nature is vain is tied to another principle which Kant often invokes, namely, that all potentialities in nature are to be fully actualized:

We find in nature that everything not only has its purpose, but is also determined to develop completely and to attain its entire purpose....²

This second principle would seem to follow directly from the first, insofar as any unactualized potentiality would be a form of waste or purposelessness.

§51. *The development of reason.*

Reason develops within the species as well as within the individual human, and Kant believed that it can be *fully* developed only in the history of the former. Humans are distinguished from all other species by their ability to progress, not only on the individual level but as a species.³

The *individual* progresses by acting in accordance with self-imposed goals. If an individual was either wholly rational or not rational at all then the possibility of any real progress or development in the individual *qua* rational being would be foreclosed. Either we would be born rational, and then proceed to use it so as to acquire knowledge and secondary skills which would be progress of a sort, but not a progress of reason, or we would acquire reason sometime during our existence (which experience certainly speaks against), but there would not be possible any development of reason *per se*. Yet Kant clearly believed that reason *was* developmental, that humans are no more rational than brutes at birth — indeed, *are* brutes, in a sense — and that our mere potentiality of acquiring reason is gradually actualized, perhaps never fully, and to varying degrees. We are, to invoke an old picture, midway between the brutes and the angels, neither wholly deficient in our reason nor yet wholly perfect.

The kind of progress found in the *species* is twofold: the creation of the just society, and the accumulation of learning leading to the completion of science. In each of these the individual adds her small contribution which survives her death in the form either of recorded learning or in some aspect of the social fabric. To gain a better sense of Kant's intentions here, I will focus briefly on the completion of science as a goal of the species.⁴ Here an older generation teaches its acquired learning to the younger generation, from which the learning can continue without having to repeat the work of preceding generations. Reason can be fully actualized only in the history of the species because the scientific project is so open-ended; so long as there remain problems to research, reason's journey is not yet over. We read in the Herder lectures that...

...no acquired talents are given in vain. [...] Do the characteristics of humans merely suffice for this life? Or does he have higher talents and faculties? [...] Life is too short [for science and our desire to know]: there is

¹ Several passages in the first critique concern this principle: "...reason must necessarily accept the principle that...nothing is purposeless, but everything exactly conformed to its destiny in life..." [B 425]; "Everything in an animal has its use, and subserves some good purpose" [B 716]; "Everything which nature has itself instituted is good for some purpose" [B 771]. And in the *Prologomena*: "Everything that lies in nature must be originally intended for some useful purpose" [STW, v.239; Beck transl., p. 111]. In the *Grundlegung*, we find the principle that each part is not merely useful for the whole, but that each part is the best possible: "...we assume as an axiom that no organ will be found for any purpose which is not the fittest and best adapted to that purpose" [STW, vii.20; Beck transl., p. 11].

² *MP Mrongovius* [AA, 29:915].

³ In the *Anthropologie* Kant discusses technical, pragmatic, and moral features of human progress, noting that each of these is adequate to set us apart from other "earth dwellers" [STW, xii.672-3; Dowdell transl., p. 238]. The "technical" refers to our physical condition and our history, the "pragmatic" to our social existence, and the "moral" to the possibility of there being good or evil in our very nature.

⁴ As for our vocation being the just society, see *Refl. Anth* [AA, 15:608-9]: "The Kingdom of God on earth: that is the final vocation of humans." Bury claims that Kant is primarily concerned with moral progress, referring "little to scientific or material progress" [*The Idea of Progress*, p. 247]; I would suggest that scientific progress was of equal moment for Kant.

no proportion between them. [...] The human is unsatiated with science and dies, his descendent heatedly takes up where he left off, but also dies, everything is disrupted. Newton died early....¹

The questions of human vocation and science are explicitly brought together in the *Reflections on Anthropology*: “The sciences most certainly belong not to the vocation of the individual human, but to the vocation of the human race.”²

These same considerations on the shortness of life and the project of reason (viz., science) are employed in arguments for the immortality of the soul. So, for instance, in the Pölitz lectures we find the following:

The shortness of human life does not suffice to make use of all the sciences and knowledge that one has acquired. Once one attains to the heights of the sciences, and can finally make the best use of them, one dies. If, for example, a Newton had lived longer.... And thus the shortness of life is disproportionate to the talents of the human understanding. Since nothing in nature is vain, these considerations also suggest an after life. The sciences are the luxury of the understanding, with which we receive a premonition of what we will be in the future life.³

These two arguments, one for the continual progress of the human species until reason’s vocation is completed, and the other for the survival of the individual soul after bodily death, can be seen as two versions of the same argument — one worldly, the other divine.

This is only to suggest why Kant believed that reason, as a talent found in humans, cannot be actualized within the life of any individual, and cannot here be further pursued. Humans are distinguished from brutes in that the latter are able to attain their vocation on the individual level, while the former can attain it only on the level of the species. But our discussion of reason developing is not yet at an end, for I have thus far considered the development of only certain *products* of reason (viz., science and the just society), but not the development of reason itself. This latter consideration raises some unique problems of its own, as will be explored in the following section.

§52. Reason as a function.

Kant was concerned not just with the development of reason’s products, but with the development of reason itself, both ontogenetically and phylogenetically. But there appears to be a problem with the very idea of reason developing, for if it develops, then it must exist in time (since the idea of development or change implies the passage of time), and thus be part of nature (the phenomenal world).⁴ As noted in §31, there are passages where Kant even suggests the possibility of reason being of the phenomenal, rather than of the noumenal, self.⁵ But there are also many passages where Kant seems to be claiming just the opposite indirectly, when he argues for the immateriality of the soul (which would seem to include the faculty of reason), and directly, when he argues from the “unity of apperception” that the mental cannot be material. Add to this the many passages where Kant contrasts rationality with animality, suggesting that rationality is not of the phenomenal

¹ *MP Herder* [AA, 28:107-8; Menzer, pp. 107-8]. See the parallel passages at *Anthropologie* [STW, xii.679-80; Dowdell transl., pp. 242-3]:

The compulsion for science, as one of the nobler human cultivations, has in the whole of the species no proportion to the span of life. The scholar, once he is far enough advanced so as to widen the field, is called away by death and his place is taken over by a mere novice who, shortly before the end of his own life, after he has taken a small step further, must relinquish his place to yet another. What quantity of knowledge, what discovery of new methods would already exist if an Archimedes, a Newton, or a Lavoisier, with his diligence and talent and without a lessening of energy, would be granted by nature just a hundred more years. Thus is the progress of the species in the sciences always fragmentary and unprotected against regressions such as the barbarism of nations threaten.

and at *Ethik* [Menzer, pp. 305-7; Infield transl., pp. 242-4].

² *Refl. Anth* [AA, 15:606]. See the parallel passage at *Colleg Anth 70s* [AA, 15:783]: “The sciences belong not to the vocation of the individual humans, but to the human race.”

³ *MP Pölitz* [AA, 28:294]. See also *MP Mrongovius* [AA, 29:915]: “There are dispositions in the human soul which do not attain their goal in this life; and so we conclude that there must come a time wherein they will attain their determination.”

⁴ For example, in *Das Ende aller Dinge* (1794a): “thinking involves a reflection which can itself only happen in time” [STW, ix.184; Humphrey transl., p. 95].

⁵ See *Tugendlehre* [STW, vii.568-9, 574n; Gregor transl., pp. 99, 104n] and *KdpV* [STW, vii.179; Beck transl., p. 170].

aspect of humans (if we assume that the phenomenal in humans consists wholly of the animal), and the contradiction of passages seems complete. But a brief examination of the texts will help dispel any appearances of contradiction.

Those passages where Kant directly suggests the phenomenal nature of reason have already been quoted above; as for the suggestion that reason develops, we find the following:

Reason in a creature is a faculty... which requires experimentation, practice, and instruction in order to gradually progress from one step of insight to another.¹

The first provision of nature was that the human as animal should preserve both itself and its kind; and to this end was that posture, viz., the quadrupedal, most suitable.... But a germ of reason was also placed in him, through the development of which he was intended for society...²

That reason *cannot* be material is argued in several passages, the same argument being used in each, namely, that a material basis of mind undermines its unity. Since matter is spatial, it is infinitely divisible; and since the self or consciousness is not divisible, the self or consciousness cannot be material. This is roughly the same argument used since the time of Plato for the immateriality, and thus incorruptibility (i.e., immortality), of the soul. In his uncompleted essay on the progress of metaphysics, probably written in 1793, Kant observed that...

...the unity of consciousness that must necessarily be found in all knowledge... makes it impossible that representations divided among several subjects should constitute unified thought. Therefore, materialism can never be used as a principle for explaining the nature of our souls.³

In an essay written to accompany Sömmering's book, *On the Organ of the Soul*, Kant further discussed the difficulties of trying to locate the soul in space (e.g., in the brain, or some part of the brain).⁴ And in a letter to Carl Wilmans (written sometime after 4 May 1799) Kant wrote:

Your proposition, the sense of which I cannot fathom... is that there is a complete difference between reason and understanding, the latter being a merely material being.

Now, *the material plurality*, which disallows any unity of consciousness of the subject, and *the unity of thought*, which connects the plurality of the representations into one consciousness, simply cannot — by my lights — be brought into the same subject, whose very nature it is to be unifiable.⁵

¹ *Allgemeine Geschichte*, "second thesis" [STW, xi.35; Humphrey transl., p. 30]. See also *KdrV* [B 449]: "...human reason must necessarily encounter in its progress..."; [B 878]: "Metaphysics is the full and complete development of human reason..."; *Refl. Anth* [AA, 15:623]: "Germ of understanding"; *Ibid.* [AA, 15:645]: "reason developed itself to such an extent that instinct could be replaced with another mainspring"; *Mutmaßlicher Anfang* [STW, xi.9; Humphrey transl., p. 30]: "Before reason awoke"; *Das Ende aller Dinge* (1794a) [STW, ix.183; Humphrey transl., p. 98]: "nothing remains for reason but to progress steadily...."

² *Moscatti* [STW, xii.769]; the sentiments expressed here are Kant's own, and not merely a recounting of opinion found in Moscati's book, as might be thought since the majority of the review was just such a summarizing. See also *KU*, "Remark to §88" [STW, x.422; Bernard transl., p. 309]: "...from the earliest development [*Aufkeimung*] of the human rational faculty"; and *Refl. Anth* [AA, 15:616]: "...the development of reason was achieved through society."

³ *Fortschritte* [STW, vi.648; Humphrey transl., p. 151]. See also *MP Volckmann* [AA, 28:449]: "Matter might indeed be a necessary requirement for the support of our thoughts, but thought itself is not mechanical."

⁴ The essay is reprinted at [STW, xi.255-259]; see p. 259. It originally appeared with Sömmering's *Über das Organ der Seele* (Königsberg, 1796). **Samuel Thomas Sömmering (1755-1830)**, was the most outstanding German anatomist of his day, becoming a professor of anatomy and surgery at Kassell in 1779, at Mainz in 1784, and finally at Frankfurt from 1820 until his death. He advanced the theory that the vapor occurring in the ventricles of the brain was the organ or seat of the soul.

See also the correspondence between Kant and Sömmering: Kant to Sömmering (10 August 1795), Sömmering to Kant (22 August 1795), and Kant to Sömmering (17 September 1795).

⁵ *Briefwechsel* [AA, 12:279]. **Carl Arnold Wilmans (1772-1848)** was born and studied in Bielefeld, where he later practiced medicine. He had sent to Kant a copy of his dissertation which compared Kant's religious doctrine with mysticism, and attached to it a summary of certain features of the Critical Philosophy. Kant then appended Wilman's summary to the end of the second section of his *Streit der Fakultäten*, with a note explaining its origin, and a disavowal of

The inconsistency between those passages arguing that reason is or can be of the phenomenal world, and those arguing that it cannot be located in space (and therefore not in the phenomenal world) is only apparent, however, and can be resolved by viewing reason as a function or system. The problem stems from several considerations: Kant leaves open the possibility that reason is in fact grounded in the noumenal self, and thus is free of sensuous conditions; but since knowledge of this is beyond the pale of understanding, he notes that reason might be no less a part of the phenomenal world than is sensibility. Further, given his persistent belief that reason *develops*, this phenomenal existence of reason seems all but required.¹ Still, reason (or the understanding) cannot be grounded in matter as such, for that would be inconsistent with the *unity* that we sense in our consciousness (e.g., that there is one self, the I, and that attention can be focused on only one item at a time).

What we are therefore left with is something like a *functionalist* account of reason and the higher cognitive powers. Reason is neither noumenal, nor spatial (i.e., a thing that can be seen, touched, and cut in half), but is instead a system or functioning of parts which are themselves phenomenal (i.e., material) but do not by themselves comprise reason. The mental cannot be a thing, but it might be a functioning system made up solely of things.² This is similar to the equation of the soul with the “attunement of the lyre” that Simmias advanced to counter Socrates’ argument for the soul’s immortality (*Phaedo*, 85e-86d). Thus it is possible that reason is neither noumenal nor material, but yet of the phenomenal world. The development of reason is also more understandable once it is thought of in terms of the development of a system (both in the individual and in the species) within the phenomenal world, and not as the development of something noumenal.³

§53. *The learned brute.*

Although brutes cannot perfect themselves (for they lack the freedom to intentionally pursue freely chosen ends) they *do* progress in at least one sense; this progress, which is the gradual actualization of all of the brute’s talents, and which normally attains completion in the life of each individual, is the brute’s vocation. But there is a question as to whether brutes might not also progress on the level of the species as well, and thus resemble humans more than Kant allowed.

Was Kant right in claiming that brutes attained their vocation in the individual? We cannot, of course, know whether brutes feel the same yearning for knowledge, justice, and a better world that (at least some) humans do, and this feeling seems to be the criterion as to when one’s vocation is fulfilled. But one can still ask whether the behavior of brutes might show some indication of accumulated change in the species, either in the social structure (for those social organisms such as bees, ants, termites, and some primates) or in the learning of skills. The former possibility was scarcely to be considered in Kant’s day, given the lack of adequate ethological studies, but as for the latter, Kant *was* aware of instances of animal learning (i.e., the maintenance of new skills across generations).

One would not think that animal learning could be admitted into Kant’s system, insofar as learning appears to require more than a simple instinctive response to its environment — which is all that Kant wants to allow brutes.⁴ In acting solely on the basis of instinct, animals are completely determined by external forces, that is to say, whatever stimuli they happen to meet will determine their behavior:

full agreement with its content [see STW, xi.340-47; Gregor transl., pp. 127-39]. The materiality of understanding is also defended in this appendix, where it is classified as a lower cognitive faculty (along with the sensibility).

¹ Unless one enter a kind of “antinomy of history,” as discussed by Yovel in his *Kant and the Philosophy of History*.

² Patricia Kitcher also finds in Kant a species of functionalism: see “Kant’s Real Self” in *Self and Nature in Kant’s Philosophy*, and “Kant on Self-Identity” in *Philosophical Review*, 91:41-72 (1982).

³ Since brutes are likewise considered as possessing an “immaterial” aspect (by virtue of being alive), there need be no great leap from the functional system comprising the non-rational living organism, and the system comprising the rational organism. Kant suggested as much when he claimed that the only way that humans might be of any superior worth to brutes is that they have a noumenal self, which thus allows for freely chosen actions (which, if chosen rightly, will be moral).

⁴ See for instance *Mutmaßlicher Anfang* [STW, xi.87; Humphrey transl., p. 50]: “Instinct — that *voice of God* that all animals obey....”

...natural necessity is the property of the causality of all irrational beings by which they are determined in their activity by the influence of foreign causes.¹

Compulsion is not *necessitatio arbitrii sensitivi*, but rather *intellectualis*: for were it *necessitatio per stimulus*, the human would be an animal.²

Accordingly, Kant seems to consider the skills of brutes as stagnant. There is some ambivalence as to the existence or nature of animal progress in the early metaphysics lectures attended by Herder. A passage on rational psychology begins with the following, which would seem to deny brutes any progress:

We find among animals many similarities with humans...e.g., slyness: dogs who can open the latch...bees and their hexagonal honeycombs, the order in the hive — *but their art will never be improved and will remain as it did in the beginning.*³

But in the next paragraph, Herder has recorded Kant as saying of the cleverness in animals that it has “arisen through custom,” indicating either that an individual learned some skill of cleverness, or that the skill has arisen in the entire species.

Kant did believe that at least some brutes exhibited learning skills — no doubt because the weight of empirical evidence afforded little choice in the matter, but also because he was able to accept a form of animal-learning which did not involve concepts. Kant apparently believed, as Mead was later to believe⁴, that learning can be based on instinct, thus allowing flexibility to the mechanically necessitated organism.⁵ In the Arnoldt notes, Kant suggests such an education occurs in rabbits and dogs:

There are no concepts here [in the rabbit or dog, each of which is trying to outwit the other], as animals have no rational faculty, but instinct structures [*bildet*] an experience through the many similar cases which serve the dogs as a guiding principle.⁶

In several passages he also discussed birds and their singing. These songs cannot be innate, argued Kant, for a bird will adopt the song of surrogate parents, regardless of the species; consequently, birdsongs must be learned:

Man needs care and education...So far as is known, no animal needs these; none of them learn anything from their parents, except birds their singing. In this they are instructed by the parent birds...In order to be convinced that birds do not sing from instinct, but actually learn it, it is worthwhile to make an experiment. Take away about half the eggs from a canary and replace them with sparrow eggs; or, even exchange very young sparrows with the young of the canary. If, now, these are taken into a room where they cannot hear the sparrows outside, they learn the singing of the canary, and you have singing sparrows. It is also really very wonderful that each species of birds retains a certain song through all generations, and the tradition of song is probably the truest in the world.⁷

Finally, in the *Menschenkunde*, Kant again includes dogs along with the birds in his class of learned brutes:

¹ *Grundlegung* [STW, vii.81; Beck transl., p. 64].

² *MP Mrongovius* [AA, 29:897]. See also in the *Grundlegung*:

Interest is that by which reason becomes practical, i.e., a cause determining the will. We therefore say only of a rational being that he takes an interest in something; irrational creatures feel only sensuous impulses.... [STW, vii.97n; Beck transl., p. 79n]

³ *MP Herder*, “Psychologia rationalis,” [AA, 28:116].

⁴ See Mead’s essay on animal psychology, to be discussed in §90, below.

⁵ Kant even speaks of “mechanical instruction,” which can be given to brutes and humans alike, in *Pädagogik* [STW, xii.707; Buchner transl., p. 123]. This form of training he contrasts with the sort which teaches the pupil to think (which is, accordingly, limited to humans).

⁶ *MP Arnoldt* [AA, 29:949]. By ‘rational faculty’, Kant apparently means any “higher cognitive faculty” (e.g., understanding, judgment, and reason) insofar as all of these involve the use of concepts.

⁷ *Pädagogik* [STW, xii.699; Buchner transl., pp. 106-7]. See also *Anthropologie* [STW, xii.675]: “Indeed the songbirds teach their young certain songs and pass them on by tradition”; and the *Colleg Anth 80s* [AA, 15:886]: “[Humans] must be raised. Instruction and discipline. Animals are not instructed, except for birds in their singing. Learns to speak....”

The first skills that we meet, even among primitive humans, are walking and speaking. How did man learn to speak?... Humans invented language bit by bit, just as birds learned to sing and dogs learned to howl.¹

§54. *The divine brute.*

Whenever Kant discusses progress, whether it be simply in the individual, or across generations as a development within the species as a whole, a discussion of reason is usually not far behind. Reason makes progress possible, and it is so nearly a defining feature of reason that if it appears that brutes progress in some way, he feels called upon to either deny the actuality of that progress or else to make a point that it is not grounded in reason, being instead due to instinct (reason's counterpart in the brutes). So, for instance, he argued that cases of learning in brutes can be explained wholly in terms of instincts.²

In a passage on rational psychology in the Herder notes, there is speculation of advanced brutes inhabiting the afterworld:

We could think of animals with greater instincts, greater abilities, better organs, which, for example, build cities, etc. Thus the immaterial [part] of the animal would continue into the next world, in accordance with the order of nature (through which nothing is created, and nothing can be destroyed): here perhaps the humans would have the animals do that which they could do themselves but which might be unseemly, so that they would have through reason a noble happiness. But the externalities which comprise their condition, will perhaps be accomplished through animals of increased abilities, whose body can always grow, but can never become rational, even if it would keep climbing into infinity...In the future universe there can be an advancement of all beings, according to analogy. They have already unfolded here quite a bit.³

The possible afterlife of brutes is also discussed in lecture notes taken two decades later by Mrongovius in the summer semester of 1783:

We come now to the second part of rational psychology, namely, to the comparison of the [human] soul with other beings. [...] Perhaps animal souls persist for all eternity and stand in service to humans — in the next life as in this one. They will still never become human souls, because they differ from humans not merely by degree, as Meier believed, but by kind. But it is easy to think that since animals are at present part of human needs, likewise in the next life when humans will be perfect, there will be more perfect animals which will serve them. But until then these ideas remain mere fantasies....⁴

And in the Dohna notes from Kant's metaphysics lectures of the winter semester 1792/3:

We come now to the last chapter of rational psychology: *animae brutorum*.... The soul of an animal, as *anima bruti*, can develop and grow indefinitely, but only as becoming [ever more] sensitive, never becoming

¹ *Menschenkunde* [Stark, p. 366].

² As is usual for Kant when admitting learning in brutes, he is quick to add that this learning is only "by analogy with reason," criticizing those who would infer from it a rational faculty in the brutes: "That this could be rational with humans [i.e., based on reason], they hold that it therefore *is* rational, and therefore also with animals — see Reimarus" [*MP Herder*, AA, 28:116]. The reference here is apparently to H. S. Reimarus, *Allgemeines Betrachtung über der Tiere, hauptsächlich über die Kunsttriebe* (Hamburg: Bohn, 1762), 2nd edition, §§23, 24, 122, 123. **Hermann Samuel Reimarus (1694-1768)**, a Wolffian and a deist, rejected Descartes' animal-machine hypothesis, and is considered the founder of modern animal psychology. He apparently saw the difference between humans and brutes as one of the degree of determinacy; see Tetens, *Sprachphilosophische Versuche*, pp. 105-8.

³ *MP Herder* [AA, 28:116-17].

⁴ *MP Mrongovius* [AA, 29:906-7]. Kant is referring to **Georg Friedrich Meier (1718-1777)**, who studied under Baumgarten and succeeded Wolff at Halle. Meier used the Wolffian philosophy to argue for animal souls, attributing simple reasoning powers to brutes and a development similar to that described by Bonnet. The ability for abstract thought is all that separates humans from brutes; see his *Lehrgebäudes von den Seelen der Thiere* (Halle: 1750). On Meier, see Walter Schatzberg, *Scientific Themes in the Popular Literature and the Poetry of the German Enlightenment, 1720-1760* (Bern: Herbert Lang, 1973), pp. 129, 291; Dessoir, *Geschichte der neueren deutschen Psychologie*, pp. 26-36, 187-88; and Max Wundt, *Die deutsche Schulphilosophie im Zeitalter der Aufklärung* (Hildesheim: Georg Olms Verlagsbuchhandlung, 1964), pp. 226-8.

a rational being. Those people err who represent the animal soul as differing from the human only in degree and not species, for consciousness brings about total differences and impossibilities....¹

In these three passages which span Kant's career we find two somewhat remarkable claims: first, that brutes might possibly enjoy an afterlife, and second, that not only are brutes *presently* non-rational, they will *never* become rational (as opposed to, say, Bonnet's cosmology, which holds that they will).²

Kant offers no explanation as to why brutes could never become rational, and there is little in what we have examined already that is of much help in explaining the extreme position. Given his openness to the possibility of brutes inhabiting heaven, he was surely not motivated — as Descartes was in part — by considerations of church orthodoxy to so flatly deny the possibility of a reasoning brute. One likely possibility is that their acquisition of reason would include free will as part of the package, making brutes moral agents and equals to humans. Either this was simply too repugnant a notion for Kant, or he thought that they would then, by definition, be humans and no longer brutes (thereby transgressing the fixed boundaries separating species, to which Kant held so dear). But given his adherence to a Buffonian definition of species (which defined them in terms of ancestry), it was probably the mere repugnance of having brutes as moral agents that prompted Kant's strong claim.

¹ *MP Dohna* [AA, 28:689-690].

² **Charles Bonnet (1720-93)**, a Swiss naturalist whom Kant admired and often cited with approval, had suggested yet another possibility for progress within the species of brutes. This progress, cosmological in scope, has each species gradually acquiring the traits of what Bonnet took to be higher species (e.g., dogs might eventually walk upright, apes might eventually learn to speak and reason). See Kant's mention of "the law of continuous gradation" of Leibniz and Bonnet in *KdrV* [B 696]. Kant describes a similar progression — although spatial rather than temporal — in the third section of his *Himmels*: beings that live on planets nearest the sun would be more sensuous and matter-bound, while those farthest would be more rational and spiritual, than the human form on earth [STW, i.377-94].

CHAPTER 10 KANT AND EVOLUTION

§55. Introduction.

In a time when Darwinian evolution, or something very much like it, is accepted almost without question, one wonders in reading Kant if he thought humans and brutes shared a common ancestry, or if he thought that this was at least possible, if not likely. There are, after all, several passages suggesting that he held at least the weaker view, and not a few commentators have hailed Kant as an important precursor to Darwin.

In the present chapter I examine Kant's doctrine of biological species: what is a species, are they fixed or changing, and are there ancestral ties between currently distinct species? With Buffon, Kant defined 'species' in terms of ancestry and the ability to inter-breed. In considering the various claims that Kant anticipated Darwin's account of the transformation of the species, I note that Kant allowed for a transformation of species, but only within the limits of that species; there was consequently no emergence of new species in Kant's account [§56]. Further, Kant could not have accepted the mechanistic orientation that Darwin gave to his theory of natural selection [§57].

I then examine the more modest claim that Kant espoused a doctrine of species-transformation, focusing on those passages which suggest humans to have developed from a state of mere animality [§58]. We saw in the preceding chapter that reason develops in humans, both individually and as a species. What was not mentioned there is that Kant saw in this a development from animality to humanity; this development nevertheless occurs *within* the human species itself. In closing, I suggest that Kant's adherence to the fixity of species might have been motivated by his belief in the ongoing progress of reason and its products [§59].

§56. Species and their transformation.

The doctrine of species-transformism — made famous by such men as Lamarck and Darwin — holds that the individuals of a breeding population will change (for whatever reason, and either gradually or in discrete leaps) from generation to generation such that there is a point where later generations can no longer be said to belong to the same "species" as an earlier generation of that same population, or, where two populations that had once constituted a single breeding population have separated and have so changed over the generations that they can no longer be said to be of the same species. Because the meaning of 'species', at least as normally used, implies a permanence, or at least a distinctness from other species, this transformism is in effect a rejection of the traditional notion of species.

The criterion that was commonly used in Kant's day for determining whether or not two individuals belonged to the same species was what has come to be called "Buffon's Rule," named after the eminent French naturalist of the 18th century who popularized it.¹ Informally put, the rule holds that two individuals are of the same species if they (or representatives from their group of the proper sex, or who are not barren, etc.) are able to propagate offspring which in turn can mate and propagate more of "the same".² Buffon describes the rule in his essay on the ass in his *Natural History*:

An individual is a solitary, a detached being, and has nothing in common with other beings, except that it resembles or rather differs from them. All the similar individuals which exist on the surface of the earth, are regarded as composing the species of these individuals. It is neither, however, the number nor the collection of similar individuals, but the constant succession and renovation of these individuals, which constitute the species....the ass resembles the horse more than the spaniel does the greyhound; and yet the latter are of the

¹ **Georges-Louis Leclerc, Comte de Buffon (1707-1788)**, was the leading natural historian of his time, preferring natural and law-like explanations for the earth's changes over scriptural testimony and cataclysmic change. The first volume of his monumental *Natural History* appeared in 1749. He thought that humans were set apart by thought and speech, and that species were fixed; see the many pages devoted to Buffon in Greene, *The Death of Adam*, especially pp. 142-52.

² Ignoring here the many difficulties surrounding the notion of sameness.

same species, because they produce fertile individuals; but as the horse and ass produce only unfertile and vitiated individuals, they are evidently of different species.¹

Kant affirms this rule in various passages, including his 1775 essay on the human races:

The unity of the species [*Gattungen*] is nothing other than the unity of reproductive power, which for a particular manifold of animals is valid through and through. Thus the Buffonian Rule: animals that produce fertile offspring, of which there may also be differences in appearance [*Gestalt*], belong nevertheless to one and the same species. [This rule is] actually only a definition of natural species of animals in general, in contrast with all the artificial species [*Schulgattungen*]. The artificial division concerns *classes* based on similarities, but the natural division concerns ancestry, which divides the animals based on relation according to birth.²

This rule also included with it the implication that any individuals who failed this test could not have a common ancestor (e.g., the failure of humans and gibbons to propagate fertile offspring would be proof that they did not descend from common ancestors). That Kant accepted this inference is indicated in his 1788 essay on the use of teleological principles:

There is no more certain indication of the difference of ancestry than the impossibility of obtaining fertile descendents through the mixing of two hereditarily distinct divisions of humanity. But if this succeeds, then no difference in shape, no matter how great, is an obstacle to finding a common ancestry as at least possible.³

To the modern mind this is a peculiar *non sequitur*, but it was considered a legitimate inference to many minds of the 18th century.⁴ But we must not pause here to speculate how such an oversight was possible; suffice it to say that Kant accepted Buffon's rule as a means for determining the ancestral relations between individual animals (and thus of their respective groups).⁵

One might think that Kant's position on the species-issue is a point of irrelevance to our present topic. After all, he could continue believing that brutes are of no moral worth, and that humans are the end of nature, have a dual aspect of phenomenal and noumenal self, and so on, even if he were an explicit transformationist (Mead, as we will see, held something of each of these views, and he was a thorough-going Darwinian). All that such a transformism need imply as to the relation of the brutes to humans is that they share a very old ancestral relation, which tells us virtually nothing about how present-day humans and present-day brutes are related and how they differ, nor does it suggest anything as to how we ought to behave towards brutes – unless we are to count that vague feeling of brotherhood or kinship that such a distinct relationship might invoke and which, in any event, is a feeling that occurs just as often in people who consider humans and the various groups of brutes as distinct and separate, yet as stemming from a common source, such as God or the Mother Earth. Biologi-

¹ Buffon, *Histoire naturelle, générale et particulière, avec la description du cabinet du roi*, 44 volumes (Paris: De l'imprimerie Royale, 1749-1804). Translated by William Smellie as *Natural History, general and particular*, 20 volumes (London: T. Cadell and W. Davies, 1812), vol. iv. On Kant's relation to Buffon and the status of this interbreeding criterion, see Phillip R. Sloan, "Buffon, German Biology, and the Historical Interpretation of Biological Species" in *The British Journal for the History of Science*, 12:109-53 (1979), especially pp. 125-45. Sloan emphasizes the historicist interpretation of natural taxonomy supported by both Buffon and Kant.

² *Rassen* [STW, xi.11]. See also the 1785 essay on race: *Menschenrasse* [STW, xi.78].

³ *Tel. Prin.* [STW, ix.146].

⁴ On this see Lovejoy, "Kant and Evolution," pp. 176-7. For the purposes of the present essay, however, this inference is less obtrusive in light of Walther May's claim that "the possibility of a fertile coupling of humans and apes was a common belief in the 18th century" [see May, "Kants Stellung," p. 111]. May goes on to say that apes and humans consequently constituted for Kant a single ancestral-line.

Bentley Glass notes that J. G. Koelreuter, a contemporary of Kant's, had adequately refuted Buffon's rule in his tests with cross-fertilizing plants, but these tests or what they implied were apparently unknown to Kant. See J. G. Koelreuter, *Vorläufige Nachricht von einigen des Geschlecht der Pflanzen...* (Leipzig: 1761-66), as cited in Bentley Glass, "Heredity and Variation in the 18th Century Concept of the Species" in Glass, et al., *Forerunners of Darwin*, p. 160.

⁵ But while Buffon doubted the reality of species other than in the nominal sense of his definition (as in the tradition of Locke and Condillac), Kant ascribed to species a reality such that one could speak intelligibly of a species being fixed. Mandelbaum briefly mentions this in his discussion of Darwinism; see *History, Man, and Reason: a Study in 19th Century Thought* (Baltimore: Johns Hopkins University Press, 1971), p. 398n17.

cal ancestry would seem to add nothing unique to our view of brutes or of our proper relationship to them; and nothing would need to change with Kant, regardless of how he came down on the issue.

Nevertheless, there has been a respectable amount of literature devoted to this topic (indicating relevance to someone)¹ and, apart from that, pursuing it here will help fill-in his doctrine of animal and human progress, as considered in the preceding chapter.

§57. Was Kant a precursor of Darwin?

Kant suggests in several places that humans may have developed from the brutes. While some of these passages might be referring to a merely ontogenetic emergence of humans from animality,² in others he is quite clearly considering a phylogenetic development.³ That Kant held fast to the fixity of species or organic forms is beyond doubt;⁴ but indubitable here is only that he saw *future* transformations to be ruled out: in the past, when nature's womb was young and fertile and her offspring malleable, a great deal of transformation might have occurred — indeed, this is how he explained the human races as being variations diverging from a common biological stem.⁵

I believe that Kant intended to remain agnostic on this point of past transformism (with respect to the *whole* of creation deriving from a single source or seed, as opposed to the more moderate transformism resulting in present-day varieties), but that there were fixed limits to these transformations, and that he did not believe that further transformation was likely. Kant *did* emphasize the importance of biological ancestry in understanding the relations of organisms (as opposed to merely describing present-day similarities).⁶

Despite his sympathy with a certain kind of transformationism, Kant was *not* a precursor of Darwin, and claims to the contrary rest on either a confusion concerning the nature of Darwinism, or a misreading of Kant. Darwin's unique contribution to the life sciences — apart from his voluminous data-gathering — was the hypothesis that species transformed to make new species, and that they did this by way of natural selection, which is a process wholly explicable in “mechanical” terms.⁷ That species came from other species was not a new idea with Darwin, having been in the European mind for well over a century; what was unique was his mechanical account of how this transformation came about. So if Kant is to be called a precursor of Darwin, then it must be shown that Kant had offered at least the beginnings of an account of natural selection in his writings; the opposite, however, is the case. A quick glance at his *Critique of Judgment* reveals a clear and unyielding opposition to any completely mechanical explanations of biological phenomena — as noted above in Chapter 8, Kant did not consider the human mind equal to the task. To quote again a familiar passage:

¹ See those works which argued that Kant was Germany's premonition of Darwinism, most notably: Ernst Haeckel, *Natürlichen Schöpfungsgeschichte* (Berlin: Georg Reimer, 1868), Fritz Schultz, *Kant und Darwin* (Jena: Hermann Duft, 1875), Arthur Drews, *Kants Naturphilosophie als Grundlage seines Systems* (Berlin: Mitscher and Röstel, 1894). Lovejoy's “Kant and Evolution” and Walther May's “Kants Stellung zum Deszendenzproblem” offer excellent assessments of this claim.

² *KdpV* [STW, vii.179; Beck transl., p. 170], *Ethik* [Menzer, p. 279; Infield transl., p. 220].

³ E.g., *Anth Dohna* [Kowaleski, p. 365], *Moscatti* [STW, xii.767-69], *KU*, §80 [STW, x.374; Bernard transl., pp. 267-8].

⁴ *Rassen* [STW, xi.19], *Menschenrasse* [STW, xi.71], *KU* [STW, x.379; Bernard transl., p. 272].

⁵ See the two essays on race (1775, 1785), and the essay on the use of teleological principles (1788) for accounts of this doctrine.

⁶ Thus see the many passages where he compares *Naturgeschichte* with *Naturebeschreibung: Rassen* [STW, xi.18, 30]; *Menschenrasse* [STW, xi.75], *Einrichtung* (1765) [STW, ii.908-10]; *MAdN*, “Preface” [STW, ix.11-12]; *Tel. Prin.* [STW, ix.142-48]; *KU*, [STW, x.371-2, 385n; Bernard transl., pp. 265-6, 278n]. On Descartes' use of these genetic accounts, see §16, above.

On these concepts in the work of Buffon, see Phillip R. Sloan and John Lyon, *From Natural History to the History of Nature: Readings from Buffon and his Critics* (Notre Dame, Indiana: University of Notre Dame Press, 1981).

⁷ This is a loose sense of ‘mechanical’ since Darwin clearly required more than terms of mass, extension, and time in his theory. An explanation resorting only to chemical terms would not have been possible, either. All that is meant here is that the explanation is free of all reference to goals or purposes.

It is indeed quite certain that we cannot adequately cognize, much less explain, organized beings and their internal possibility according to mere mechanical principles of nature, and we can say boldly it is alike certain that it is absurd for men to make any such attempt to hope that another Newton will arise in the future who shall make comprehensible by us the production of a blade of grass according to natural laws which no design has ordered.¹

So Kant was clearly not a precursor of Darwin's in the sense of presaging natural selection.

§58. *From brutes to humans and back.*

What about the more modest claim that Kant supported a doctrine of species-transformism? More specifically, how are we to understand Kant's many references to the transition from animality to humanity? There are, to begin with, several ambiguities surrounding this transition which should discourage the inference that Kant believed humans to have descended from brutes at least in the Darwinian sense. These discussions parallel those in the preceding chapter on the development of reason.

First, there is the ambiguity between a phylogenetic and an ontogenetic emergence of humanity from animality. For instance, in a lecture on jealousy Kant observes that there is in humans...

...something animal, something of the beast of prey which is in us all, which we cannot overcome, and the source of which we cannot explain. There certainly are in human nature characteristics for which we can assign no reason. There are animals, too, who steal anything that comes their way, though it is quite useless to them; and it seems as if *man had retained this animal tendency in his nature.*²

Kant's use of 'retain' suggests that he viewed the presence of animality in humans as more than just a metaphor; it suggests that he believed humans to have actually once been brutes. But Kant might still have had nothing more in mind than the eventual mastery over our passions which is for Kant the mark of a mature human.³ His concerns may not have been with human phylogeny at all, but with the development of the individual. Indeed, some passages are clearly meant to be taken ontogenetically, as in his essay on education:

Man is the only creature that must be educated.... Discipline or training transforms animal nature into human nature. [...] The animal has, so to speak, not yet developed the humanity within it. [...] The human can become human only through education.⁴

And in the *Doctrine of Virtue* we find:

Man has a duty of striving to raise himself from the crude state of his nature, from his animality.... [...] Man has a duty to cultivate the crude dispositions in human nature by which the animal first raises itself to man.⁵

But there are also passages where a phylogenetic development is intended, as in his review of a book by Pietro Moscati, a contemporary Italian anatomist, who claimed that present-day humans have quadrupedal ancestors:

Moscati proves that the upright gait of humans is forced and unnatural, that he was indeed constructed such that he can move and preserve himself in this position but that when it becomes necessary and habitual, discomfort and disease arise which adequately proves that humans were seduced by reason and imitation into

¹ *KU* [STW, x.352; Bernard transl., p. 248]. See also *Rassen* [STW, xi.18]. On the differences between Kant and Darwin, see also John F. Cornell, "Newton of the Grassblade? Darwin and the Problem of Organic Teleology" in *Isis*, 77:405-21 (1986).

² *Ethik*, "Jealousy and its Offspring: Envy and Grudge" [Menzer, p. 279; Infield transl., p. 220].

³ For example, see the many passages where Kant speaks of "sinking below the beasts," or of reverting to animality. These clearly indicate a metaphorical sense of transformation, one of maturing morally, but not biologically as such. Examples of this use come, not surprisingly, from works on moral philosophy: *Ethik* [Menzer, pp. 152-3, 189, 206, 212-15, 271, 309; Infield transl., pp. 122-3, 151, 164, 169-70, 214, 246]; *Religion* [STW, viii.672-3, 683; Greene and Hudson transl., pp. 21-2, 30]. In the *Tugendlehre*, Kant speaks of our "dissolving into animality" should we lose our moral sense [STW, viii.531; Gregor transl., p. 60].

⁴ *Pädagogik* [STW, xii.697-99].

⁵ *Tugendlehre* [STW, viii.516-7, 522; Gregor transl., pp. 45, 51].

deviating from his original animal posture. [...] From these arguments one could conclude that our animal nature was quadrupedal....¹

In the *Anthropology*, a progress similar to that suggested by Bonnet is broached:

It must be assumed that in the first stage of nature (namely, the period of crudity), the children of this class of animals did not cry at birth, and only later the crying began in the second stage when both parents had already reached the cultural level necessary for domestic life.... This observation involves more thinking, and it suggests, for example, the question whether this second stage is not followed by a third, as in the case of major revolutions of nature where an orangutan or a chimpanzee developed the organs for walking, touching of objects, and speaking, and fused into human forms whose interior housed an organ for the employment of the understanding and which developed gradually through social culture.²

Phylogenesis is also being considered in his 1786 essay on the beginnings of the human species:

This portrayal of mankind's earliest history reveals that its exit from that paradise that reason represents as the first dwelling place of its species was nothing but the transition from the raw state of a merely animal creature to humanity, from the harness of the instincts to the guidance of reason....³

But while these discussions are clearly about the phylogenetic emergence of humans or humanity, none of it suggests that humans share a common ancestor with any *present-day* brutes. For it might be the case that humans, as a group, have developed from an animal condition to a human condition, just as any other group of animals might have developed over time. There is nothing in the above passages to suggest that species transform into other species; species might have developed over time, but only within certain limits, and this is indeed what Kant seems to have believed. In the 1775 essay on race, Kant wrote:

It is not possible that anything foreign to the animal could enter the reproductive faculty so as to be capable of gradually removing the creature from its original and essential determination and bring about a true and self-perpetuating degeneration from the specific type.⁴

¹ *Moscatti* [STW, xii.767-69]. In this review of 1771 Kant seems to agree with Moscati as to our quadrupedal past, as he does in the *Colleg Anth 70s* [AA, 15:555]; but he only mentions the problem without taking sides in the *Anweisung* lectures [Stark, p. 120] and later in the *Colleg Anth 70s* [AA, 15:778]. In the *Anthropologie* (published in 1798) he seems to be doubting the seriousness of the question [STW, xii.674-5; Dowdell transl., pp. 238-9], and in the 1778 lectures on *Menschenkunde* [Stark, pp. 365-7] and the 1791/2 *Anth Dohna* [Kowaleski, pp. 365-6] Kant raises strong objections to the claim of human quadrupedalism. Given the early and late dates of the last two sources, it appears that if Kant ever subscribed to Moscati's thesis, it was only in the early 1770's.

Kant was not alone in his interest with Moscati's book. Herder seems to have read and agreed with Moscati: see *Älteste Urkunde des Menschengeschlechtes*, 2 vol. (Riga: Johann Friedrich Hartknoch, 1776) [Suphan edition, vii.72-3] and *Ideen zur Philosophie der Geschichte der Menschheit*, 2 vol. (Riga and Leipzig: Johann Friedrich Hartknoch, 1784/5) [Suphan edition, xiii.152]. Harlan Lane quotes Pierre-Joseph Bonnatere, a French professor of natural history from that period, as disagreeing with "the celebrated anatomist Moscati" [Lane, *The Wild Boy of Aveyron*, p. 35].

² *Anthropologie* [STW, xii.682n; Dowdell transl., p. 245n]. While this sounds like the "natural revolution" of Bonnet's cosmology, it should be noted that Kant was also aware of other accounts of natural revolutions, as he reveals in the *Streit* [STW, xi.362; Gregor transl., p. 161]:

...provided at least that there does not...occur a second epoch of natural revolution which will push aside the human race to clear the stage for other creatures, like that which (according to Camper and Blumenbach) submerged the plant and the animal kingdoms before men ever existed.

See also *OP* [AA, 21:211-13].

³ *Mutmaßlicher Anfang* [STW, xi.92; Humphrey transl., p. 55]. See the parallel passages at *Colleg Anth 70s* [AA, 15:645-6], which also indicate a phylogenetic development. And see *Allgemeine Geschichte*:

Or should one instead assume that here nature follows a regular course in leading our species by degrees from the lower stages of animality to the highest stages of humanity? [STW, xi.43; Humphrey, p. 35]

Related here is the passage from *KdpV* [STW, vii.179; Beck transl., p. 170]. Other passages claiming a phylogenetic development are *Refl. Anth* [AA, 15:555, 604, 616].

⁴ *Rassen* [STW, xi.19].

And ten years later, in the 1785 essay on race, Kant wrote that “throughout organic nature, amid all changes of individual creatures, the species maintain themselves unaltered.”¹ Thus, while Kant certainly had a developmental doctrine of species, and particularly of the human species, he considered this development as being strictly limited by the constraints of that species. All descendents of a common group of ancestors are of the same species as those ancestors, and also of the same species as each other (and therefore capable of being fertile offspring amongst themselves — *per* Buffon’s rule). The unlikelihood of humans sharing offspring with, say, slugs or sea slime indicate the radical separation of our biological histories.²

One famous passage from the *Critique of Judgment*, often cited in favor of Kant’s ideological relation to Darwin, should be noted here. He wrote:

This analogy of forms, which with all their differences seem to have been produced according to a common original type, strengthens our suspicions of an actual relationship between them in their production from a common parent, through the gradual approximation of one animal genus to another — from those in which the principle of purposes seems to be best authenticated, i.e., from man, down to the polyp, and again from this down to the lowest stage of nature noticeable by us, viz., to crude matter. And so the whole technique of nature, which is so incomprehensible to us in organized beings that we believe ourselves compelled to think a different principle for it, seems to be derived from matter and its powers according to mechanical laws (like those by which it works in the formation of crystals).³

Here Kant points to a strong *prima facie* ground for accepting a common ancestry for all organisms and, further, that this creative process is even reducible to the mechanics of crude matter. But Kant is obviously mentioning this as merely an *apparent* explanation and not as a statement of his own beliefs.⁴ We saw in §43, for instance, that he rejected even the possibility of life emerging from matter (such being self-contradictory); and in the text surrounding the above passage Kant offers ample clues that these are not his views: he goes on to note that we have no experience of one species giving rise to another and, even if they in fact do or have, some sort of purpose would still need to be posited to the creative force, and that this mutability would gradually lessen in time. As for the “accidental variations” encountered in nature,...

...if we find that the character so changed is hereditary and is taken up into the generative power, then we cannot pertinently judge the variation to be anything else than an occasional development of purposive capacities originally present in the species, with a view to the preservation of the race.⁵

¹ *Menschenrassen* [STW, xi.71-2].

² Like Kant, Pierre Gassendi also combined a developmental with a static view of nature; to quote G. S. Brett:

Gassendi never seems to regard development in a way that would admit of new species arising; nor does it occur to him that a structure that has no function indicates a radical process of change... For Gassendi, as for Epicurus, all process and becoming virtually ceased when the world as it now is began to be, the primeval matter — the atoms — might produce new forms; but practically it is assumed that the number of successful possibilities is now exhausted. [*The Philosophy of Gassendi*, pp. 102-3]

³ *KU* [STW, x.374; Bernard transl., pp. 267-8]. Comparing organic growth to crystal formation has been propounded by **Nicolaus Steno (1638-1686)**, a Danish scientist best known for his works on geologic formations. Steno saw no difference in kind between the growth of crystals and the growth of living organisms [see Nordenskiöld, *The History of Biology*, p. 157]. See also Linnaeus’ “Observations on the Three Kingdoms of Nature” in his *Systema Naturae* (Leyden: Theodorus Haak, 1735): “(15) *Minerals* grow; *Plants* grow and live; *Animals* grow, live, and have feeling. Thus the limits between these Kingdoms are constituted.” [”Facsimile Edition,” p. 19; emphases in the original].

⁴ It is a view, for instance, that he attributed to Forster in the essay on teleological principles [STW. ix.164], and that he mentioned and in part attributed to Herder in his review of Herder’s *Ideen* [STW, xii.782, 792, 795-6; Anchor transl., pp. 28-9, 38, 41-2]. As with Kant, there is a growing literature on Herder’s relation to Darwinian evolution. Kant was mistaken in attributing a theory of descent to Herder, but in this he was not alone; Goethe and Frau von Stein read Herder in a similar light, as does Hansen: see A. Hansen, “Herders Beziehungen zur Deszendenzlehre” in *Archiv für die Geschichte der Naturewissenschaften und der Technik*, 4:307-14 (1912). For a recent review of the problem, see Helen Liebel-Weckowicz, “Herder’s Place in the Development of Ideas on Human Genesis and Evolution” in *Eighteenth Century Life*, 9:62-82 (1984).

⁵ *KU* [STW, x.376; Bernard transl., p. 269]. See also *OP* [AA, 21:559], and the discussion of epigenesis and preformation in §43, above.

Thus is indicated the epigenetic basis of Kant's doctrine on species development.

Finally, Kant explicitly rejected any common ancestry between humans and brutes:

Closer inspection reveals that [Moscati's opinion as to human quadrupedalism] is not fully grounded, even if humans border on the *Waldmenschen*. There really are apes that frequently go on two feet. Camper, a physician in Franeker, has written best of this. He says of one, which was the tallest (four and one-half feet), that he could grasp with his feet and had no knee caps. He also had an entirely different construction in the throat so that he would never be able to learn to speak. It is therefore wrong to believe that the human was an ape-genus.¹

The human embryo has a callum on the soles of the feet, like all quadrupedal animals, but it is wholly lacking on the hands. Consequently, he is no quadrupedal animal. Is the human related to the orang-outang? Externally, they appear quite similar, but the skeletons are quite different, as is everything else. So one can set that sort of speculation aside.²

§59. *Ars longa, vita brevis.*

If species-transformism might be irrelevant to Kant's general view of brutes, he was clearly not indifferent to the idea, which he consistently rejected throughout his career. Arthur Lovejoy, in an excellent article on the subject, argued that Kant was no precursor to Darwin — not only because he did not espouse natural selection as the engine of species-transformism (which is probably the only feature of a person's views that could arguably make him a precursor), but because he did not even except a doctrine of species-transformism. Lovejoy offered little explanation for Kant's position, however, adverting only vaguely to an emotional need in Kant for tidiness and for keeping things ordered and well-defined, something the notion of species certainly offered in the realm of plants and animals.³

While there may be some truth to this claim, insofar as it fits well with the received image of Kant, I would suggest that an important doctrinal issue was also at stake, an issue that Kant could not have been expected to abandon, and which was incompatible with a transformationist account of species. That issue was the progressive nature of the human race. Kant could not have maintained his view of progress, at least not human progress, had he accepted species-transformation.⁴ This is true of either mechanically- or teleologically-based transformation, for the reason that *any* transformism would undermine the stability needed for a species to progress; the constant flux is incompatible with the identity necessary for such progress. As mentioned earlier, believing that species are mutable is virtually the same as rejecting the notion of species altogether, leaving only individual plants and animals which may resemble one another to varying degrees: here there is no "species" left which can progress, and thus no human species for carrying out the development of reason.⁵

Finally, Kant came at a time in Western science where a species was no longer determined by form (a study for *Naturbeschreibung*), but where the notion of species was still useful (given his dependence on teleological explanation, Kant would probably have considered the life sciences impossible without the concept of species) and so was re-defined in terms of biological ancestry (*Naturgeschichte*).

¹ *Anth Dohna* [Kowaleski, pp. 365-6]. **Petrus Camper (1722-89)** was known for his groundbreaking dissections of the orang-outang. He published in 1779 an "Account of the Organs of Speech in the Orang Outang" in the *Philosophical Transactions* of the Royal Society, while his *Natural History of the Orang Outang and Other Kinds of Apes* appeared in 1782. Kant was familiar with these works, though he is not recorded as having owned a copy of either. On Camper's work, see Greene, *The Death of Adam*, pp. 188-93.

² *Menschenkunde* [Stark, p. 365].

³ See Lovejoy, "Kant and Evolution," p. 185: "it was because of certain temperamental peculiarities of his mind..."

⁴ This interpretation is in part suggested by the juxtaposition in Kant's writings of these two issues (viz. the stability of the species and human progress); see, for instance, the *Opus postumum* where Kant writes:

Everything living dies; only the species endures forever (so far as we can judge). We must also accept that in the case of humans. But what is peculiar here is that the species, in its mental capacities [*Geistesanlagen*] is continuously progressing towards perfection... [AA, 21:345; see also 21:346].

⁵ The notion of a species might still be useful in biological research, of course, and Darwin certainly did not abandon its use. but this is really a different notion than the fixed species that Kant believed to obtain.

Consequently, Kant's belief in the fixity of the species may have been necessary for his belief in the eventual perfection of reason. The individual life is too short for the ongoing project of reason's actualization: *ars longa, vita brevis*. The notion of a relatively stable species was needed to make sense of our faculties and their perfection in the history of the species. Human cognition and moral striving require a stability without which the scientific project and the just society could not find their completion, and would remain but vain and empty pursuits.

CHAPTER 11 THE DARWINIAN VIEW OF HUMANS

§60. Darwin and the origin of species.

While Kant had argued for the fixity of species, encouraged to this partly due to considerations of human progress, Darwin¹ would 50 years later still speak of such progress, yet set it into the questionable framework of interspecies transformations. Having undermined the “metaphysical” basis of species, Darwin still retained talk of progress, and of one species being “higher than” another. He believed that humans were somehow at the pinnacle of nature’s creativity, leading the way towards some unspoken cosmic perfection. But had Darwin not undermined all claims of progress with his doctrine of species-transformation? Darwin occasionally makes natural selection to be all sweetness and light: “Man selects only for his own good; Nature only for that of the being which she tends.”² Was his talk of progress only intended to make his views more palatable to the general public?³

In George Mead’s eyes, Darwin was not the death-dealing nihilist that his writings occasionally spawned. Rather, Mead found in Darwin the renaissance of form, a renewal of interest in the form of things; Darwin took form seriously in a way that the preceding two centuries of mechanists had not:

The scientific conception, the mechanical conception, of the world did not seem to be one that gave any explanation of the form of things...from the point of view of mechanical science, form does not exist.⁴

Like Aristotle, and unlike the modern mechanists, Darwin concerned himself with the question of forms (or species). But unlike Aristotle, Darwin believed that forms emerged, and thus were not eternal:

The assumption was that the form was there as a pre-condition of what one finds. This is Aristotelian science. It is also essentially Kantian. We have seen how we conceived of the forms of the mind as given as the precondition of our experience.⁵

Darwin was not the only person, nor the first, to believe that species arose from other species, but he has in time become the most significant, and his theory of change the most successful. Mead and Darwin shared a great many assumptions about the world, but Darwin was not trained in philosophy and did not lay bare many of these assumptions. Both men seem to have

¹ **Charles Darwin (1809-1882)** was a grandson of Erasmus Darwin (1731-1802), with whose works Kant was familiar. Charles was born at Shrewsbury the son of a prominent physician, and studied medicine at Edinburgh and later theology at Cambridge. But more interested in studying the book of nature, Darwin secured a place as Ship’s Naturalist aboard the H.M.S. Beagle, setting sail for the Southern Hemisphere in 1831 and returning five years later. His observations during these travels gave fruit to much of the work for which he later became known.

² *The Origin of Species*, edited and with an Introduction by J. W. Burrow (New York: Penguin Books, 1968), p. 132. See also p. 133: “We see nothing of these slow changes in progress, until the hand of time has marked the long lapses of ages...”; p. 459: “as natural selection works solely by and for the good of each being, all corporeal and mental endowments will tend to progress towards perfection.” The above quotes come from the 1st edition of *Origin*; by the time of the 6th (and final) edition, Darwin qualified the second quote by adding ‘metaphorically’ to the opening sentence of the paragraph: “It may metaphorically be said...”.

³ As Lyell observed, Darwin’s theory of evolution postulated no necessary progression in nature; see Sir Charles Lyell, *The Geological Evidences of the Antiquity of Man with Remarks on Theories of the Origin of Species by Variation* (London: John Murray, 1863), p. 412. Lyell rejected Darwin’s theory of change as he felt it inadequate to explain the emergence of “new and powerful causes, such as the moral and intellectual faculties of the human race” [*Ibid*, p. 469]. See also Mandelbaum’s helpful discussion of progress in *History, Man, and Reason*, pp. 80-92.

⁴ George Herbert Mead, *Movements of Thought in the Nineteenth Century* hereafter cited as ‘MT’), pp. 156-7, 158. Hans Joas’ considers Darwin’s influence pivotal for Mead; see Joas, *G. H. Mead: a Contemporary Re-examination of his Thought*, translated by Raymond Meyer (Cambridge: MIT Press, 1985), p. 53.

⁵ *MT*, p. 159.

believed in emergent properties, that is, properties which at one time existed nowhere in the universe, but then later came to be. *Life* is such a property; *reason* might be considered another. Given the flux between species (in effect, the erasure of species-boundaries and a shift to talk of the less precise “breeding-groups”), so-called “differences in kind” between brutes and humans (such as were announced by Descartes and Kant, although for different reasons) could no longer be based on species-considerations, and required instead a difference in these emergent properties. As it turned out, Darwin did not believe that humans possessed any properties lacking in brutes (however underdeveloped in the brutes they may be); Mead, on the other hand, found such a difference and therein lay the difference between Darwin and Mead.

Before moving on to a closer examination of Mead’s work, I will give a brief account of the human/brute gap in Darwin’s writings, focusing on his *Descent of Man*.¹

§61. Darwin’s voyage.

As the 22 year old Darwin began his famous tour as the ship’s naturalist on the H.M.S. Beagle, his views on the nature of humans were somewhat more orthodox than they would be upon his return five years later. But this is not the place to give an account of all that transpired in Darwin’s mind during his study of the flora and fauna of the southern hemisphere suffice it to mention that the almost-country parson grew steadily convinced that species evolved from other species, and therefore that humans had descended from non-humans.² *Qua* cerebellar animal, Darwin was sufficiently humbled by the time he was writing in the *B Notebook* (between July 1837 and February 1838, and so at the age of 28) to suggest that:

It is absurd to talk of one animal being higher than another *We* consider those, where the cerebral structure/intellectual faculties most developed, as highest. A bee doubtless would where the instincts were.³

Such humility was hardly novel, of course, sporting a history at least as ancient as the time of Protagoras in the Hellenic world of the 5th century B.C. But in 19th century England at the beginning of Queen Victoria’s lengthy reign these thoughts bore an element of the unpopular. Later in the same notebook he wrote that *everyone* held that the soul was superadded, and that animals do not have a soul and thus are unable to “look forward.” But, Darwin continued,...

...if we choose to let conjecture run wild, then animals our fellow brethren in pain, disease, death and suffering, and famine, our slaves in the most laborious works, our companions in our amusements; they may partake from our origin in one common ancestor; we may be all netted together.⁴

A common argument against there being any insurmountable gap between humans and non-human animals was to compare examples of the most human-like brutes with the least human-like humans.⁵ In the *C Notebook* (February to July, 1838), Darwin attempted such a comparison:

Let man visit Orang-outang in domestication, hear expressive whine, see its intelligence when spoken to, as if it understood every word said see its affections to those it knows, see its passions and rage, sulkiness and very extreme of despair; let him look at savage, roasting his parent, naked, artless, not improving, yet improbable and then let him dare to boast of his proud pre-eminence.⁶

¹ Mead explicitly responds more often to Darwin’s discussion of the emotions, as found in *The Expression of Emotions in Man and Animal* (London: John Murray, 1872) see, for instance, *IS*, pp. 33-36, *MSS*, pp. 15-18, 43-44, 358. But of far greater concern is Darwin’s general theory of biological development, which informed Mead’s overall picture of humans and brutes; consequently, I discuss below not Darwin’s book on the emotions, but on the relation of humans to brutes, viz. the *Descent*.

² That Darwin accepted species-transformism is important; but more crucial is his belief in natural selection, that is, a mechanistic, non-teleological account of this transformism.

³ *B Notebook*, p. 74.

⁴ *B Notebook*, p. 74. Mead was also to think brutes incapable of anticipating a future.

⁵ On the success of such projects, see Karl von Linné: “It is remarkable that the stupidest ape differs so little from the wisest man, that the surveyor of nature has yet to be found who can draw the line between them.” [Quoted in Greene, p. 187]

⁶ *C Notebook*, p. 79.

As most observers of nature are brought to admit, Darwin did hold there to be “a chasm between man...and animals,” but he contended that this chasm was no argument for there being a separate origin for humans and non-humans.¹

These were views expressed by Darwin in his notebooks and for his own use. He did not make public such sentiments until over 30 years later with the publication of *The Descent of Man* in 1871. As for *The Origin of Species*, published in 1859, his views on this tender subject were confined to a short paragraph near the end of the book:

In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history.²

In the *Descent* (especially Chs. 1-7, 21), Darwin argued for a historical connection with the rest of the animals in terms of both corporeal and mental characteristics.³ In the following I will examine Darwin’s discussion of these connections in *The Descent of Man*.

§62. Corporeal and mental traits.

In the fourth chapter of *Descent* Darwin noted various differences between the bodies of humans and brutes, namely, that humans have relatively larger brains (here Darwin noted a correlation between complexity of the central nervous system (CNS) and the sociality of the organism, pointing out the relatively high complexity of the CNS of ants, bees, and humans),⁴ relatively less hair (than other mammals),⁵ no tails,⁶ and more perfect motor skills.⁷

The last characteristic is of particular interest. Here Darwin claims that with *humans* we find “the most consummate perfection in the correlated action of the hand, arm, and shoulder,” “the perfect coadaptation of numerous muscles,” “the use of a perfect hand,” such as in the throwing of objects, while *apes* “perform these actions clumsily, and they are quite unable, as I have seen myself, to throw a stone with precision.”⁸ He also notes that a “more perfect hand” is disadvantageous in an arboreal niche and suggests a scenario wherein such a hand might arise (viz., pressure to leave the forests for the plains, forcing the animal to choose between bipedalism and quadrupedalism and, should the latter be selected, allowing the development of a more perfect hand).⁹

Those bodily differences between humans and brutes are best thought of as differences of *degree* only: not all mammals have hair, and those that do have it in varying degrees likewise with the presence of a tail, and the brain size. Further, many apes are semi-erect and have a hand-coordination roughly approximating those of humans. Darwin saw our differences in *mental* powers to be likewise:

¹ *Ibid.*, pp. 209-23.

² *Origin*, p. 458. One wonders if Mead was struck by this prophecy of psychology’s course, since it was the course that his own work took.

³ I should add that some “darwinists” like Wallace stopped short of viewing mind as having developed from non-human capacities; see Wallace, *Darwinism*; Greene, pp. 320, 323; Moore, pp. 184-6; *Descent*, i.137-8, 158, 168, ii.375-6.

⁴ *Descent*, i.145-148. Mead also linked the complexity of the CNS with the complexity of the society (see §§75, 77-8, below).

⁵ *Descent*, i.148-150.

⁶ *Descent*, i.150-51.

⁷ *Descent*, i.138-144.

⁸ *Descent*, i.140.

⁹ Darwin may be right here insofar as he refers to the *hand*; but he is surely wrong if he is wanting to deny muscle-coordination of the highest degree to other animals. One need only to think of the hummingbird, and the coordination of forces needed to hang motionless in mid-air.

There can be no doubt that the difference between the mind of the lowest man¹ and that of the highest animal is immense.... Nevertheless the difference in mind between man and the higher animals, great as it is, is certainly one of degree and not of kind.²

Darwin compared the mental features of humans and brutes in Chs. 2 and 3, throwing out a list of some twelve features which were thought at one time or another to constitute “an impassable barrier from all the lower animals”, viz., that humans alone: (1) are capable of progress, (2) make use of tools or fire, (3) domesticate other animals, (4) possess property, (5) employ language, (6) are self-conscious (and have a “mental individuality”), (7) have the power of abstraction, (8) have a sense of beauty, (9) are liable to caprice, (10) experience feelings of gratitude, mystery, &c., (11) believe in God, or (12) are endowed with a conscience.³

Two of these (3 and 10)⁴ he failed to discuss at all even to dismiss while with the rest either (a) he attempted to show that at least some non-humans possess the characteristic to some degree, however small, or (b) he explained how they have naturally evolved in humans, and what would be necessary for their development in brutes. The most significant features, for related reasons, are language-use and the presence of a conscience or moral sense. But before I turn to these, there are a few remarks of interest concerning some of the other characteristics.

§63. *Mental traits that brutes possess.*

Those mental traits that Darwin found among brutes as well as humans included the use of tools, a sense of beauty, and the ability to learn or progress.

Tool-Use. According to Darwin, brutes have been known to use stones or sticks to obtain food or to ward-off enemies,⁵ but they are apparently unable to *fashion* an object for a special purpose.⁶ Darwin softened this difference, however, by suggesting that the first flint tools used by humans were, in all likelihood, only *accidentally* splintered, from which it would have been only a small step to splinter them *intentionally*, and that even this small step apparently required an “immense interval of time.”⁷

As for *property*, Darwin gives an example of a monkey possessing a stone as its own, and also points to the familiar sight of dogs and their bones;⁸ Buxton’s proprietarian parrots are also cited.⁹

Sense of beauty. Brutes *do* have a sense of beauty to which the entire second half of *Descent*, which deals with sexual selection, attests. Darwin’s argument consists in pointing to the bright plumage, ornamentation, and song of birds, and that without some sense of beauty, all this would be vanity and for naught. To shore-up his position, he also argues that there is no universal sense of beauty among humans, this depending on one’s cultural and educational background.¹⁰

Darwin also claimed that animals are capable of *caprice* in their sense of beauty, and that “there is also good reason to suspect that they love novelty, for its own sake.”¹¹

¹ Darwin must mean here only “normal” humans, since he later speaks of tracing “a perfect gradation from the mind of an utter idiot, lower than that of the lowest animal, to the mind of a Newton” [*Descent*, i.106]. He seems to be overstating the case here, since one would think that the very “lowest” animals would have no minds at all. Or is this rather an indication that mind, for Darwin, involves a “proper functioning” of an organism, where an idiot is not functioning properly?

² *Descent*, i.104-5; see also i.185-7.

³ The sources from *Descent* are as follows: (1) i.49-50; (2) i.51-3; (4) i.52, 109; (5) i.53-62; (6) i.62-3; (8) i.63-5, 108-13; (9) i.64; (11) i.65-9; (12) Ch. 3 and ii.391-94.

⁴ Darwin does, in Ch. 6, mention what might be called the domestication of aphids by ants [*Descent*, i.187].

⁵ *Descent*, i.511.

⁶ *Descent*, i.52, 105.

⁷ *Descent*, i.52-3.

⁸ *Descent*, i.52.

⁹ *Descent*, ii.109.

¹⁰ *Descent*, i.63-64, 105; ii.400-402.

¹¹ *Descent*, i.65.

Progress. In rejecting the view that only humans can progress, Darwin was explicitly responding to Archbishop Sumner.¹ But he could just as well have been responding to Rousseau or Lord Monboddo (or in part to Kant), who held similar views on this matter.² Darwin discussed development in terms of both the individual and the group, providing examples which he took to suggest development of both kinds among the brutes (e.g., that older animals are less apt to be caught in a trap, and that similar behavior is occasionally developed into an instinct and inherited, whereupon it is displayed without need for previous learning).³ Further, Darwin says of “human progress” that...

...we are apt to look at progress as the normal rule in human society; but history refutes this. The ancients did not even entertain the idea; nor do the oriental nations at the present day.⁴

§64. *Mental traits unique to humans.*

Darwin considered several mental traits to be unique to humans; these included religious belief, abstract thought, a sense of self, language-use, and a moral sense or conscience. He nevertheless believed that these traits or abilities are based upon other traits that brutes *do* possess, but which are as yet underdeveloped.

Belief in God. A representative of the view that humans and brutes differ on the basis of their religious orientation was Lord Herbert of Cherbury (1581-1648) who found not reason but belief in God unique to humans and, further, that *all* humans believed such articles of “natural religion” as (1) there is a God, (2) this God ought to be worshipped, etc.⁵ Darwin had not read Lord Herbert, however, or had done so in disbelief; but we do know that Darwin was familiar with the writings on religion of his fellow Scotsman David Hume,⁶ who denied the universality of so-called “natural religions”: belief in God was not a human instinct (as argued in his *Natural History of Religion*, 1757), nor can God’s existence be proved by reason (as argued in his *Dialogues Concerning Natural Religion*, 1779).

For his own part, Darwin admitted that brutes utterly lacked belief in God (notwithstanding the Psalmist who urged “wild animals and farm animals, snakes and birds” to praise God)⁷, but suggested that non-believing humans are also to be found. That is, belief in God is neither innate nor instinctive in humans.⁸ And the more general belief in *spiritual powers* simply follows from the other faculties of the intellect, such as the imagination.⁹ So Darwin clearly rejected Lord Herbert’s criterion for distinguishing humans from brutes.

Abstraction. Abstraction and other mental feats are reduced to capacities common to brutes:

The higher intellectual powers of man, such as those of ratiocination, abstraction, self-consciousness, &c., will have followed from the continued improvement of other mental faculties...¹⁰

¹ *Descent*, i.49: “Archbishop Sumner formerly maintained that man alone is capable of progressive improvement.” Darwin referred to a passage by Sumner (who was the Archbishop of Canterbury) quoted in Lyell’s *The Geological Evidences of the Antiquity of Man...*, p. 497. For Sumner’s work on the topic, see John Bird Sumner, *A Treatise on the Records of Creation...* (London: 1816).

² See §46, above.

³ *Descent*, i.49-50, 105.

⁴ *Descent*, i.166-167. “Progress is no invariable rule” [*Ibid.*, i.177]. See also Darwin’s discussion of the view that the human population is degenerating due to the exceptional fecundity of the poorer classes [*Ibid.*, i.173-7].

⁵ See Überweg, *Philosophy of History*, vol. 2, p. 355 (English transl.).

⁶ As evidenced in Darwin’s *N Notebook* (2 October 1838-1 August 1839), p. 101 [reprinted in Howard E. Gruber and Paul Barrett, *Darwin on Man* (New York: E. P. Dutton, 1974), p. 348].

⁷ Psalm 148:9-10. See also Psalm 145 and *Isaiah* 43:20 (“The wild beast will honor me...”).

⁸ *Descent*, ii.394.

⁹ *Descent*, i.65-9, 106; ii.394-396.

¹⁰ *Descent*, ii.391.

...which, Darwin maintained, are possessed by brutes as well as by humans. The use of language also plays a major role in the development of these “higher powers.” So while Darwin might refuse such powers to brutes, he argues that they are reducible to other powers which brutes *do* possess, though in a state too underdeveloped to give rise to the former.

Here again we have evidence of some Humean influence;¹ in Darwin’s “N Notebook” stemming from 1839 we find the following:

Hume has section (ix) on the Reason of Animals. Essays vol 2 (Sect XV Dialogues on Natural Religion — also on origin of religion or polytheism, at p. 424, vol. II however he seems to allow it is an instinct.)

I suspect the endless round of doubts and scepticism might be solved by considering the origin of reason, as gradually developed. See Hume on Sceptical Philosophy.

Hume has written “Natural Hist. of Religion” on its origin in Human Mind.²

Unlike Kant, Hume did not believe that reason developed: Darwin’s “suspicion” was thus his own aside. But Hume did attribute reason (as well as pride, humility, love, and hatred) to the brutes, and he maintained a gradation of mental powers between brutes and humans.³ Furthermore, Hume subordinated reason to passion, and set his discussion of mentality in terms of instincts: “reason is nothing but a wonderful and unintelligible instinct in our souls.”⁴

Indeed, what is so striking about these passages in Hume is his apparent obliviousness to the possibility that brutes do *not* share our capacity for reason, understanding, and the emotions. Brutes learn and draw inferences about their surroundings no less than humans, and he suggests that a theory of the mind will be considerably strengthened if it can be extended to these non-humans.⁵ Inference in brutes is based on *custom*, not reason — but such is the case with human inference, too:

Experimental reasoning itself, which we possess in common with beasts, and on which the whole conduct of life depends, is nothing but a species of instinct or mechanical power that acts in us unknown to ourselves.⁶

Self-consciousness and individuality. Brutes, according to Darwin, are *possibly* self-conscious, but *probably* are not;⁷ they *do*, however, retain a “mental individuality” over periods of time (i.e., a permanence of identity).

Darwin’s argument compliments Comte’s discussion of the related notion of *identity* in humans and animals. As usual, Darwin’s argument consisted of an anecdote, this time of how his pet dog recognized him after an absence of some five years:

When my voice awakened a train of old associations in the mind of the above-mentioned dog, he must have retained his mental individuality, although every atom of his brain had probably undergone change more than once during the interval of five years.⁸

Comte, for his part, rejected the notion of ego-identity (especially as it tended to be reified into a soul), and he offered in its stead the notion of an “*equilibrium* of the various animal functions,” which all animals, humans and brutes alike, possess:

¹ As noted by William B. Huntley, “David Hume and Charles Darwin” in *Journal of the History of Ideas* 33: 457-70 (1972). Phillip Sloan also draws a line of influence from Hume to Darwin’s conception of nature as a blind profligacy: see Sloan, “The Question of Natural Purpose,” pp. 129-32, 138-41.

² Darwin, *N Notebook*, p. 101. Section ix refers to Hume’s *Inquiry*, while ‘Essays’ must be Hume’s *Essays, Moral and Political*, 2 vol. (Edinburgh, 1741-2).

³ Hume attributes reason to the brutes in the *Treatise*, Bk. I, pt. 3, sect. 16 and in the *Inquiry*, pt. 9. He attributes to them “pride and humility” and “love and hatred” in the *Treatise*, Bk. II, pt. 1, sect. 12 and pt. 2 sect. 12, respectively, as well as grief, sympathy, fear, courage, anger, envy, malice, pity, etc.

⁴ *Treatise*, p. 179.

⁵ *Inquiry*, pp. 112-13.

⁶ *Inquiry*, pp. 115-6.

⁷ *Descent*, i.62, 105. Darwin writes:

Can we feel sure that an old dog with an excellent memory and some power of imagination, as shown by his dreams, never reflects on his past pleasures in the chase? and this would be a form of self-consciousness. [*Descent*, i.162]

⁸ *Descent*, i.63.

The very abstract and indirect notion of the *I* proceeds from the continuous sense of such a harmony [between the various animal functions] that is, from the universal accordance of the entire organism. Psychologists have attempted in vain to make out of this idea, or rather sense, an attribute of humanity exclusively. It is evidently a necessary result of all animal life; and therefore it must belong to all animals, whether they are able to discourse upon it or not. No doubt a cat, or any other vertebrated animal, without knowing how to say 'I', is not in the habit of taking itself for another. Moreover, it is probable that among the superior animals, the sense of personality is still more marked than in man, on account of their more isolated life....¹

The similarity between Comte and Darwin is strongest in that both saw humans and brutes on the same level with respect to either permanence or identity of the self.

Language. Darwin gave language a central role in the mental life of humans. While there are examples of brutes using up to six different calls, each of which evokes a different kind of response,² an articulate language belongs to humans alone. Darwin also viewed our possession of other intellectual powers such as our self-consciousness and ability to abstract as dependent upon our "highly developed language";³ language-use and the brain consequently developed together:

The mental powers in some early progenitor of man must have been more highly developed than in any existing ape, before even the most imperfect form of speech could have come into use; but we may confidently believe that the continued use and advancement of this power would have reacted on the mind by enabling and encouraging it to carry on long trains of thought.⁴

This is the general view that Mead will later adopt, although with some refinements and many additions.

§65. *The moral sense.*

At the beginning of Ch. 3 of the *Descent*, Darwin states that "of all the differences between man and the lower animals, the moral sense is by far the most important."⁵ But he is not saying here that there is some faculty called "the moral sense", the presence of which distinguishes humans from brutes. Rather, he will argue that the presence of a moral sense depends on the level of the intellectual faculties and these, as he has already argued, differ between humans and brutes only in *degree* and not kind.

He *does* view as improbable that any animal other than a human is a *moral being*, i.e., "one who is capable of comparing his past and future actions or motives, and of approving or disapproving them."⁶ But this difference is merely one of intelligence:

Any animal whatever endowed with well-marked social instincts, would inevitably acquire a moral sense or conscience, as soon as the intellectual powers had become as well-developed, or nearly as well-developed, as in man.⁷

Darwin argues for this claim to some length, pointing out (1) the many social instincts exhibited in brutes,⁸ and (2) the conflict from which they visibly suffer when one of these social instincts conflicts with some "less persistent instinct" (such as food-seeking).⁹ Later he will also argue that *language* plays an important role in making individual claims and interests public or intersubjective,¹⁰ and that non-humans are hindered from developing a community of moral selves, to the extent that they are unable to communicate.

¹ Comte, *Cours de philosophie positive*, published in 1830 (Lenzer transl., p. 186).

² *Descent*, i.53-4.

³ *Descent*, i.105.

⁴ *Descent*, i.57.

⁵ *Descent*, i.70.

⁶ *Descent*, i.88.

⁷ *Descent*, i.71-2.

⁸ *Descent*, i.74-86.

⁹ *Descent*, i.87-93.

¹⁰ *Descent*, i.72.

Insofar as humans *regret* some past failure to follow a social instinct (as opposed to some briefly-felt instinct such as that of self-preservation or lust) and even feel that they *ought* to regret such a failure, do humans “differ profoundly from the lower animals.”¹ But the difference here is a result *not* of some peculiarly moral faculty that humans possess and brutes lack; rather, it simply rests on the ability of humans to compare those *past* acts with instincts which are *now* present. The social instincts are *always* (or nearly always) present, while instincts to seek food, shelter, and the like are only temporary, their force diminishing as they become satisfied. Consequently, in an hour of calm reflection, when such passing desires are absent and the social instincts alone remain, the acts, as it were, are *relived*, only now without the support of those instincts which had previously motivated them and *this* will occasion feelings of discomfort.²

In sum: our moral sensibilities arise because (1) we have conflicting instincts, (2) some of those instincts the social ones tend to be omnipresent (and thus are always ready to guide action), while others are quickly satisfied (and thus are no longer a motivation to act),³ and (3) humans have the ability to recall past acts and consider them in the light of presently-felt instincts, and thus out of the context of instincts in which the act originally transpired.⁴ This is what Darwin called *conscience*: reflection on past acts which causes regret due to the shifting dominance of different instincts, bringing us to “resolve with more or less force to act differently for the future.”⁵

§66. *Difference in kind or degree?*

What are we to think of Darwin’s claim that humans and brutes differ in *degree* only (however immense) and not in *kind*? For Darwin, two separate senses may have been intended.⁶

First, his entire project on the transmutation of species through natural selection involved a rejection of the notion of species as being a fixed and immutable kind. So obviously he would want to maintain that, if humans are to share a common descent with brutes and not be some sort of cosmic exception, they must differ only in “degree” (i.e., some degree of variation).

Second, this distinction seems to turn on his discussion of the various moral and intellectual faculties. We noted that there were twelve features commonly put forward as distinguishing humans from brutes, and that many of these were shown to be in fact *shared* by brutes and humans alike. But some were unique to humans: viz., the *creation* of tools (as opposed to the mere *use* of an object as a tool), the possession of an articulate language, self-consciousness, belief in God or supernatural forces, and a moral sense.

Darwin’s strategy to avoid the conclusion that these constitute definite and insurmountable differentiating criteria (and thus “differences in kind” in a second sense) is to argue that these features have as a sufficient condition the development of certain mental faculties which brutes *do* possess, though in an underdeveloped state:

Everyone who admits the general principle of evolution, must see that the mental powers of the higher animals, *which are the same in kind* with those of mankind, though so different in degree, are capable of advancement.¹

¹ *Descent*, i.89.

² *Descent*, i.89f. Darwin offers this hypothetical case of regret in a mother bird whose migratory instinct had momentarily over-powered her maternal instincts:

Whilst the mother-bird is feeding or brooding over her nestlings, the maternal instinct is probably stronger than the migratory; but the instinct which is more persistent gains the victory, and at last, at a moment when her young ones are not in sight, she takes flight and deserts them. When arrived at the end of her long journey, and the migratory instinct ceases to act, what an agony of remorse each bird would feel, if, from being endowed with great mental activity, she could not prevent the image continually passing before her mind of her young ones perishing in the bleak north from cold and hunger [*Descent*, i.91].

³ “Any instinct which is permanently stronger or more enduring than another, gives rise to a feeling which we express by saying that it ought to be obeyed” [*Descent*, ii.392].

⁴ *Descent*, ii.392.

⁵ *Descent*, i.91; see also i.104.

⁶ *Descent*, i.35, 160, 185-7.

To summarize the above in slightly different terms: Darwin wrote in the *Descent* of four general feelings (excitement, ennuï, wonder, curiosity)² and four “lower faculties” (imitation, attention, memory, imagination),³ all of which are shared by humans and brutes, although in different degrees.⁴ Darwin then speaks of reason,⁵ and in particular, of three “higher faculties” (self-consciousness, individuality, abstraction),⁶ which may be unique to humans but which are all derivative from “other mental faculties.”⁷ Beyond these mental features, Darwin mentions several “social feelings” found throughout the animal world.⁸

There would seem to be no reason why differentiating emergent faculties would be incompatible with Darwin’s natural selection, but it is clear that Darwin rejects this strategy: *all* faculties possessed by humans are possessed by brutes as well, although possibly in a less-developed form.⁹ Darwin argued by pointing to possible rudimentary stages of such development in brutes and/or a story of how they emerged in humans from brute-like beginnings to their present state.¹⁰

Of the few differentiating features that Darwin allowed, he put greatest emphasis on the *moral sense*, which he saw as resting (as noted above) on the social instincts (primarily sympathy) coupled with an ability to reflect on our past actions. Sympathy is more highly developed in humans primarily because of our *language-use* (with the attendant ability to better articulate our desires and needs to one another) and the added motive of *praise and blame* (which finds its initial source in selfishness),¹¹ as well as its possible *inheritability* after it has become a habit.¹² Our ability to reflect on past acts, on the other hand, is a patently mental ability. Darwin thus reduced the moral sense to social instinct and mental faculties, both of which are found in brutes, albeit in a less-developed state.

The use of language by humans is second only to their moral sense in distinguishing them from brutes. As with moral sense, Darwin attempted to present language as a product of intellectual faculties present in brutes, explaining its absence as a result of the underdevelopment of those faculties.¹³ He found the origin of language in part due to sexual selection:

We shall see that primeval man, or rather some early progenitor of man, probably used his voice largely, *as does one of the gibbon-apes* at the present day, in producing true musical cadences, that is in singing;....The

¹ *Descent*, ii.390.

² See *Descent*, i.42, 64, 65-6; ii.109.

³ See *Descent*, i.44-5, 62, 64-6, 82.

⁴ *Descent*, i.48-9.

⁵ *Descent*, i.46-8, 65-7, 82, 86; ii.108f.

⁶ *Descent*, i.62-3. Darwin also mentions general ideation and reflection [i.62, 89], but the text does not make clear whether these are to count as separate faculties or not. Further, *admiration* is mentioned as the “aesthetic faculty” [i.63-4; ii.108-13].

⁷ *Descent*, i.105; ii.391.

⁸ For instance, *love* [i.68, 76, 81, 83, 86, 89], *sympathy* [i.76-8, 81-2, 86, 89, 101, 162-4], *conscience* [i.78], *self-command* [i.78, 85-6, 91], *fidelity/obedience* [i.78-9, 85, 95, 162], *parental/filial affection* [i.80, 83-4], *courage* [i.83, 87, 95, 162], *aiding others* [i.74-5, 85, 89, 95, 163; ii.109], *gregariousness* (“social impulse”) [i.74, 84, 89].

⁹ This is where Mead will part company with Darwin, for Mead held that mind was an emergent property unique to humans.

¹⁰ It should be noted that Darwin’s argumentation is somewhat *ad hoc*: he seems to assume that brutes and humans share a common descent, and that they consequently should share similar faculties, readily inferring from behavior in brutes which resembles that of humans to “inner feelings” (e.g., of curiosity or wonder), however rudimentary, that are common to humans. That is, he employs *analogy* and *homology* — which had their established uses in comparative anatomy and physiology — in the field of comparative behavior or psychology.

¹¹ *Descent*, ii.392-3.

¹² *Descent*, ii.394.

¹³ *Descent*, ii.390-391.

imitation by articulate sounds of musical cries might have given rise to words expressive of various complex emotions.¹

Darwin suggested the importance of *imitation* in the development of language-use, and noted that the impulse to imitate can be found in “the monkeys, in microcephalous idiots, and in the barbarous races of mankind”² thus drawing a gradation between brutes and humans in this (perhaps necessary) condition of language-use. In sum, Darwin offered a story of how language might have developed in our ancestors, and how it might develop in other animals as well.³

Such was Darwin’s belief in the common ancestry and graduated difference between humans and non-humans. Descartes and Kant would not have accepted his claim of common ancestry, and not even Mead accepted his claim that we differed from the brutes only in degree. But given Mead’s belief in emergent properties (one of which is human intelligence, or rationality), and perhaps given his ignorance of how animals lived in the wild, a belief in a difference of kind was easier for him to defend.

¹ *Descent*, i.56.

² *Descent*, i.56-7.

³ *Descent*, i.56-8. Fittingly, Darwin also devoted a few pages to rejecting the *divine origin* of language [i.61-62].

CHAPTER 12 MEAD AND MODERN PSYCHOLOGY

§67. Mead's account of the history of psychology.

Darwin's theory of natural selection affected more than the biological sciences. Even if one rejected the further claim that humans share an ancestry with brutes, the emphasis that the theory places on the functioning of the organism within its environment was felt in many other fields, including psychology.

Kant, as noted above, entertained a functionalist view of mind, but apart from the fact that this aspect of his work made little immediate impact in the field — he failed to tie this functionalism of the mind with the functions of the organism in its environment. Further, while he possessed a theory of physiological and anatomical adaptation in his writings on the origin of the human races, he did not think to extend this adaptation to the mind, presumably because the possibility of a noumenal grounding of the mental always loomed before him (which would have detached the functioning of the mental from its phenomenal surroundings). For those like Mead and Dewey who read Darwin and strove to incorporate his theory into the psychological disciplines, the mind was forced out of the closet and into the social world of predator, prey, and conspecific. In the following chapter I will sketch this shift from the atomistic associationism of Kant's empiricist contemporaries to the mature naturalism of Mead, as seen through Mead's own eyes.

Mead's story of psychology is the story of the decline of consciousness as a static, in principle private, and inactive thing and the emergence of a constantly developing and changing consciousness imbedded in society.¹ With this came a shift from an emphasis on pure *introspection* (and thus an emphasis on private experience) to an emphasis on physical, *public observation*, trying to make objective all of experience. This shift is traced in Mead's own nutshell history of psychology in his posthumously published collection of lectures on social psychology called *Mind, Self, and Society*: "Psychology became in turn associational, motor, functional, and finally behavioristic."²

Associational psychology ignores the minded-organism in favor of a disembodied mind and its passive contemplation of unrelated sense-data, combining them according to certain associational patterns. The body of the organism is then brought into the discussion with the increasing study of the CNS, which led to providing functional accounts of mental activity that is, as viewing mental activity in the context of specific physical acts for the purpose of attaining something and finally to an emphasis on these acts without regard to the mental activity at all (in the Watsonian form of behaviorism).

This is not the place to expound at great length on the history of psychology but, in order to appreciate Mead's view of consciousness, it is useful to have some idea of his view of that history. A central problem infecting many of the positions prior to Mead's seems to be that they either did not know of, or did not understand or take seriously, Darwinian evolution. Implicit in Darwinian evolution is a continuous *mutual adjustment between each organism and its environment*, each adjusting to (significant) changes in the other, and in that way developing until a state of equilibrium is achieved (if ever).³

¹ Morris writes in his "Introduction" to *Mind, Self, and Society* that Mead traces "the process by which biological considerations forced psychology through the stages of associationism, parallelism, functionalism, and behaviorism" [*MSS*, p. xii]. Mead was first a psycho-physical parallelist, and later a functionalist; see Andrew Reck's "Introduction" to Mead, *Selected Writings* (Chicago: Univ. of Chicago Press, 1981), pp. xxiv-xxv [hereafter cited as *SW*].

² *MSS*, p. 21. The "functional" must refer to Dewey's position in his "Reflex Arc" article (1896), and the position that Mead himself held in his early articles "Suggestions Toward a Theory of the Disciplines" (1900) and "The Definition of the Psychical" (1903). See Joas, *G. H. Mead*, pp. 64f; Reck's discussion of functionalism [*SW*, pp. xvi-xix], and the historical account at *MSS*, p. 26.

³ One might think that Herbert Spencer's "evolutionary psychology" would be free of this defect. Surprisingly, Mead seldom mentions Spencer; he says that Spencer allowed for the environment to shape the form (i.e., the organism), but did not indicate whether he saw this relationship as reciprocal. Without the reciprocity, Spencer's position would hardly be an advance over the associationists' psychology, insofar as their's was an environment that affected the passive mind. Apart from this, Spencer's psychology suffered from an atomistic tendency to view consciousness as a series of *feelings*.

Integrating psychology into this Darwinian project was Mead's major contribution to 20th century thought. I will now briefly summarize the positions of associationism, psycho-physical parallelism, and Watsonian behaviorism, noting the strengths and weaknesses that Mead found in each of them, and which led to his own mature view.

§68. Associationist psychology.

Also known as empiricist psychology or psychological atomism, associationist psychology...

...regards certain states of consciousness as existing in the mind of the individual, and succeeding each other in accordance with their own laws of association.¹

Mead spent little time in *Mind, Self, and Society* discussing this psychology that he saw as Hume's gift to modernity. It is *atomistic* (in parsing experience into discrete sense-data), *static* (in viewing those discrete sense data as being the basic element of experience, rather than acts or continuous events),² and *passive* (in viewing the mind as a passive receptacle for the incoming sense-data, which are then combined according to the various laws of association).³

Associationist psychology went hand-in-hand with the general view of human nature that Mandelbaum has called 'geneticism':

the view that the thought and actions of individuals can be understood as functions of the particular experiences they have undergone, each person's thought and action being the product of influences brought to bear upon him in the circumstances in which he was placed.⁴

Important here is the essential passivity of the individual with respect to shaping his own thoughts or actions. John Locke⁵ was a transitional figure between an older school of thought that had emphasized *human propensities* (e.g., greed, benevolence, egoism — depending on the essayist), and this emerging school of geneticism that placed much more emphasis on the importance of *personal experiences* in shaping one's thoughts and actions. As might be expected, the importance afforded education increased with the belief in the ubiquitous influences of the environment, and in his well-known essay on education, Locke wrote that humans...

...are what they are, good or evil, useful or not, by their education. It is that which makes the great difference in mankind. The little, or almost insensible, impressions on our tender infancies, have very important and lasting consequences....⁶

The few divergences from a strict associationism that could be found in Locke's thought were purged by Berkeley and Hume,⁷ thus making possible the extreme view of the mind that Hume arrived at:

Spencer is briefly mentioned in the 1914 lecture notes on social psychology, and here Mead claims that Spencer's view of stimulus and response were such as to de-emphasize the act; in maintaining the S-R model, Spencer failed to note that there must be some pre-condition of the organism that makes the stimulus possible, e.g., hunger which makes the sight of food a stimulus when otherwise it would be irrelevant to the organism [IS, p. 27].

¹ MSS, p. 18.

² Sense-data perhaps need to be atomistic and static for Hume, since he voided reality of everything but these sense-data; see PA, pp. 41, 629.

³ Leading exponents of the school, influenced by Locke, were primarily British: David Hartley [1705-1757; associationist psychology received its classic expression in his *Observations on Man, his Frame, his Duty, and his Expectations* (1749), wherein he argued that human thought consisted of vibrations in the brain], James and John Stuart Mill, Thomas Brown, and Alexander Bain. The Lockean psychology also made its way across the channel in the "sensationalism" of Condillac, Helvétius, and Bonnet. For a summary of these individual positions, see the review article by R. S. Peters and C. A. Mace, "Psychology", in the *Encyclopedia of Philosophy*, vol. 7, pp. 1-27.

⁴ Mandelbaum, *History, Man, and Reason*, p. 142.

⁵ **John Locke (1632-1704)**; his associationism is developed in *An Essay on Human Understanding* (London: Thomas Basset, 1690).

⁶ Locke, *Some Thoughts Concerning Education* (London: A. and J. Churchill, 1693), sections 1-2. Helvetius expresses a similar view in his *De l'esprit* (Paris: Durand, 1758).

⁷ They rejected, e.g., Locke's *doctrine of abstract, general ideas* (which amounted to the active creation by the mind of genuinely new ideas), and *reflection* as a source of simple ideas [on this see Mandelbaum, pp. 152-4].

What we call a *mind*, is nothing but a heap or collection of different perceptions, united together by certain relations, and suppos'd, tho' falsely, to be endowed with a perfect simplicity and identity.¹

The mind is a kind of theatre, where several perceptions successively make their appearance; pass, repass, glide away, and mingle in an infinite variety of postures and situations.... The comparison of the theatre must not mislead us. They are the successive perceptions only, that constitute the mind; nor have we the most distant notion of the place, where these scenes are represented, or of the materials, of which it is compos'd.²

In short, we are given in associationist psychology a wholly mechanistic account of mind (as expressed in Hartley: a combination of Newtonian theory and Locke's theory of associationism) and thus a radical antithesis to substantialist views of mind, which generally involved intentional or goal-oriented (i.e., non-mechanistic) features. Along with its extreme form of atomism,³ this new psychology lessened the gap between humans and brutes insofar as the "stuff" of which minds and ideas were made was the same throughout the sentient world.⁴

But associationism suffered from a few problems. For instance, as investigators began studying the CNS, more experiences were found to be *dynamic* (in particular the emotions, which were found to be closely linked with visceral changes),⁵ and the assumed passivity of the sensing organism was increasingly brought into question; once thought of as little more than a passive receptacle for the in-coming *sensa*, it was now seen as being *actively* engaged in the sensory process, seeking-out and selecting stimuli for releasing its various impulses — that is, as *having interests*. True, the associationist's individual still had some "propensities" — such as the ability to receive stimuli, the tendency to associate sensations in certain ways and, occasionally, she was even given the tendency to pursue her interests.⁶ But however these interests were to be understood (which is not clear), they did not involve the active selection of stimuli that Mead and Dewey espoused. And, apart from that, the propensities within the associationist's individual were seen not as having developed as a result of past interaction with the environment. In short, the associationist considered the environment as being unaffected by the organism's sensitive nature. Mead formulated this problem in one passage in terms of *voluntary attention*:

The psychology of attention ousted the psychology of association. An indefinite number of associations were found which lie in our experience with reference to anything that comes before us, but *associational psychology never explained why one association rather than another was the dominant one*.... It was not until the psychologist took up the analysis of attention that he was able to deal with such situations, and to realize that voluntary attention is dependent upon indication of some character in the field of stimulation. Such indication makes possible the isolation and recombination of responses.⁷

¹ Hume, *A Treatise of Human Nature*, Bk. I, pt. iv, sect. 2 [Selby-Bigge edition, p. 207].

² *Ibid.*, sect. 6 [Selby-Bigge, p. 253].

³ Empiricist psychology climaxed around the time of James Mill's *Analysis of the Human Mind* (1829), which presented one of the more extreme versions of atomism. Randall notes that "Mill came as close as it has been possible to come to envisaging a wholly structureless world of isolated and atomistic particulars"; see Randall, *The Career of Philosophy* (New York: Columbia University Press, 1965), vol. 2, p. 534; for a detailed discussion of Mill, see pp. 539-53.

⁴ See Boas' article "Theriophily" in *Dictionary of the History of Ideas*, vol. 4, p. 388:

The gap between animal and human psychology created by Cartesianism was bridged by the epistemology of Locke as modified by de Condillac's *Essai sur l'origine des connaissances humaines* (1746), which puts the source of all ideas in sensations. In his *Traité des animaux* (1755) he argues that animals have the same sort of feelings that men have, on the ground that they have sense organs just like ours.

Locke correspondingly attributed *some* reason to brutes insofar as they sensed and therefore enjoyed *particular ideas*; he distinguished humans from brutes in the latter's inability to entertain *general ideas* [see *Essay*, Bk. II, ch.11, §§10-11].

⁵ *MSS*, pp. 18-9.

⁶ See Mandelbaum, *History, Man, and Reason*, p. 156.

⁷ *MSS*, pp. 95-6. See also *MT*, p. 386:

When the scientific method... was brought into the problems of psychology, it was recognized that association could not be maintained as the fundamental principle in terms of which they might be solved.... Associationism can only be explained by appealing to the subject's attention, or interests.

Finally, and related to the above point, associationist psychology simply took too small of a “unit of existence”: organisms, according to Mead, operate in terms of *acts*, not *sense-data*.¹ The organism initiates an act through a releaser-stimulus, and then moves to complete the act. The world is experienced through these acts, in terms of their initiation and completion, and in this way does human experience take on the quality of passage:

Our experience is not simply an experience of color at this moment and color at the next moment; our experience is *of something taking place*. Hume overlooked the fact that there is such a thing as passage in experience and that it is a real relation.²

§69. *Psycho-physical parallelism.*

According to this tradition, what takes place in consciousness runs parallel with what takes place in the CNS. Mead often expressed this in terms of *neurosis* (what is taking place in the CNS) and *psychosis* (the experience of the individual). In a discussion of Wundt he notes that his theory “is a parallelistic theory — for every psychosis there is a neurosis.”³ This encouraged the study of consciousness from the standpoint of the organism, the task being to find a corresponding content in the CNS of the organic form for every content put into the psychological part of the form:⁴ “Parallelism... is an attempt to find analogues between action and experienced contents. The inevitable result of this analysis was to carry psychology from a static to a dynamic form.”⁵

But while attention was now trained on the physical organism, it was the attention of an *anatomist* rather than of a *physiologist*: one looked at the animal as a composite of neurological elements, rather than as a *unified being* that acts in the world as a functional unit. And so Mead criticized Wundt for not having analyzed *the gesture*...

...as part of the act. He has treated it as an anatomist, not as a physiologist. We do not see the *purposive relations* of expressions and emotions.⁶

Gestures have a role or function in the life of the organism, and Mead saw it as the task of psychology to explicate this function; doing so would lay bare the very foundations of the mind.

The legitimacy of parallelism was rooted in the distinction it drew between a *perspectival* and a *perspective-less* experience, that is, between an object as it exists in the experience of an individual, and the object as it exists for the wider community:

And see Mead, “Two Unpublished Papers,” *The Review of Metaphysics* 17:543 (1964): “what succeeded a psychology of association was the psychology of attention”; and *MSS*, p. 341:

the customary explanations [of associationist psychology] derived from frequency and vividness and contrast proves inadequate, and we must fall back upon the *impulses seeking expression*, in other words, upon *interest*, or in still other terms, upon *attention*.

¹ See, for instance, *PA*, p. 65: “The unit of existence is the act, not the moment [i.e., the stimulus or response, or some phase within the act]”; *MSS*, p. 111: “What the behaviorist [here meaning his own position] does, or ought to do, is to take the complete act, the whole process of conduct, as the unit in his account.”

² “Fragments on the Process of Reflection” [*PA*, p. 85]. The belief in passage has among its consequences the rejection of Hume’s view of causality. To continue the above: “We do have an actual experience of one moment as determining the other. We experience the dependence of the movement of the first part and the movement of the latter part. It is that that really lies back of causation” [*PA*, p. 86].

³ *IS*, p. 35; see also *MSS*, pp. 109-10; *IS*, pp. 109-10.

⁴ *MSS*, pp. 19, 22. Here we have, for instance, William James’ study of the emotions [*MSS*, p. 20; *MT*, p. 396], as well as the work of Wundt, Helmholtz, Fechner, and others.

⁵ *MSS*, p. 21; see also p. 23.

⁶ *IS*, p. 35. Mead also criticized Wundt for having merely associated and not identified ideas and gestures. Wundt thought that mind and consciousness (and thus ideas) existed independently of gesturing (including language), and that gestures were simply acts for conveying these antecedent ideas. Mead, on the other hand, saw mentality and gesturing as mutually dependent—there were no ideas prior to language and gestures [*IS*, pp. 44-8, and see *MSS*, pp. 48-51]. Joas reports that Mead attended Wundt’s course on the “Fundamentals of Metaphysics” delivered at Leipzig during the winter semester of 1888/89; see Joas, *G. H. Mead*, p. 218n15.

Different positions will lead to different experiences in regard to such an object as a penny placed on a certain spot... We want to be able to deal with these *spatially* perspectival differences. Still more important from a psychological standpoint is the perspective of *memory*, by means of which one person sees one penny and another sees another penny. These are characters which we want to separate, and it is here that the legitimacy of our parallelism lies, namely, in that distinction between the object as it can be determined, physically and physiologically, as common to all, and the experience which is peculiar to a particular organism, a particular person.¹

But this parallelism was always *incomplete* in that only sensory nervous activity — and not motor — had a correlate in consciousness. That is, we are unaware of the neural activity that guides our muscles; we experience somatic stimuli, but these are the consequences of that activity (as well as other disturbances, like intestinal gas) not the cause.² Further, it implied the existence of *directive centers* in the CNS corresponding to the unity of our actions — but such centers could not be found.³ This was a part of the general problem of *attention* and the *selective character* of consciousness: parallelism was simply unable to adequately account for these features. At best, it could find a CNS pattern parallel with the selection process, and then speak of the individual as “being conscious” of the selection. But it seemed to Mead that consciousness *itself* was selective. The act of consciousness (awareness) and the act of selecting seemed to be one and the same.⁴

A general objection to psycho-physical parallelism is that it perpetuated the idea of *consciousness* as something “in the head,” running parallel with certain CNS activity. Mead wanted to get consciousness out of the head and into the object, into the objective world *alongside* the CNS — not as a private shadow to it, but as a full-blooded companion: “We want to get rid of consciousness as an affection of the individual that arises with certain nervous processes.”⁵ In a similar vein, Mead criticized the “pseudo-science” of Fechner’s psycho-physical correlations:

Fechner’s unsuccessful attempt to establish a logarithmic relation between the quantity of the stimulus and the number of conscious elements that went to make up a sensation, proceeded on the false assumption that there is a consciousness separable from things, and that it is made up of elements which are found in just perceptible differences of sensation.⁶

In a similar fashion, Wundt separated consciousness from the gestures of the organism; but to merely see gestures as behavioral correlates to some inner, mental state is to stop further inquiry; paths leading into the dark world of the mental are dead-ends, for objectivity cannot enter there.⁷ Mead’s aim, and the general aim in the progress of psychology, was to bring more and more of human experience into the realm of objectivity and public discourse. Thus there was something gained in the move to Watsonian behaviorism, despite its faults.

A final objection has to do with *explanation*: parallelism presumably holds that human behavior can be explained purely in terms of neuronal activity. Mead, on the contrary, felt that a *social explanation* was necessary to complement the *neurological*. No account of the elements and events of the CNS could adequately explain rational human behavior for...

...such behavior is essentially and fundamentally social;...it involves and presupposes an ever ongoing social life-process; and...the unity of this ongoing social processor any of its component acts is irreducible, and in particular cannot be adequately analyzed simply into a number of discrete nerve elements.⁸

¹ *MSS*, p. 31.

² *MSS*, p. 42n. See also *MSS*, p. 94. This point of Mead’s is important in his discussion of the ability to control our behavior (recall Kant’s discussion of impulse inhibition); see *IS*, p. 45 and the discussion of control at §77, below.

³ *MSS*, pp. 23-4.

⁴ *MSS*, p. 28.

⁵ *IS*, p. 127.

⁶ *IS*, p. 180. See also Mead, “Review of C. L. Morgan, *An Introduction to Comparative Psychology*” in *Psychological Review*, 3:400 (1895): “A capital error, such as is involved in Fechner’s law, will hardly be committed again.”

⁷ See, for example, *IS*, p. 39.

⁸ *MSS*, p. 118n; see also *IS*, p. 172. Meanings or ideas are not reducible to neurological explanation: “it is not the specific physiological process which is going on inside of the neurons that as such is supposed to answer to meaning” [*MSS*, p. 127]. The same would be said for non-rational (that is, habitual) human behavior, as well as the behavior of at least the more complex organisms. In general, act-descriptions are not reducible to brain-state descriptions.

In short, psycho-physical parallelism maintained the bifurcation of nature into mind and matter — a bifurcation originally stemming from the project of Renaissance science to explain the world in terms of motion and mass. Similarly, Wundt had made a dualism of ideas and gestures and so, by viewing the self as antecedent to gestures and the communicative act, had maintained the mystery of how minds ever communicate with each other, or have knowledge of one another. Mead considered such mysteries as no less spurious than the Cartesian dualism from which they sprung, and moved to eliminate them through a behavioristic approach to the mind¹

§70. *Watsonian behaviorism.*

Behaviorism hoped to go a step further towards objectivity by eliminating talk of the psychical altogether. And rather than focus on CNS activity, they studied the individual's gross motor activity. This shift in emphasis was part of a general tendency towards an objective and public science of human mentality. In behaviorism, wrote Mead,

we are trying to state the experience of the individual and situation in just as common terms as we can, and it is this which gives the importance to behaviorism.²

Behaviorism is partly an extension of parallelism in that it attempts to find a better correlation between subjective experience and the objective world. But it goes beyond parallelism primarily in shifting its interest from psychical states to external conduct, and consequently is concerned more with acts than with thoughts or feelings. Under John Watson, however, the act — as overt behavior — became everything.³

Watsonian behaviorism sought to reduce psychology to a study of the physical motion of the organism and the external stimuli impinging upon that organism. It arose in the context of comparative (animal) psychology,⁴ where a methodology of introspection was not feasible (given the brutes inability to report their introspective findings to the psychologist). Watson offered the following description of behaviorism in an article from 1913:

Psychology as the behaviorist views it is a purely objective experimental branch of natural science....Introspection forms no essential part of its methods....The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute.⁵

Watson rejected introspection primarily due to its gross inadequacy as a method for an objective science.⁶ But this rejection is clearly aided by his belief that the object of introspection, viz., consciousness, was irrelevant to behavior:

One can assume either the presence or the absence of consciousness anywhere in the phylogenetic scale without affecting the problems of behavior by one jot or one tittle.⁷

Given this view of consciousness, Watson saw psychology's role as one of gaining "an accurate knowledge of adjustments and the stimuli calling them forth."⁸ Comparative psychology thus helped introduce a new methodology by

¹ See *IS*, pp. 106-7, 109, and Mead's criticisms of Wundt at *MSS*, pp. 48-9.

² *MSS*, p. 39.

³ **John Watson (1878-1950)**, one of the founders of behaviorism, built on the work of Ivan Pavlov and Edward Thorndike. In 1903 he received the first PhD granted in psychology at the University of Chicago. Watson came to Chicago to study with Dewey but changed to psychology. He was acquainted with Mead, writing in his autobiography:

I took courses and seminars with Mead. I didn't understand him in the classroom, but for years Mead took a great interest in my animal experimentation, and many a Sunday he and I spent in the laboratory watching my rats and monkeys. On these comradely exhibitions and at his home I understood him. A kinder, finer man I never met. [Quoted in Miller (1973), p. xxvii]

⁴ "...coming in by the door of the study of animals lower than man" [*SW*, p. 267 (1925)]; see also Mead, "Review of C. L. Morgan," p. 399]. According to Miller, James Angell was brought to the University of Chicago to teach experimental psychology [Miller (1973), p. xxii].

⁵ J. B. Watson, "Psychology as the Behaviorist Views It" in *Psychological Review*, 20:158-77 (1913), p. 158.

⁶ *Ibid.*, p. 163.

⁷ *Ibid.*, p. 161.

⁸ *Ibid.*, p. 168.

which psychology was freed from the confines of studying the CNS (which parallelism had encouraged), *the act* now being the focus of attention.¹

But Mead found this early version of behaviorism faulty on at least four counts. First, Watson abstracted the individual segment of the act from what Mead saw as the complete *social act* — that is, Watson studied gestures in isolation rather than as parts of a single, social act.² Second, as a part of his wholesale rejection of consciousness, Watson refused to discuss *the private* in our experience. He ignored the introspective data which Mead took to be of the highest importance, indeed, as the very thing most in need of explanation.³ This included Watson's failure to find the origin of the act in the organism (instead of in the experimenter's stimuli⁴), and Watson's reduction of thought to the level of sub-audible speech, manifested in slight muscular contractions in the throat.⁵ Concepts and imagery were especially troublesome since they resisted reduction to reflex arcs, and were seemingly available only through introspection.⁶ Watson consequently captured only *part* of consciousness:

There is something more to consciousness than...a conditioned response. The automatic response...is different from the conduct which involves thought in regard to it, and a consciousness of what we are doing.⁷

Third, Watson tended to see the organism as wholly *passive*, being affected by its environment (through the stimuli) without ever affecting the environment in turn. Mead and Dewey argued instead for a more active role of the organism in creating its environment.⁸ Finally, Watson's theory of *language* was inadequate, failing to make language an integral part of acts, giving it instead a merely epiphenomenal status.⁹

Watson apparently recognized only two options for the status of consciousness. Either it was lodged in some substantive, Cartesian mind, or there was no mind at all, and consequently no consciousness. Watson chose the latter, while Mead found a third option in the social self. What Mead did, in effect, to correct the four deficiencies cited above was to extend Watson's behaviorism to include *covert* as well as overt behavior. This filled-out the social act, brought in the private, and indicated the active side of consciousness and the functional role of language.

§71. Mead's social behaviorism.

Mead's own psychological position was objective (as opposed to subjective or private), dynamic (as opposed to static), active (as opposed to passive), social (as opposed to individualistic), and behavioral (as opposed to substance-based).

Mead's psychology was *objective* in that he made public what was formerly considered private and inaccessible. Unlike Watson, who simply ignored this "private realm", Mead accepted it as a legitimate and important aspect of our experience, but sought to demonstrate its essentially public, objective nature and its parasitism on what is public and stable in objective terms.

¹ MSS, pp. 2, 8n.

² MSS, p. 11; SW, p. 105 (1910a). Among other problems, this left open the problem of solipsism which Mead was able to avoid by holding that selves were parasitic on society, and that awareness of physical objects was parasitic on an awareness of social objects (viz. other selves); see §91, below.

³ MSS, pp. 2-5; Reck sees this insistence on subjective experience as rooted in Mead's earlier functionalism. See Reck's "Introduction" in [SW, p. xxvi].

⁴ MSS, p. 6: "Part of the act lies *within* the organism and only comes to expression later; it is that side of behavior which I think Watson has passed over." Watson emphasized the stimulus and the response, ignoring the organism's nature (as constituted by its impulse-set).

⁵ MSS, pp. 3, 69; see Watson, "Psychology as the Behaviorist Views It," p. 174n: "practically all natural thought goes on in terms of sensori-motor processes in the larynx."

⁶ MSS, pp. 9-10, 100-109.

⁷ MSS, p. 105.

⁸ See Dewey, "The Reflex Arc Concept in Psychology" in *The Psychological Review*, 3:357-70 (1896).

⁹ MSS, p. 13.

The distinction between the private and the public often fluctuates, the private becoming public with time, with the advance of science, and with the articulateness of the individual (who is able to express his experience in a common language).¹ The desideratum of an *objective psychology* is first and foremost a *common language*:

a psychology as this should seek for a statement which would bring these two phases of experience [viz., the private and public experience] as close to each other as possible, or translate them into language which is common to both fields. We do not want two languages, one of certain physical facts and one of certain conscious facts.²

Mead's central objection to psycho-physical parallelism was its tendency to solidify the divide between these two spheres of human experience, i.e., the events in the CNS and the experiences of the individual, by its attempt to draw a correlation between them. While Mead did not object to the correlating-process itself, as that was simply part of the larger scientific enterprise of drawing as many objectively-stated connections within the world as possible, he added that...

...we have to recognize that we have made an *arbitrary* cut here. We cannot take the CNS by itself, nor the physical objects by themselves. The whole process is one which starts from a stimulus and involves everything that takes place.³

This is Mead's monism coming through, insisting that the world is of a single piece, and that any divide we make will be partly arbitrary. All that happens must happen *in the world*; consequently, all of our experience is in the world, whether it be of a public or a private nature. And since there is a single world, a single language is to be preferred over separate languages for "mental" and for "physical" events.

Mead placed much importance on his psychology being *dynamic*, as opposed to the static psychology of associationism and certain forms of parallelism.⁴ Static forms of psychology viewed mental phenomena as isolated in discrete moments of time, forming a loosely connected chain of sense-data. In contrast with this disjointed view of time, Mead thought of time in terms of passage — as a continuous, flowing aspect of experience. This view of time as passage was intimately linked to his doctrine of *the act* as being the basic unit of experience, for an act requires a period of time to complete, with its end implied in its beginning. Experience is consequently no longer seen as a loosely connected chain of discrete moments of sense-data, but as a present still glowing with a recent past and pregnant with an impending future:

The present includes what is disappearing and what is emerging. Toward that which is emerging our action takes us, and what is disappearing provides the conditions of that action.⁵

Mead's psychology was also *active* in a novel way. This not only opposed those "passive" views such as Locke's, where the mind is seen as a structureless and empty *tabula rasa* awaiting the impressions of the world. Kant is famous for having made the mind active in *this* sense of imparting its own structure on the raw data of experience. Rather, the activity of mind that Mead is introducing is of a different order, an activity which influences not just the structure or form of the received data, but which data will be received at all (that is, the individual's mind determines not only the form of experience, but even to some extent the matter); Mead writes:

The individual organism determines in some sense its own environment by its sensitivity. The only environment to which the organism can react is one that its sensitivity reveals. The sort of environment that can exist for the organism, then, is one that the organism in some sense determines.⁶

Related to this is his insistence on the centrality of the *impulse* that seeks its own release (response) in a stimulus; this is the hidden world of the black box that Watson chose to ignore, but which for Mead was at the very heart of human and brute behavior.⁷

¹ *MSS*, p. 41n.

² *MSS*, pp. 39-40.

³ *MSS*, pp. 38-9. See also *MT*, p. 399.

⁴ See *MSS*, pp. 65, 111, and *SW*, p. 270.

⁵ *MSS*, p. 345; note the similar accounts of the present in Husserl and Merleau-Ponty.

⁶ *MSS*, p. 245.

⁷ See, for instance, *IS*, pp. 27-29.

Mead's psychology was also *social*, not just in that it involved the organism and its environment in a more equitable relationship than Watson had allowed, but that the environment included many other organisms of similar and differing form to that of the first: consequently, the behavior was one that arose in a society of forms: "It is absurd to look at the mind simply from the standpoint of the individual human organism; for although it has its focus there, it is essentially a social phenomenon."¹ This is also what distinguished Mead from his fellow pragmatists:

While James recognized early the influence of the social environment upon the individual in the formation of the personality, his psychological contribution to the social character of the self was rather in showing the spread of the self over its social environment rather than in the structure of the self through social interaction.²

Similarly with Dewey: while Dewey saw problem-solving on the level of the individual, and thus as something essentially the same for all biological organisms, Mead moved such activity to the level of the community, thus drawing a sharp distinction between human and brute problem-solving.³

Mead summarizes his own view of psychology nicely at the end of his introductory historical account:

Psychology is not something that deals with consciousness; psychology deals with the experience of the individual in its relation to the conditions under which the experience goes on. It is *social* psychology where the conditions are social ones. It is *behavioristic* where the approach to experience is made through conduct.⁴

When he says that psychology does not deal with consciousness, he means that there is no thing or entity going by that name which is the object of scrutiny for psychologists in the way that a plant is for a botanist or the earth is for a geologist; this substantive sort of consciousness is what Mead is referring to when he writes that...

...behavioral psychology, if carried out consistently enough, can cover the field of psychology without bringing in the dubious conception of consciousness. There are matters which are accessible only to the individual, but even these cannot be identified with consciousness as such because we find we are continually utilizing them as making up our world.⁵

There is still a great deal of talk about consciousness, but it is of a non-substantial kind: hovering between the organism and its environment, consciousness has for Mead the status of a relational property, existing only so long as the *relata* exist. As Mead writes near the close of *Mind, Self, and Society*:

Consciousness as such refers to both the organism and its environment and cannot be located simply in either.... Consciousness arises from the interrelation of the form and the environment, and it involves both of them.⁶

This is Mead's *behaviorism*, as opposed to the substance-psychology that he rejected. The old substance view — as espoused by Descartes and in part by Kant — required us to divide reality between an external world of objects, and an internal world reflecting those objects.⁷ What a behavioral-account of consciousness would amount to may not leap readily to mind, but all that is intended here is the claim that consciousness arises out of certain ways that the organism interacts with its environment. Mead offered several definitional remarks on consciousness, the most helpful of which is his equation of consciousness with an organism's selective responsiveness to its environment. In his writings and lectures, Mead supported

¹ *MSS*, p. 133.

² Mead, "Cooley's Contribution to American Social Thought" in Charles Horton Cooley, *Human Nature and the Social Order* (New York: Schocken Books, 1964), pp. xxix-xxx; originally published in the *American Journal of Sociology*, 35:693-706 (1929-30).

³ On this point see Nikhil Bhattacharya's excellent introduction to Mead's thought: "Psychology and Rationality: the Structure of Mead's Problem" in *The Philosophical Forum*, 10:112-38 (1978).

⁴ *MSS*, pp. 40-1; see §81 and §83, below.

⁵ *MT*, p. 404.

⁶ *MSS*, pp. 332-3. Kang compares Mead's account with some recent attacks on behaviorism led by Chomsky and Nelson; see *G. H. Mead's Concept of Rationality* (The Hague: Mouton, 1976), pp. 43-4.

⁷ ...resulting in a wealth of philosophical quandaries which have occupied the greater part of the modern period; see *MSS*, pp. 32-3, 111, 333. The "reflection" is not passive in Kant's system, of course, the mind actively constructing the structure of experience. But there is still the sense of a world "out there" to be either reflected or interpreted "in here" (i.e., in the mind).

this behavioristic view over that espoused in the parallelist psychology of Wundt or Russell — where consciousness is lodged somewhere “in the head”.¹ But Mead’s account of consciousness is far from simple; the following chapter examines Mead’s theory that consciousness or mind *emerges* and, in Chapter 14, I will sort out *three different senses of ‘consciousness’* found in Mead’s writings.

¹ See *MSS*, pp. 32-3, 111.

CHAPTER 13 THE EMERGENCE OF MIND

§72. Prefatory overview of emergent mind.

Brutes and even plants are intelligent, according to Mead, but only humans have minds, are selves and thus (being conscious) are self-conscious.¹ Wrapped-up with being a self is being aware of the future and having the concept of the possible that the future implies — so brutes lack this as well.² Finally, because they have no sense of a future, brutes also have no claim to rights; humans can consequently act towards them with moral impunity.³ Such are the differences that Mead recognizes between humans and brutes. But where did these differences come from, and when did they arise?

For Mead mind emerged by natural means. Descartes' mind came to be by divine fiat, although the eternal Divine Mind always was and will be. And as for Kant, who can say for sure what he had in mind? For Kant mind developed both in the race and in the individual but its origin is one of those things best left in silence. Mead's mind naturally emerged from non-mind with no unnatural intervention. It arose in a community of self-replicating things which, because they were sexual, often hung together, sometimes even when not engaged in their replicative endeavors, and they developed patterns of behavior useful to the group, which at first was quite small.

Groups, like organisms, act and are made one by the act — the coordinated motion of many parts towards some single end: replication, food-acquisition, parenting, etc. Patterns of gestural behavior helped coordinate the moving parts — call it “information transfer”: the nodding of a head, an eyebrow raised, the pointing to some distant thing. Impulse moved these organisms; it moved them in search of the stimulus which was its release. Impulse initiated the act, which was consummated upon presentation of the stimulus. Hunger, the sight of food, satiation: these organisms did not cook their food before they ate, nor did they stop for Grace — there wasn't time.

Some of these gesturing groups developed a system of vocal gestures for facilitating their activities, and these vocalizations proved to be a great success: they worked in the dark when the need arose and from behind the back, they even passed through walls; they penetrated everywhere with their being and with them so too the life of the group. The omnipresence of the vocal gesture is what made its use in the group so successful. A superficially irrelevant but consequential result of this omnipresence was that both gesturer and gestured could now experience the same gesture. I do not perceive my raised eyebrow the same as my neighbor, but my vocal gesture is essentially the same for us both. With any gesture, the gesturer might be affected by its own gesture and respond to it: but with vocal gestures both gesturer and gestured to will perceive similar gestures (given their similar sense-organs); and assuming that they have similar sets of impulses as well (which, being blood-related, they will) these similar stimuli will evoke similar responses. The group found a union most intimate in this ability to share experiences, to become like the other, if only for that moment.

With time the group expanded, became more complex and diversified, and sub-groups with their separate acts emerged, their acts coordinated with the acts of other sub-groups, and so on. But what is important is that these new groups and acts were soon no longer distinguished in terms of the individual's physiology or anatomy (that it was male or female, infant or adult) but wholly in terms of the gesture. **Coordination took place at this gestural level** for the group had diversified in places where no *physical* difference was to be found. Those individuals who could keep up with this change towards a coordination at the gestural level flourished within the group; neurological systems better able to cope with the complexities of modern group life were selected for: social complexity and cerebral complexity mirrored each other and developed reciprocally.

¹ See *MSS*, pp. 92, 118-9, 131-2, 167, 359; *MT*, p. 384. The question of whether, and in what sense, brutes lack consciousness on Mead's account will be discussed in the next chapter.

² See *PA*, pp. 149, 262; *MSS*, pp. 98, 183, 350, 359. For a qualified sense in which brutes “act with reference to a future” see *MSS*, pp. 118-9.

³ *MSS*, p. 183.

There developed alongside brain and society a thing with no particular use and thus a thing universally useful: the hand. The hand lost whatever specific function it once had — of this Kant was no less aware than Mead. If these organisms once lived in trees they lived there no longer for the hand was no longer an organ for clinging or for locomotion, as were the foot and pre-hensile tail. Its use became universal: it became the facilitator of other acts, the handyman of other organs, and a way-station between the initiation of the act and its consummation. The organism's life of plunging from impulse to satiation, impulse to satiation began to recede as the hand intervened, and the complexities of its manipulations enhanced and were enhanced by the complexities of the brain and society. The hand made time for the saying of Grace and it was a fitting tradition that they be clasped or held together — a posture of disuse or idleness — in this most far-reaching of interruptions.

Where innate impulse ended language began. The complexities of social life stretched beyond the complexities of primitive impulse; social differentiation was no longer a physiological differentiation. Gestures and responses were increasingly arbitrary in the sense of being unnatural, and had to be learned — but they were necessary for the functioning of the society. This new system of response, unique to humans, was language. Language has since assumed many forms, but it found its birth in the omnipresence of the utterance. It made possible the emergence of groups of organisms which were unified by little else than that shared network of meanings. Tribes, towns, nations — the rest is history.

§73. Mead's naturalism.

Descartes' view of the human soul was contrasted with Aristotle's in Chapter 2, above. Descartes distinguished humans and brutes substantively: there were two different kinds of substance, one mental and the other material, where humans consisted of both and brutes only of the latter. Aristotle, on the other hand, spoke of several different kinds of soul, such as nutritive, sensitive, and rational, as opposed to Descartes' single kind. Further, Aristotle meant by 'soul' *not* some distinct substance, but rather a *form* or *activity* (depending on whether one reads Aristotle as a Thomist, or as a process philosopher) of an individual. For Aristotle it was the individual human or dog or tree — its form and matter combined — that was a substance.¹

Kant reverted to certain aspects of Aristotelian doctrine in that he, too, required an immaterial principle for all living things; he consequently rejected Descartes' substantival distinction between humans and brutes in favor of (1) a *functional* difference (in humans possessing mentality which brutes lacked), and (2) a postulated *noumenal* difference (in humans having a noumenal self which was capable of spontaneity). The first difference was open to observation, while the latter was simply postulated as necessary for our moral lives. Kant made it amply clear that it is this postulated difference that elevates humans above the brutes, and makes us not merely "clever animals" but free and moral agents as well.

Like Kant, George Mead also rejected the Cartesian substantival distinction between soul (or mind) and material body, again reverting to a position much closer to that of Aristotle. Mead's view of mind was functional or behavioral, with mentality residing in the conduct of the total organism but, unlike Aristotle, Mead believed that new features of the world were always emerging (including mentality) and, unlike Kant, that biological species had evolved from other species, and that humans share an ancestry with present-day brutes. Furthermore, Mead was a *naturalist* in believing that the universe was self-explanatory.² While he did not subscribe to a mechanistic determinism — indeed, he was its consistent opponent, arguing instead for an "open," emergent conception of the universe — he rejected any sort of overarching teleological development for the universe as a whole, and flatly rejected all recourse to a supernatural explanation of events.

But what is rationality, and whence did it spring if not from heaven? What is it to "have a mind"? Mead thought it was the ability to incorporate other people's attitudes (i.e., ways of responding) into one's own actions. "Taking the attitude of the other" lies at the heart of Mead's system, and so it is crucial to understand what it is from the start. A good example, and one that Mead employs occasionally, comes from the market economy: the ability to barter or sell goods requires the ability to take the attitude of the other person in the transaction.

¹ For a more naturalistic and functionalist reading of Aristotle, see Charles W. Morris, *Six Theories of Mind* (Chicago: University of Chicago Press, 1932), pp. 16-20. Morris was a student of Mead's at Chicago, and dedicated the book to him and John Dewey.

² Kant was also "naturalistic" to this extent, although he occasionally lost sight of this principle. For instance, he accepted as mere "givens" things like the original seeds of species, wherein all of the potentialities of the species lay. Thus the ultimate origin of mind, for Kant, was a surreptitious gift from heaven. Descartes was more straight-forward in ascribing human mentality to God's direct intervention.

Suppose that you grow vegetables and have grown far too many carrots than you can use. The extra carrots are thus worthless to you, devoid of all but the value of compost. On the other hand, you are running low on peas, and wish that you had more; the ones that you have are thus worth a great deal. Now suppose that your neighbor also has a garden and, while he planted too few carrots, he has a vast surplus of peas. If neither of you are capable of “taking the attitude of your neighbor,” then you will both throw your surplus on the compost pile. If you see each other doing this, you will scold each other for throwing away valuable food, but neither of you will understand why the other thinks that *your* surplus has any value. But, of course, we *are* able to take the attitude of others, and in bartering or selling goods we recognize a value in what to us is essentially value-less, by taking the attitude of one who needs them:

There is a participation in *the attitude of need*, each putting himself in the attitude of the other in the recognition of the mutual value which the exchange has for both.¹

The important difference between us and our mindless cousins, the brutes, is that they cannot in this way “internalize” the attitudes of others.² Mead held that all animals — even plants — can “act intelligently,”³ but only humans have minds and are rational.

Because Mead’s naturalism was fundamentally opposed to any system that recognized “differences in substance,” because there is only one kind of “stuff” in his universe, whatever distinctions we want to draw between humans and brutes require some non-substantial criterion. Mead found this in our *behavioral* differences (observable *in principle*, and preferably in practice as well). While one might look for the needed differences in the anatomy or physiology of the respective organisms (and indeed, all differences will need to be grounded here) he emphasized instead the overt behavior of the individual, finding there not just *signs* of a deeper difference between brutes and humans (in the manner that Descartes had found signs in the behavioral criteria for discerning the presence of a rational soul), but rather *the very difference itself*. What separated humans from non-humans was no longer substantial, nor a substance-based moral difference (as with Kant) but behavioral.⁴

Given Mead’s naturalism, the human/brute distinction need have been no different in kind or degree than the distinction between two different kinds of brutes, such as rabbits and oysters. Mead nevertheless found the human/ brute gap to be far wider and more significant than any difference found among brutes; consequently, we may presume that he found the presence or absence of certain ways of behaving to be of exceptional importance.

§74. *Emergence and development.*

Mead’s account of mind involved emergence and development at two different levels: phylogenetic and ontogenetic. Like Kant, Mead held that minds and rational conduct have emerged in the history of the human race (i.e., phylogenetically) as well as in the life of each human individual (i.e., ontogenetically); but Mead was much more explicit in addressing emergence at each of these levels.⁵ What is more, for Mead there was an actual emergence of a new quality or property, and not simply the unfolding of latent tendencies such as Kant believed. Some time in the distant past there emerged, within a group of inter-breeding organisms, mental characteristics where before there were none. Likewise do these emerge in the life of each normal human being; we are not *born* rational and self-conscious, but rather acquire these traits as we mature.

¹ *MSS*, pp. 258-9.

² See *MSS*, p. 281: economic exchange “does not extend below man”; and pp. 73, 138, 195.

³ See *MSS*, p. 328: conduct is intelligent “insofar as it maintains or advances the interests of the form of species”; *IS*, p. 116: “the plant is expressing intelligence in getting its own protoplasm.”

⁴ ‘Substantial’ is meant here in the Cartesian, not Aristotelian, sense. In terms of the differences in overt behavior ascribed to humans and to brutes, Descartes, Kant, and Mead do not differ greatly. All three point to the use of *language* and to the *flexibility of response* as marks of human behavior, and also offer separate explanatory devices for the behavior in humans and brutes; for instance, Mead’s *human impulse* corresponds with Descartes’ *mind* and Kant’s *higher cognitive faculties* as does Mead’s and Kant’s *animal instinct* with Descartes’ *mechanism* (see Mead’s comparison of instinct and impulse at *MSS*, p. 362). But Descartes and Kant, for reasons noted above, felt the need to posit a substantial soul to account for our mind-like behavior (Descartes) or our moral sense (Kant), while Mead did not.

⁵ Mead writes of the emergence of the mental process that “we can approach it from the standpoint of evolution [i.e., phylogenetically]; and we can approach it more particularly from the standpoint of behavioral psychology [i.e., ontogenetically]...” [*MT*, p. 381].

Mead often ambiguously addressed both levels of emergence, while in a few passages he explicitly mentions one or the other. In general, when he speaks of human children, his concern is with ontogenetic emergence, while when speaking of brutes the concern is with phylogenesis. As regards the latter, Mead was a Darwinian and thus believed that the human anatomy and physiology as we know it today was the product of a long *biological* development. After this “form” of the organism (the term Mead used for the *kind* of plant or animal) attained the requisite level of development, human mentality emerged in individuals as a product of their *social* development. Minds and selves consequently evolved from non-mind: the self-conscious evolved from the merely conscious, and the merely conscious from what was not conscious at all. And all of this took place according to natural laws.¹

Mead contrasted these two levels most clearly in the early chapters on society in *Mind, Self, and Society*. The emergence of mind depends upon both biological (physiological) and social developments, and these developments affect each other in different ways, depending on the stage of development. Mead’s story has roughly three stages: (1) there is initially a pre-social existence of proto-human forms, (2) individuals then collect together into a basic family structure based solely on the *physiological differentiation* of the members (namely, males and females, and later parents and children), who are brought together because they “complement one another physiologically” (in the manner that the various organs of an organism — the heart, the stomach, the lungs, &c. — complement one another), making the existence of the other possible.² It is important to note that this primitive social organization rests *entirely* on these physiological differences, for this is how Mead views all non-human societies, such as beehives, anthills, and troops of apes.³ This is still at a pre-mental level. (3) Eventually, mental features emerge (*viz.*, the ability to take the attitude of the other), allowing for a non-physiological articulation of society. It is the move from (2) to (3) that will interest us here.

§72. *The biological and social basis of mind.*

Underlying both phylogenetic and ontogenetic emergence and development are *biological* (physiological) as well as *social* pre-requisites. Biological and social forms develop phylogenetically, wherein the *potential* for the existence of minds and selves emerges. But it is only within the life of each individual, of course, that mind is *actualized*, and this depends on the proper development of the organism, both physically and socially. Mead suggests this two-part requirement when he writes that...

...the human being’s physiological capacity for developing mind or intelligence is a product of the process of biological evolution, just as is his whole organism; but the actual development of his mind or intelligence itself, given that capacity, must proceed in terms of the social situations wherein it gets its expression and import; and hence it itself is a product of the process of social evolution, the process of social experience and behavior.⁴

It might seem at first that only genetically-inheritable features — for instance, *physiological* changes in the CNS structure or the hand — would alone be of concern in phylogenetic accounts, while *social* developments alone would be relevant in ontogenetic accounts. After all, role-playing in itself does not seem to be inheritable, nor would it seem that

¹ Mead is quick to point out that these are nevertheless not *mechanical laws*, as those cannot account for the emergence and novelty allowed for in his system. Everything that occurs is, however, wholly natural, without need to appeal to supernatural agency.

² Mead thus sees the sexual or reproductive impulse as basic to the family structure, and the family structure as basic to all future social organization:

The family is the fundamental unit of reproduction and maintenance of the species...And all such larger units or forms of social organization as the clan or the state are ultimately based upon, and...are developments from or extensions of, the family. [MSS, p. 229]

³ See MSS, p. 235.

⁴ MSS, p. 226n. See also MSS, p. 237n (quoted at §76, below) and MSS, p. 335:

The self thus arises in the development of the behavior of the social form that is capable of taking the attitude of others involved in the same co-operative activity. The pre-condition of such behavior is the development of the nervous system which enables the individual to take the attitude of the others...

And *PP*, p. 184: “If the cortex has become an organ of social conduct...” (from his essay “The Genesis of the Self and Social Control” (1925), also reprinted in *SW*). See also MSS, p. 139n.

bodily changes within the life of an individual would be important to becoming a rational being. But if there are environmental pressures selecting for a larger community, then there will also be a selection for a CNS capable of the coordination demanded by such a level of complexity. Social structures consequently develop phylogenetically.¹ Further, it should not surprise us if a proper social integration of the individual into its community were impossible or unlikely until certain stages of physiological growth occurred in the individual.

Because the emergence of minds depends upon both biological and social evolution, they admit of both biological and social *explanations* (though the latter depend ultimately upon the former). Of the biological evolution of mind² Mead wrote little, although he did frequently note that certain anatomical or physiological features were necessary conditions of mind. For instance, humans have a more complicated neural structuring — as manifested in their cortex — that brutes lack. This added complexity seems to allow for a “temporal dimension” of the CNS, a time-lag between stimulus and response, adequate to allow for some control of the response by the organism. Or, as Mead puts it:

the extensive development of the cerebrum has made possible ...the innervation and organization of responses in advance of their execution.³

Charles Morris, in his “Introduction” to *Mind, Self, and Society*, wrote that these two features — a cortex, and a CNS capable of delayed response as well as a third, the possession of hands “are supposedly the organic bases which determine the biological differentiations of man and the animals.”⁴ To speak of these together is to confuse their status, for the first two enjoy a necessity at the ontogenetic level that hands obviously lack; but Morris is correct in assigning them all some sort of foundational status.⁵

Having considered Mead’s account of the phylogenetic and ontogenetic emergence of mind and selfhood, I will now briefly focus on a few aspects of those biological and social features underlying this emergence.

§76. *Social articulation.*

The phylogenetic emergence of mind depends upon the emergence of a social form; this development can be thought of as follows: at any given moment within the developing social group, there will be (1) a particular social form (*viz.*, its organizational structure), and (2) an (average) individual form (*viz.*, the anatomical and physiological-biological features of “the average member of the group”⁶). Social and individual forms mutually affect one another from generation to generation (*i.e.*, phylogenetically). For instance, the physical build and posture and the habitat (*e.g.*, arboreal, plains, mountainous) will determine in part the kind of social interaction both possible and necessary, as will the different kinds of foods available (*e.g.*,

¹ See §78, below. The abilities for certain conduct rest on physiological features (which are inheritable). Survival-advantage rests to a large extent in the conduct of the organism, the possibility of which resides in physical features of the organism. These two kinds of development are thus intimately linked.

Also not to be forgotten is the role that the self plays in changing the social structure. Mead discusses this at length in Chs. 39-40 of *Mind, Self, and Society*. These non-physiologically based changes are able to accumulate across generations only insofar as there is a period of infant dependency, wherein the mature generation is able to pass the social organization to the next. This is not possible among animals that never see their young, or only briefly. Mead believed that *none* of these changes could accumulate other than in human communities: “We have no evidence of the accruing of an experience which is passed on by means of communication from one generation to another” [*MSS*, p. 232]. Such evidence is available today.

² That is, the evolution of those anatomical and physiological features which are necessary for the emergence of mind in the individual.

³ *PP*, p. 135.

⁴ *MSS*, p. xxiii.

⁵ The possession of hands is more akin to the ability to vocalize in that it is important and perhaps necessary phylogenetically, but only helpful ontogenetically; see *MSS*, p. 237, as discussed below. The necessity of concern here is neither *logical* nor *metaphysical* necessity, but what might be called *physical* necessity, and the method for determining whether some physiological or social feature is necessary in this sense for the emergence of mind is empirical: if there are to be found congenitally mute individuals, for instance, who are obviously minded, then being able to vocalize cannot be a necessary-condition for the *ontogenetic* emergence of mind. Likewise with the possession of hands.

⁶ This is an idealization, of course, such individuals being mythical.

large animals requiring a cooperative hunting group).¹ And given a certain social organization, some individual forms will be more adept at fulfilling the various roles than others, so that the social form will exert a selective pressure towards certain features in the individuals; a more complex CNS was presumably one of those features.

Mead wasted few words on possible scenarios of biological development, for he was primarily interested in the development of social forms, and he believed that any social organization among humans beyond that of the nuclear family was not based on biological differences (arriving at this, apparently, by failing to find any significant differences apart from those of male/female and adult/child). In this regard human society differs sharply from the social forms of invertebrates like bees, ants, and termites, whose highly developed social structure rests wholly on physiological differentiation:

The principle of organization...is that of physiological plasticity, giving rise to an actual development in the physiological process of a different type of form adjusted to certain functions. Thus, the whole process of reproduction is carried on for the entire community by a single bee or queen ant...There is the development of a single group of fighters, a differentiation carried so far that they cannot feed themselves.²

Physiological differentiation is less-plausible in accounts of non-human *vertebrate* societies, but then Mead did not believe that developed social structures were to be found here anyway:

The wooing and mating of forms, the care of the infant form, the bunching of animals in migrations, and fighting, about exhaust [non-human] vertebrate social conduct, and beyond these seasonal processes vertebrate societies hardly exist till we reach man.³

It is unfortunate that so little research on animal behavior had been done in Mead's day. The complex social relations among the higher primates, for instance, was not commonly appreciated. Mead's view of non-human vertebrate society as rather sporadic and loosely-knit groups consequently sounds outdated today.⁴

Given this, Mead's overly-brief explanation for this dearth of social structure among the non-human vertebrates, viz., that they lack the physiological plasticity of the invertebrates,⁵ is of little use since humans *also* lack such plasticity. He thus fails to offer an account of why it happened that mental-conduct emerged in one group of vertebrates but in none of the others,⁶ the most he does is make explicit the central role of the human CNS: what ultimately differentiates us from the brutes is our well-developed cortex.⁷ Even where he suggests other biological pre-requisites for the emergence of mentality — most notably, hands and vocal gesturing — it is clear that these alone will not go far, and require the support of an advanced nervous system.⁸

¹ A. Kortlandt, "Comment on Hewes" in *Current Anthropology*, 14:13 (1973); Tiger and Fox, *The Imperial Animal*, pp. 19, 86-89.

² *MSS*, pp. 230-1; see also *PP*, pp. 168-9.

³ "The Genesis of the Self and Social Control" (1925), in *PP*, p. 179. See also *IS*, pp. 133, 158: The family...

...is the beginning of society in the vertebrate form. The organization is more developed in the herd, but in the herd there is little adhesion. The family is not divided among the different members; *all do the same thing together*...A distinction must be made between *doing things together* [as in herds of cattle] and *each performing a definite part of an action* [as in human and insect societies]."

⁴ Nevertheless, it is not clear from the recent work in ethology and comparative psychology that social structures among the other vertebrates *are* complex enough for thinking or mentality — as Mead understood these features — to have emerged within any of these non-human groups.

⁵ *Ibid.*; *PP*, p. 180; see also *MT*, pp. 376-7 (the principle, or principal method, of organization).

⁶ Note that given the absence of "physiological plasticity" in the vertebrates, any highly complex form of social conduct is foreclosed unless some other means is found for articulating the social roles. If there is some survival value attached to a more complex social organization — which there seems to be — then there will be a selective pressure favoring those forms most capable of coordinating roles. A physiological and evolutionary account is thus needed of how humans managed this coordination so much more readily than other breeding-groups. Mead offers little in the way of explanations here, saying simply that given the CNS of humans, social roles were capable of arising that went beyond any physiological differentiations.

⁷ See, for instance, *MSS*, p. 255.

⁸ The role of vocal gesturing will be discussed below; as for the role of the hand, see *MSS*, pp. 237, 249, and the discussion at §77, below.

The heart and soul of human society, the “principle of coordination”¹ that parallels the “physiological differentiation” found in the insect societies, is the human individual’s ability to *take the attitude of the other*, that is, the ability to internalize the different roles within the community. Mead lists two pre-requisites of this ability’s emergence:² (1) the presence of the right kind of *social stimulus* (viz., a kind of gesturing that is capable of affecting both the gesturer and the other in a similar way),³ and (2) a *similar impulsive constitution* between the individuals,⁴ so that the similarly received stimulus will evoke a similar response. Given these two conditions, organism A is able to gesture to B, evoking in both A and B the same response, which just amounts to A taking the attitude of B.

If we look around for candidate breeding-groups meeting these two conditions, we find that the second condition is easily met by *every* group (since the individuals within a group will always share a great many features). And as for the first, both birds and humans are capable of articulated vocal gestures. Nevertheless, birds cannot “take the attitude of other birds.” What’s still missing? In a published essay from 1912, Mead noted that it was “highly probable” that lower animals do not have selves (i.e., that the brute is unable to view itself as a social object), and that the reason for this difference between brutes and us was our proficiency with *vocal gestures*, but that...

...the mere capacity to talk to oneself is not the whole of self-consciousness, otherwise the talking birds would have souls or at least selves. What is lacking in the parrot are the social objects which can exist for the human baby. Part of the mechanism for transferring social objects into an inner experience the parrot possesses but he has nothing to import into such a world.⁵

Brutes consequently lack the proper primitive family structure which will promote an early childhood socialization;⁶ given the interdependence of social form and CNS development, we again return to the bottom line that brutes simply lack the right kind of CNS to allow for the proper social relations necessary for the development of mentality in the individual.

Given the development of the CNS in the proto-human forms, these forms were capable — once brought into society — to assume non-physiologically defined *roles* (exhibiting a “mental plasticity” to correspond to the insects “physiological plasticity”)⁷ in social structures of ever-increasing complexity, which selected for forms within the breeding-group most capable of fulfilling these roles. Non-human vertebrates that currently exist are incapable of assuming these different roles

¹ *Ibid.*; *PP*, p. 182.

² See *MSS*, p. 364 and *SW*, p. 286 (1925).

³ Mead thought the *vocal gesture* most adequate for this. See, e.g., *SW*, pp. 136-7 (1912) and *IS*, p. 161. For the phylogenetic emergence of mind and selves our vocal skills were necessary, though for the ontogenetic development they obviously are not, as is clear from the case of deaf mutes (see *SW*, p. 140 (1912), and *MSS*, pp. 191-2).

Language of *some kind*, however, is necessary for the ontogenetic development of mind and self-consciousness; see *MSS*, p. 234: “in the case of the deaf and dumb, if no care is given to the development of language, the child does not develop normal human intelligence, but remains on the level of lower animals.”

⁴ This amounts to the individuals being constituted of roughly the same set of impulses or instincts; see §81, 83, below.

⁵ *SW*, p. 140 (1912). Concerning the role of the vocal gesture see also *IS*, p. 36: “The parrot makes articulate sound but does not speak.” At *MSS*, pp. 359-61 Mead further explores the role of the vocal gesture in brutes, again noting that the birds meet *one* condition for the emergence of mind (namely, the ability to produce gestures which stimulate themselves and others similarly), but that they fail to meet the second condition of infant-development in an environment of social objects.

⁶ Mead could also have suggested that not all breeding-groups experienced an equal selective pressure for social coordination (either now, or in the past while humans were developing). Recent work in this area offers many fascinating suggestions as to the emergence of human society and language.

⁷ Mead attributes the delineation of these roles to the “functional differentiation [achieved] through language” [*MSS*, p. 244]. See also *MSS*, pp. 179, 230-5: “the principle of organization among these insects is that of physiological plasticity...Such differentiation is not the principle of organization in human society”; *IS*, p. 158: “the basis for the development of complex human society lies in the CNS and cerebrum...”; *IS*, pp. 165, 169: “In invertebrate societies there are physiological differences”), *PA*, p. 137: “These results are reached through physiological differentiation”; *PA*, pp. 203, 490: human “societies are not, as in the case of the insect societies, limited by physiological differentiation...”; *MT*, pp. 376-80: “the principle of organization is not that of physiological plasticity....”

(i.e., role-play), either because they lack a CNS adequate to the task, or they lack the period of infancy needed for acquiring the different roles, or both.¹

This was the phylogenetic side of the emergence of mind; further development is phylogenetic only in a qualified sense. For instance, sooner or later the rate of development of the CNS may slow down or stop because the competition for many of the roles is no longer as fierce as before (the majority of the population having become increasingly fit to assume those basic social roles and the physically inept dying out). But the social structures keep evolving — as we can see with our own eyes — and this will still effect the individual form, although no longer in an overtly physical fashion. Infant forms will develop into selves of a higher complexity than they had in previous generations, and in this manner do humans still develop “phylogenetically” though the CNS-development is significantly slowed or stopped.²

Mead devotes most of his time discussing the *ontogenetic* emergence of mind, for it is here — in the emergence of a self and mind in the life of the individual human — that the supporting role of society is easiest to display.³ The individual already has all the necessary hardware to become a self and mind (primarily, an adequate CNS, though peripherals like eyes, ears, speech organs, and hands, while not necessary, are useful),⁴ and is in need only of the right social experiences.

I will discuss the ontogenetic development of the self in §78, below, and the ontogenetic appearance of mindedness of course rests squarely upon this, with an increase in abstraction requiring an increase in the universality of the generalized other. Refinement of mental ability rests considerably on the cultivation of linguistic skills, as will be discussed in Chapter 15. The acquisition of language-skills goes hand in hand with socialization and is considered a necessary-condition for the ontogenetic development of the self and mindedness. This language need not be vocal (as opposed to the phylogenetic development) but it must be capable of facilitating the social relationships necessary for the formation of the self.

¹ See the lengthy discussion of infant development in Mead’s “The Self and the Process of Reflection,” printed at the end of *Mind, Self, and Society* (pp. 354-78). He discusses here the importance of human infancy in the internalization of the attitudes of others:

It is important to recognize how entirely social the mechanism of young children’s reflective conduct is. The explanation lies both in the long period of infancy, necessitating dependency upon the social conduct of the family group, and in the vocal gesture....” [MSS, p. 376]

See also MSS, p. 241: “Not only is there a physiological period of infancy [in humans], but it is so lengthened that it represents about one-third of the individual’s expectation of life.” Mead has in mind here the long period devoted to education.

² But Mead limits the complexity of the self and social-structure with the complexity of the CNS:

The limit of possible social development in any species of animal organism — the degree of complexity of social organization which individuals of that species are capable of attaining — is determined by the nature and extent of their relevant physiological equipment, their physiological capacities for social behavior; and this limit of possible social development in the particular case of the human species is determined, theoretically at least, by the number of nerve cells or neural elements in the human brain... [MSS, p. 237n].

³ That this is his special interest is indicated on the opening page of *Mind, Self, and Society*:

If we abandon the conception of a substantive soul endowed with the self of the individual at birth, then we may regard the development of the individual’s self, and of his self-consciousness within the field of his experience, as the social psychologist’s special interest. [MSS, p. 1]

⁴ As always, it is crucial to keep separate the claims about phylogenetic and ontogenetic development. Mead writes, for instance, that the development of *the human hand* and of *speech* are “essential” to the emergence of the mind:

There is...another very important phase in the development of the human animal which is perhaps quite as essential as speech for the development of man’s peculiar intelligence, and that is the use of the hand for the isolation of things. Speech and the hand go along together in the development of the social human being. [MSS, p. 237]

That Mead’s meaning here is of the phylogenetic emergence of mind is not obvious (although the mention of ‘animal’ is a good indicator of this, since he will normally refer only to humans otherwise). That he *should not* be referring to ontogenetic emergence is empirically evident, given the existence of people mute or handless from birth who are seemingly self-conscious and intelligent. And that he *is not* so referring is suggested by his own references to cases like Helen Keller (see MSS, pp. 149, 234; *IS*, p. 46).

§77. Complexity, inhibition, and time.

The presence of a middle stage between *the stimulus* to an act and its *consummation*, made possible through a *manipulation* of the object approached in the act, that separates humans from the rest of creation, and it is within this stage (this interruption of the act) that reason arises. Manipulation creates for us a “now” or temporal present, a pause in the head-long rush from stimulus to response that characterizes the brutish life:

In the experience of lower forms which have no such manipulatory area there is no reason to believe that there is any permanent world...[They are as] when in falling over a cliff one strives to get hold of the stem of a sapling. There is no reality now. It all lies spatiotemporally ahead of us.¹

The greater complexity of our neural pathways allows for any number of impulses seeking release and, when finding it, inhibiting the overt response to other stimuli. A world of mental imagery swells before us (in the form of covert responses to these many satisfied impulses) and the future now comes into focus and effects the present. Our physiological complexity...

...makes it possible to set-up an act in the CNS in a time scheme. The different stages of an act can be aroused before the act is accomplished....The CNS can affect the organism at present with this future act. It is the ability of later responses to play back into immediate responses that gives us our flexibility and power of choice. The CNS makes possible this temporal organization of the act.²

This ability to delay responses makes possible our “living in the future”; the presence of *distance sensory organs* (in particular our eyes; for other animals other sensory modes may play a more important role in sensing predators or prey, sexual partners, and so on) compliment the human’s *CNS* here:

Through his distance organs and his capacity for delayed responses the individual lives in the future with the possibility of planning his life with reference to that future.³

In *The Philosophy of the Present* Mead attributes this capacity to the possession of an encephalon:

The development of the distance receptors with their inner apparatus, the encephalon, has endowed the higher animals with a future which could become effective only in proportion as it was stretched out behind into the past in which the contact experiences that were promised or threatened by sight or sound were made specific by the finer adjustments of the hand in manipulation.⁴

Kant had found in the inhibition of impulses indication of a rational faculty, a faculty that is *prima facie* free of sensuous influence. Not surprisingly, Mead also set this ability at the heart of what it is to be intelligent.⁵

The essential characteristic of intelligent behavior is delayed responses — a halt in behavior while thinking is going on...made possible *physiologically* through the mechanism of the CNS, and *socially* through the mechanism of language.¹

¹ “The Social Factor in Perception” [PA, p. 143]. See also *Ibid.*, p. 149: “there is no ‘now’ by which [a contact] can be dated with the organism”; “The Perspective Theory of Objects” [PA, p. 161]: “The achievement of the human animal...is the arrest of passage, and the establishment of a ‘now’. It takes place...by inhibition”; “The Experiential Basis of Natural Science” [PA, p. 262]: “Such inhibitions belong to the situations of all animal forms.... However, this does not endow their landscapes with space and time.... This capacity belongs only to human individuals.”

² *IS*, p. 158. See also *MSS*, p. 117:

One of the peculiarities [of the CNS] is that it has...a temporal dimension: the things we are going to do can be arranged in a temporal order so that the later processes can in their inception be present determining the earlier processes.

MSS, pp. 86-7:

What is given at the outset is determined by the attitude to what is to come later...Given a sufficiently complicated CNS, we can then find an indefinite number of responses, and these responses can be not only immediate but delayed, and as delayed can be already influencing present conduct.

³ *MSS*, p. 98n (from the 1931 lectures). See Kant’s discussion of brutes and the future: §28, above

⁴ *PP*, p. 37. See also *PP*, pp. 66, 74.

⁵ Another point of comparison between Mead and Kant is their respective views of *time* they are similar in grounding temporality in the subject, but differ in how it is grounded.

Interrupting the act (inhibiting the impulse, delaying the response) is generally useful to the organism as it allows for a testing of the act prior to actually completing it. This covert testing, which is what we call ‘thinking’, is just the covert responding to stimuli (an overt response would constitute the act’s completion):

The CNS provides for a mechanism of implicit response which enables the individual to test out implicitly the various possible completions of an already initiated act in advance of the actual completion of the act — and thus to choose for himself, on the basis of this testing, the one which it is most desirable to perform explicitly or carry into overt effect. The CNS, in short, enables the individual to exercise conscious control over his behavior. It is the possibility of delayed response which principally differentiates reflective conduct from non-reflective conduct in which the response is always immediate.²

The “primal function” of this thinking (covert responding, mental imaging) “is that of determining what course of action shall be pursued” by first presenting the results of different courses.³ That this ability to think has tremendous survival-value is clear when one considers the difference between an organism that must physically (i.e., overtly) work through each “hypothesis” in solving a problem as opposed to an organism who can work through them in its head. For the unthinking organism, the first wrong hypothesis could easily be its last. Not only does thinking (or the use of significant gestures) benefit the individual; it benefits the group as well:

The value of this importation of the conversation of gestures into the conduct of the individual [by way of language] lies in the superior coordination gained for society as a whole, and in the increased efficiency of the individual as a member of the group.⁴

In lacking this, brutes must rely upon trial-and-error.⁵

In possessing neural systems of differing complexity, humans and brutes are thus distinguished in certain general aspects of their conduct. Brutes, in solving a problem (e.g., escaping confinement or obtaining food), resort to the method of trial and error, of approach and withdrawal, overtly testing each possibility. Humans, on the other hand, can test those possibilities covertly, “in their minds,” and so are far more effective in this problem solving if only because one can move neurons about rather more quickly than one’s entire body. Associated with this is the human’s power of *attention* or *analysis*. At the most general level, attention is nothing more than “having an interest” or “an impulse seeking expression.”⁶ But Mead also seems to mean by it an ability to put the weight of all one’s interests into one stimulus or object:

¹ *MSS*, p. 254n. See also *MSS*, pp. 98-100, where Mead contrasts the “delayed reactions” of human (intelligent) behavior with the “immediate reactions” of brutish (instinctive, habitual) behavior: “Delayed reaction is necessary to intelligent conduct.” See also *MSS*, p. 350: “From the point of view of instinctive behavior...past and future are not there.”

The development of the hand, with its opposable thumb and fine motor control, was probably necessary for the continued development of the CNS and the phylogenetic rise of human intelligence:

The human hand, backed up...by the indefinite number of actions which the CNS makes possible, is of critical importance in the development of human intelligence. It is important that a man should be able to descend from a tree...but it is of greater importance that he should have a thumb opposite the fingers to grasp and utilize the objects that he needs. [*MSS*, p. 249]

On the centrality of the hand, see also *MSS*, p. 237; Miller, *G. H. Mead*, p. 62; and §12 (above) and §93 (below).

² *MSS*, p. 117. Mead emphasizes that *all* thinking involves images, however slight; all thought is sensuous [*MSS*, p. 342].

³ *MSS*, pp. 373-4. See *MSS*, p. 181: “A symbol is nothing but the stimulus whose response is given in advance...Now, if that response can be given in terms of an attitude *utilized for the further control* of action, then the relation of that stimulus and attitude is what we mean by a significant symbol.”

⁴ *MSS*, p. 179. See also *MSS*, p. 46:

The function of the gesture is to make adjustment possible among the individuals implicated in any given social act...The significant gesture or significant symbol affords far greater facilities for such adjustment and re-adjustment than does the non-significant gesture...The conscious or significant gesture is a much more adequate and effective mechanism of mutual adjustment.... [see also *MSS*, p. 37n]

⁵ See *PA*, pp. 24, 35-6; *MSS*, pp. 95, 354f.; *IS*, pp. 49, 52; *SW*, pp. 13-15.

⁶ *MSS*, p. 341.

Man is distinguished by that power of analysis of the field of stimulation which enables him to pick out one stimulus rather than another and so to hold on to the response that belongs to that stimulus.... That is the way we get control of our action; we do not directly control our response through the motor paths themselves.¹

It is through shifting one's attention that self-control is possible: "control takes place by directing attention to characters in the field of stimulation, not to the motor reply."² In Mead's account of the child trying to come to grips with the bright and inviting candles which nevertheless cause pain when touched, he writes: "one finds in attention not only concentration, but that which concentration implies, control."³ As can be seen here, a great deal in human experience rests on this physiological complexity of the CNS which allows for the temporality of the act and its inhibition. More will be said on this score in Chapter 16.

§78. Society, self, and mind.

It is unfortunate that Mead invested so little effort into making clear the difference between minds and selves. Often one comes to think that there is no difference, or, if one thinks of one, it is quickly forgotten in the confusion.⁴ What is a mind? What is a self? Is it even proper to speak of *minds* or *a mind* (as opposed to *mindedness*)?

I believe that Mead more often than not spoke of mind or mentality in terms of a general capacity or ability that a human normally acquires in the early years of her life, namely, the capacity to internalize another's attitude, and thus to be able to respond covertly to the early stages of one's own gesture so as to assimilate the other's probable response into the gesture. This capacity, unique to humans, rests upon the human anatomy and physiology (primarily, the human brain), without which it could not develop in the organism; it is the capacity to use a language, the ability to assume different roles or ways of responding to any given stimulus. The gradual learning or internalization of these multiple roles constitutes the emergence of the self; once enough of these roles are in place and a self has emerged, the organism is considered minded.

One does speak of *selves* or *a self* in Mead's system. Not that a self is any more a substance than mind, but it lends itself to particularity or uniqueness. More than a general capacity, it includes the history of a particular organism; so, for instance, when I am self-conscious, I am conscious of a particular self (me, myself) and not some general self. Selves are composed of two poles or aspects: the *I* and the *Me*. The "I" is the active component and includes the set of impulses original to that organism (i.e., those which it had at birth, plus whatever modifications acquired), while the *Me* is a slowly accumulated set of "social attitudes." Mead's *Me* is rather similar to Freud's "Superego" and it plays a similar role of inhibiting the self's initial impulses (the activity of the "I"); it is the voice of conscience and social control.⁵

The "I" is also thought of as the source of spontaneity; its responses are novel while the *Me* issues in habitual responses.⁶ As the subject, agent, and locus of spontaneity, the "I" is always just beyond the edge of consciousness. The "I" never

¹ *MSS*, pp. 94-5. The passage continues with the following:

There is no capacity in the lower forms to give attention to some analyzed element in the field of stimulation which would enable them to control the response. [But a human] can direct attention and so isolate the particular response that answers to it.... An animal makes combinations, as we say, only by trial and error, and the combination that is successful simply maintains itself.

See also *MSS*, pp. 121, 131-2; *PA*, pp. 4-5, 366-67; *SW*, pp. 13-5 (1900) and p. 110 (1910a).

² *IS*, p. 45. See also *MSS*, p. 367. Recall Kant's account of the fig leaf in "Mutmaßlicher Anfang".

³ *SW*, p. 14 (1900). See also *MSS*, p. 131: "The human individual has the ability to pick out the elements in a house which answers to his responses so that he can control them."

⁴ Some of Mead's commentators tend to speak of mind and self much as Spinoza did of God and Nature, rarely mentioning the one without the other. This practice, however, is not especially illuminating.

⁵ See *MSS*, p. 210, 255n. Aboulafia, in comparing Mead's and Sartre's conceptions of the self, also brings Freud into the discussion and concurs in this close, though non-identical, correlation of Mead's *Me* and Freud's superego: see Aboulafia, *The Mediating Self*, pp. 82, 86.

⁶ See *MSS*, p. 197: "a novel reply to the social situation...constitutes the "I" as over against the "me." The "me" is a conventional, habitual individual."

appears to us; like Kant's transcendental ego, the "I" is non-phenomenal: "The 'I' does not get into the limelight; we talk to ourselves, but do not see ourselves."¹

The individual begins acquiring these social attitudes (and thus a Me and the resultant selfhood) during infancy. These attitudes — which are ways of responding, and thus are internalized as impulses — solidify in the individual as various social roles, and the accumulation of these roles in the individual becomes what Mead calls *the organized other* (a mature Me). Mead offers an example of the emergence of selves in an early society:

One perhaps finds in the relationship of the different members of the most primitive group *attitudes of mutual defense and attack*. It is likely that such co-operative attitudes, combined with the *attitudes of the family*, supply the situations out of which selves arise. Given the self, there is then the possibility of the further development of society on this self-conscious basis, which is so distinct from the loose organization of the herd or from the complex society of the insects.²

Partly because Mead presents the *nature* of the self so clearly, the *emergence* of the self is also clear; it is, after all, simply the internalization of social attitudes, which then combine with one's initial impulses to form one's personality or self. Mead divides the emergence of the self into two stages: the first involves general *role-playing* on the part of the infant, while the second involves participation in *organized games*:³

In the development of the individual child, there are two stages which present the two essential steps in attaining self-consciousness. The first stage is that of play, and the second that of the game, where these two are distinguished from each other. In play in this sense, the child is continually acting as a parent, a teacher, a preacher, [etc.] ... The play antedates the game. For in a game there is a regulated procedure, and rules. The child must not only take the role of the other, as he does in the play, but he must assume the various roles of all the participants in the game, and govern his action accordingly.⁴

In the play stage, the child simply mimics the responses of those around him, and thus begins to internalize other's attitudes, although in a piece-meal fashion. The child still lacks a sense of community, or a social sense. Only with her learning to play games — rule governed activities involving multiple roles — does she develop the sense of being a social self. These two stages can be characterized in terms of the organization of attitudes in the individual: (1) the organization of the *particular* attitudes of other individuals, and (2) the organization of the *social* attitudes of the generalized other. It is only with the advent of the second stage that the self is fully intact; in mere role play...

... the child is one thing at one time and another at another, and what he is at one moment does not determine what he is at another.... He is not organized into a whole. The child has no definite character, no definite personality.⁵

The emergence of mind rests on the emergence of selves, since mindedness requires the two poles of the individual (i.e., selfhood) to be in place.⁶ Thinking is a train of covert responses between the impulses comprising these two poles;⁷ testing,

¹ *MSS*, p. 174. See also *MSS*, p. 203 and *SW*, pp. 140-1 (1912) where Mead specifically equates his "I" with Kant's transcendental ego. Mead considers the non-habitual actions of the self as free and mechanically indeterminate [*MSS*, pp. 176-8].

² *MSS*, pp. 239-40.

³ Turner and Beeghley offer a more complicated story of Mead's theory of the self, which is proper given their sociological interests; they find three senses of self, namely: (1) the internalization of social attitudes, (2) self-control, and (3) self-conception, and trace the development of each. See Ch. 22 of Jonathan H. Turner and Leonard Beeghley, *The Emergence of Sociological Theory* (Homewood, IL: The Dorsey Press, 1981).

⁴ *SW*, pp. 284-5 (1925). See also *MSS*, pp. 364-5.

⁵ *MSS*, pp. 158-9. Gilbert Ryle offers a similar account of the emergence of self-consciousness in the child: "At a certain stage the child discovers the trick of directing higher order acts upon his own lower order acts...he finds out how to play both roles at once" [*The Concept of Mind* (New York: Barnes and Noble, 1949), pp. 186-95].

⁶ Mead is not always explicit on the priority of mindedness and selves, though enough passages indicate the priority of the self to convince me that this is the correct reading (e.g., *MSS*, pp. 335, 365-6). Turner and Beeghley nevertheless suggest that mind is a pre-condition of the self; see Turner and Beeghley, *The Emergence of Sociological Theory*, p. 500.

⁷ *MSS*, pp. 156, 335. Given the presence of an I in the youngest human infant, and something very much like an I in many if not all brutes (the I being simply that initial set of impulses within the individual or, more narrowly, that impulse presently

planning, and other forms of mental deliberation supposedly take place in this manner. What is considerably more complicated is Mead's account of how the phylogenetic capacity for selfhood and mindedness arose.

The biological underpinnings of selfhood and mindedness emerged phylogenetically in the history of the species, and at times it sounds as though they would be sufficient for the emergence of selfhood and mentality in the individual:

The individual members of even the most advanced invertebrate societies do not possess sufficient physiological capacities for developing minds or selves, consciousness or intelligence....¹ Only the individual members of human societies possess the required physiological capacities....²

We know that what we call conscious processes are physiological processes.... We know that conscious processes are dependent upon a high development of an encephalon....³

Indeed, the above passages might lead one to believe that the only necessary condition of self and mind is a certain physiological development in the individual, whereupon one fine morning she awakes with thoughts in her head and a sense of herself. But a crucial middle term is needed that connects the physiological development with the emergence of mind, namely, a social integration built on top of these physiological features, wherein the behavioral relations that constitute mind can develop.

Selves and mindedness are social in two senses, the first being the sense that the phylogenetic emergence of the human brain required a social setting. Selves (and therefore mentality) are social in the second sense that the individual requires a social environment in order to acquire a Me-component, and this second component of the self is necessary for thinking to occur. But this second dependence on society is difficult to assess given the ambiguity as to what counts as a society. Two alternative scenarios come to mind: first, the Tarzan scenario where a human infant is isolated from human contact and nurtured by putative non-selves (viz., apes). Second, there is the more barren scenario where, *per impossible*, a human infant is isolated from all animal interaction, and has only the trees and the stars with which to commune. That a sense of self and mindedness might develop even in this latter scenario (given the human physiological basis of the infant) is suggested by Mead's notion that even physical objects have attitudes, and so can count as "others."⁴ Social contact of some kind is necessary, however. An infant deprived of social contact, although it possesses the requisite physiology, will remain as a brute.⁵

Mead's abiding interest lay in the social parameters of the emergence of selfhood and mindedness. Indeed, the mind of an individual is just the way that the individual interacts with others.⁶ There is no *thing* called 'mind' or 'consciousness', only a set of relations between the organism and its environment (which will include other organisms).

being released), one is puzzled by Aboulafia's contention that "Mead makes moral and metaphysical claims regarding the place of novelty in the universe, and the I-pole must carry the weight of these assertions" [*The Mediating Self*, p. 25]. As seen above (and as will be argued in the following chapters) it is the Me-component that is unique to humans, not the I. If the I is the source of morality and metaphysical wonders, then the status of brutes is far nobler than Mead thought.

¹ In denying intelligence to these advanced invertebrate societies, Mead must have *human* intelligence in mind. This makes the claim compatible with his other assertions about plants and brutes being intelligent — even though it renders the claim tautologous.

² *MSS*, p. 236n. See also p. 237n: "The limit of possible social development in any species of animal...is determined by the nature and extent of their relevant physiological equipment."

³ *PP*, pp. 65-6.

⁴ On the attitudes of inanimate objects, see Chapter 16, below.

⁵ This can be seen in the cases of feral children; and then there are the "Helen Keller" cases where a child is in effect isolated from others due to sensory limitations (although here the sensory-deprivation is no longer the obstacle to socialization that it was, given the advances in developing alternative forms of communication).

⁶ See *MSS*, p. 268: "the mental development of the individual consists in getting in himself these organized responses"; and *IS*, p. 32: "the process of thought is itself social." The major task of education is "the getting of this social response into the individual" [*MSS*, p. 264]. This is not to reduce the mental to bodily states of the organism, as Watson tried to do. Mind is for Mead a set of relational properties, being the adaptive response of an organism to its environment. Adaptation and control of the environment are thus crucial aspects of the mind for Mead, and these are lost in Watson's reductionistic behaviorism.

The above social parameters were ontogenetic; but they can also be viewed phylogenetically.¹ As a result of the selective mechanism described by Darwin, different relationships develop between organisms (i.e., social organizations) and are maintained depending upon the survival advantage accrued to the relata. Some relations are between predator and prey, others between males and females of a species requiring sexual reproduction, or between parents and offspring, between members of the same species and territory (perhaps regardless of sex or biological relation), etc. The society or group will include all the organisms relevant for survival (with their varying degrees of importance) to the individual, who must have some kind of understanding of his fellow-organisms if he is to survive and propagate his form: “instincts are essentially social, and lie behind the act.”² The deer, for instance, cannot wait for the wolf’s teeth to penetrate its flesh before recognizing its promise of destruction. One’s neighbors are of various stripes, and they must elicit the proper responses:

In the evolution of animal forms within the life-process the hunter and the hunted, the eater and the eaten, are as closely interwoven as are the mother and the child or the individuals of the two sexes.³

Communication between forms within one’s group occurs by way of *gestures*, which consequently play an important role, especially when these gestures become *significant*, and so become a true language, or a “conversation of symbols”.⁴ Once gestures attain significance, they are capable of articulating social roles free of any physiological distinctions. The development of a language makes *thought* possible, which is just an inner conversation wherein some problem is considered from some of the many perspectives comprising the self.

What Mead calls ‘the mind’ or ‘mentality’ is a certain set of social relationships which has been successful in allowing the relata to perpetuate their kind, and where the relata are all human beings. Discovering why Mead discriminates here between human/human and brute/brute relations (or, for that matter, human/brute, human/inanimate object, etc.), and why he ascribes mental characteristics only to the one set, is the central task of the following chapters.

¹ See §76, above.

² *IS*, p. 32.

³ *MSS*, p. 358. Apart from being able to recognize these “significant others”, it generally is useful to be able to recognize them *at a distance*, so that the organism’s response need not be immediate: “If the world were right on top of us, in contact with us, we would have no time for deliberation” [*MSS*, p. 98n].

⁴ This will be explained in further detail below. I wish here only to make familiar the central terms and their use.

CHAPTER 14 CONSCIOUSNESS

§79. *The ambiguity of 'consciousness'.*

Consciousness has been a central concern in this study given the debate over the nature, and even existence, of consciousness in brutes. Both Descartes and Kant denied consciousness to brutes, insofar as it was an awareness of representations; brutes “had” representations in some sense, but they were unaware of them. Mead, on the other hand, explicitly attributed consciousness to the brutes: “In contrast with the animal, we can see the meaning of its action, but that meaning is not present *to the consciousness of the animal.*”¹ Mead also seems to be ascribing consciousness to brutes in the following passages:

The other conception [of consciousness] that I have brought out concerns the particular sort of intelligence that we ascribe to the human animal, so-called ‘rational intelligence’...²

‘Consciousness’ (in one of its basic usages) represents a certain sort of environment in its relation to sensitive organisms.³

Neither of the above *deny* consciousness to brutes, and the construction of the sentences are such that it seems probable that he would have ascribed consciousness to them had he chosen to discuss the issue more explicitly. A similar passage occurs in “The Genesis of the Self and Social Control” (1924/5):

[Consciousness] covers the relation of the sentient organism to its environment insofar as the environment exists for the organism... [the second meaning of ‘consciousness’ is] the affections of the body of the sentient organism...⁴

Finally, in a discussion on meaning in *Mind, Self, and Society* we find:

Gestures may be either conscious (significant) or unconscious (non-significant). The conversation of gestures is not significant below the human level, because it is not conscious, that is, not *self-conscious* (though it is conscious in the sense of involving feelings or sensations).⁵

The weight of these passages indicate some sentiment to the effect that brutes are conscious. Consequently, consciousness should not be equated with mindedness (which is reserved for humans) although the latter just is some form or forms of consciousness. What Mead meant by ‘consciousness’ is not always clear,⁶ and so determining his position on the consciousness of brutes is no more straight-forward than it was with Descartes or Kant. Apart from arguing for his social

¹ *IS*, p. 45. David Miller, in his useful study of Mead’s philosophy, claims that brutes are *not* conscious but, in light of the present passage, Mead apparently ceded consciousness to brutes in at least some sense.

² *MSS*, p. 334; this implies that the earlier kind of consciousness applied to other than human animals.

³ *MSS*, p. 329.

⁴ *SW*, p. 271. See also *PP*, pp. 68-9.

⁵ *MSS*, p. 81. See also Mead’s “Review of C. L. Morgan,” p. 401: “the consciousness of the lower animals.”

⁶ And little has been written on this. Kang noted a three-fold distinction similar to the one I offer below, but he does not develop it and his few comments are unhelpful. Miller seems to ignore the discussion altogether, and it is not clear that his own use of ‘consciousness’ is consistent in his commentary of Mead. Often he is clearly speaking of it in the sense of self-consciousness, but not always. Natsoulas offers the most complete discussion of Mead’s concept of consciousness, although I differ from him in how the senses of ‘consciousness’ are divided and in finding more of them; see Thomas Natsoulas, “George Herbert Mead’s Conception of Consciousness” in *Journal for the Theory of Social Behavior*, 15:60-75 (1985). Given the ambiguity of Mead’s writings, Natsoulas’ interpretation cannot be rejected but it is not as useful for the purposes of this essay as the interpretation I put forth.

behaviorist interpretation of consciousness, Mead suggests that there are different (and unrelated) *kinds* of consciousness.¹ Passages throughout his essays, lectures, and posthumous writings speak of either one, two, or three kinds.

How these kinds are described varies from passage to passage, and a complete reconciliation of all that he says on this score does not seem forthcoming as he apparently changed his mind, or at least his emphasis, over the years. Some of the accounts (mainly from the *Philosophy of the Act*, a collection of undated and unfinished essays and fragments) are incomplete in that they might note that there are several kinds of consciousness, yet mention and discuss only one of them.² And in *The Philosophy of the Present*, which should count as one of his more mature works since it was composed in the year prior to his death, he writes in one passage as though there were only a single form of consciousness with apparently several stages of development.³ On the other hand, his account in the published essay “The Genesis of the Self and Social Control” (1924/5) is fairly straight-forward⁴ as are a few passages from *Mind, Self, and Society* and a passage from another set of lectures on social psychology given in 1927; from these it appears that there are indeed three different senses of ‘consciousness’ that Mead incorporates in his system, which I will refer to as (1) actual response, (2) potential response (the disposition to respond), and (3) self-reflexive response (which involves a reference to the self).

Mead distinguished these various kinds of consciousness just enough to confuse the reader. As might be evident from the names I give to each, they all involve the organism’s response to its environment. He was most concerned with distinguishing the third from the other two, and consequently the meaning of consciousness as self-reflexive response (what he often called ‘reflective intelligence’) is the least problematic of the three. His remarks about the others, when taken collectively, are generally more obfuscating than helpful, especially since he often collapses them into a single kind of consciousness. What follows is consequently as much a reconstruction of “what must be so” in Mead’s system as a direct rendering of his own written comments. That Mead seldom explicitly distinguished the first two kinds of consciousness is especially unfortunate given the present comparative study of brutes and humans, for potential response turns out to be a basic distinguishing feature of the different kinds of life (e.g., rabbits vs. oysters vs. humans), as well as the differences between individuals within breeding groups.

In order to demonstrate the connectedness of these three kinds of consciousness, and yet to underscore their differences, I have defined them as follows:

Consciousness₁ = the change in a living organism in light of changes in the environment. (Here the organism is responding to certain changes in the environment which answer to impulses within the organism, i.e., which will release an impulse.)

Consciousness₂ = the change in the characters of the environment in light of the *sensitivities* of the organism, and the change in the meanings of the environment in light of the *capacities* of the organism.

Consciousness₃ = the change in a living organism that has become part of its own environment, and is responding to its own changes.

The emphasis here is on change, and specifically on adjustive or responsive change; the organism is constantly adjusting itself to changes in its environment. Textual reasons for the definitions will emerge in the following pages; here I wish only to offer an intuitive explanation of each of these.

Consciousness as actual response is simply the fact of the organism responding to some stimulus in its environment. Because responses may be either overt or covert, determining the presence of a response is not always a straight-forward matter but, if an organism is lacking in this sort of consciousness, we normally consider it either dead or comatose. Responsiveness to the environment will be true of all living organisms, and so brutes are obviously considered conscious in this

¹ See *PA*, p. 75: “There seems to be no community between these two imports of ‘consciousness’ and *MSS*, p. 165: “This use of ‘consciousness’ has no necessary connection with the other; it is an entirely different conception.”

² See, for instance, “The Process of Mind in Nature” [*PA*, 406-12].

³ *PP*, pp. 68-90. But near the beginning of the lectures Mead allows for two different kinds [*PP*, p. 4].

⁴ See *SW*, pp. 270-3 (1925).

sense. Further, if brutes are capable of actual responses they are certainly capable of potential responses, and so will be conscious in this second sense as well.

Consciousness as potential response includes the content of the organism's experience, but it is more than that (which is just the sum of the organism's responses, and thus is the same as the first kind of consciousness). The *environment* of an organism is not just what it is presently responding to (or has responded to in the past), but is rather the range or scope of *possible responses*. So changes in the environment amount to changes in the range of possible experiences or responses and vice versa. As such, this consciousness can be thought of in two equivalent ways: either as the set of all sensory features in the conscious organism's environment, or as the set of all the organism's impulses and sensory capacities; the equivalence rests upon the mutual interdependence between each organism and its environment. Mead favors the former way of talking, but uses both.

Consciousness as self-reflexive response is the organism's responsiveness to its own responses. It is thus equivalent to self-consciousness, to responding not only to an environment, but to oneself as an object in that environment. This is the ability to objectify oneself, and is synonymous with Mead's use of 'rationality' or 'reason'. Whether brutes are conscious in the third sense will require a close examination of the texts, to which I now turn.

§80. *Consciousness as actual response.*

Because Mead seldom bothers to distinguish between actual and potential response, I will first present those passages in his writings that motivate this distinction.¹ The sections following will then specifically consider the natures of the remaining two kinds of consciousness.

Mead mentions actual response as a kind of consciousness in only a few passages, the first of which occurs near the beginning of *Mind, Self, and Society*:

I want to distinguish the differences in the use of the term 'consciousness' to stand for (1) accessibility to certain contents, and (2) as synonymous with certain contents themselves.

(1) When you shut your eyes you shut yourself off from certain stimuli. If one takes an anesthetic the world is inaccessible to him. Similarly, sleep renders one inaccessible to the world. [...] We are dealing with the situation of a person going to sleep, distracting his attention or centering his attention a partial or complete exclusion of certain parts of a field.²

Here the first and the second kinds of consciousness are compared. All three kinds are compared in a second set of class notes that we have from 1927 on Social Psychology:

To respond to one's gesture as others do is a phase of consciousness [viz., 3] to be distinguished from the conception of consciousness according to which accessibility is the criterion [viz., 1]. You close your eyes and you are no longer accessible to color; a local anesthetic destroys pain. You can thus shut the doors between the organism and the world. There is the further conception of consciousness according to which we speak of the privacy of our own thoughts, beginnings of activities that have not yet come to express themselves [viz., 2].³

¹ Mead does not make this distinction along the lines of *actual* and *potential* awareness, but it appears to be the easiest way of keeping separate these first two kinds of consciousness; furthermore, the actual/ potential distinction seems to be implicit in the concepts of *impulse* and *environment*, since an impulse exists even if it is not being released by a stimulus, and consequently that potential stimulus (i.e., that feature in the environment) is also potentially there.

² *MSS*, pp. 30-1.

³ *IS*, pp. 136-7. On "loss of consciousness," see also *IS*, pp. 176-7, 185. Mead seems to associate this first kind of consciousness with the third at *PA*, p.75: "We refer to consciousness in general as the capacity of distinguishing things, i.e., pointing them out to ourselves, and so speak of losing and gaining consciousness." Pointing something out to oneself is a self-reflexive response, while simply "losing and gaining consciousness" would normally refer to the first sense of consciousness.

Consciousness in the second sense is often described in terms of the features of the environment (e.g., the colors, the quality of "being food" for the organism — in short, the *content* of experience), but here the emphasis is on the *impulses* of the organism which "select for" these features. An impulse is a tendency to act, the private, covert, "beginnings of activities". See *SW*, p. 278 (1925): "*characters* in the objects and *sensitivities* in the individual."

This first sense of ‘consciousness’ fits well with some of our ordinary applications of the word: “He lost consciousness [i.e., he stopped responding]”, “I was aware [conscious] of a noise, but didn’t look to see what it was [but I still responded *covertly* in some way].”

There appear to be several ways that one might respond to the environment, which I will label as *inattentive* and *attentive* (of which there is voluntary or involuntary). A common example of *inattentive consciousness* is maintaining one’s balance while walking or riding a bicycle; this is a kind of adjustive response to the environment, but we speak of it (once these skills are mastered) as being “automatic” or even as “unconscious”.¹

An example of *involuntary attention* is hearing one’s name uttered in a crowded and noisy room, where the utterance would have gone unnoticed were it of another name. Or a loud noise might startle us and “draw” or “attract our attention”. To borrow an example from Mead:

The odor of the victim engages the attention of the beast of prey, and by attention to that odor does he satisfy his hunger and insure his future.²

Voluntary attention to certain stimuli is also a kind of response, as when we study something in one of our sensory fields (a butterfly, a sonata, a felt object) or search for something (normally visually or tactilely). Voluntary responses appear to require a self-reflexive consciousness, since the response is to a change within oneself:

There is...a fundamental likeness between voluntary attention and involuntary attention. A bright light, a peculiar odor, may be something which takes complete control of the organism and in so far inhibits other activity. A voluntary action, however, is dependent upon the indication of a certain character, pointing it out, holding on to it, and so holding on to the response that belongs to it. That sort of an analysis is essential to what we call human intelligence, and it is made possible by language.³

Brutes are capable of the other two ways of responding, but not the third: “Human conduct is distinguished primarily from animal conduct by that increase in inhibition which is an essential phase of voluntary attention.”⁴

§81. Consciousness as potential response.

As suggested earlier, there are two ways of thinking about this kind of consciousness: as the set of features in the environment, and as the set of impulses and sensitive capacities in the organism. Mead favored the former probably because it more nearly fit traditional usage, as when psychologists or philosophers speak of “the field of consciousness”: the ox is aware of the grass as food, that is, the grass releases an impulse in the ox to approach and eat it. The difference between these two ways seems to hinge on whether one stresses *the potential responses* (which puts the impulses and sensitive capacities at center stage) or *that which elicits the response* (which emphasizes the environmental features).

The potential response of the organism is the range or scope of features to which the organism is capable of responding. For example, one’s physical make-up (being a dog or a human, being blind or sighted, etc.) determines which stimuli can exist for the organism (as features in its environment), and which cannot.⁵ Colors do not exist for dogs, nor do logarithms, nor even physical objects (as Mead will claim); we can guess that there are features in the dog’s environment that are similarly inaccessible to humans. Whether the organism ever *actually* responds to any of these features, however, depends upon a host of contingencies, some within the range of the organism’s control (with respect to those instances of voluntary attention exhibited by humans) and much that is beyond its control.

¹ See *PA*, pp. 109-10: “There is a very wide field of physical adjustment, such as that acquired in learning to ride a bicycle...which is acquired by all animals....”

² *MSS*, p. 120.

³ *MSS*, p. 95. For a general discussion of attention, see *MSS*, pp. 22-6, and see §77, above.

⁴ *SW*, p. 110 (1910a).

⁵ Mead equates this responsiveness with features in the CNS:

If there is anything in the organism as a purely physiological mechanism which answers to what we call experience, when that is ordinarily termed conscious, it is the total organic process for which these nervous elements stand. These processes are...attitudes of response, adjustments of the organism to a complex environment, attitudes which sensitize the form to the stimuli which set the response free. [*MSS*, p. 128]

Mead generally prefers to speak of potential response in terms of environmental features, as in “The Genesis of the Self and Social Control”:

Consciousness in the second sense, that of a peculiar content or contents, implies... emergence. [...] In evolution not only have new forms appeared, but new qualities or contents in experience. *It is the sensitivities of forms that are the occasions for the appearance, in the worlds of these forms, of new characters of things, answering to all the senses, and new meanings answering to their new capacities for conduct. And these new characters and new meanings exist in nature as do the forms of physical objects, though they are relative to the sensitivities and capacities of the individual forms.*¹

This conscious aspect of organisms can be thought of as constructing the environment through its selective responding; the organism responds to only *some* features in the world and thereby shapes the very world that exists for that organism:

Our constructive selection of an environment — colors, emotional values, and the like — in terms of our physiological sensitivities, is essentially what we mean by consciousness.²

Two tasks remain to our discussion of potential response: (1) to explain how it provides the group identity of breeding populations, as well as the identity of individuals within those groups, and (2) to examine Mead’s distinction between impulse and instinct.

§82. *Impulse and Identity.*

Group- and individual-identity are best thought of in terms of the organism’s physical constitution, an important part of which (perhaps the only important part) is the set of impulses.³ This set will differ for each individual (and thus Mead refers to individuals as ‘forms’ since each has a unique form), but there are also core similarities which define the breeding-groups.⁴ The presence of these similarities is crucial for the individuals to “get along” with one another, especially among humans, for whom communication would be impossible without this similarity of impulses.⁵ (Having the same sensory capacity is not as important, and so idiosyncracies such as blindness or deafness will be ignored for now.)

With the minor exception of physical mutations, which are important only in their cumulative effect over a period of many generations, the offspring of organisms will have the same set of impulses that their parents had when they were born, the impulses being physically built-in to the CNS, and therefore hereditary.⁶ Consequently, the infants of a breeding-group will all have roughly the same CNS structure, and so the same set of impulses. But through processes of “learning”, these impulses are continuously being modified (see §90, below), so that each individual of a breeding-group deviates in its unique way, acquiring its own “perspective” from its personal history of past experiences.⁷ Since one’s impulses determine one’s

¹ *SW*, p. 273 (1925).

² *MSS*, p. 129; see also *MSS*, p. 165n: “Our constructive selection of our environment is what we term ‘consciousness’ in the first sense of the term.” See the many related passages at *MSS*, pp. 111-12, 166, 168-9, 329, 330, 333, and *SW*, p. 144 (1913).

³ *MSS*, p. 386: “One is constituted out of his own interests.”

⁴ I mean by ‘breeding group’ something like what is meant by ‘species’; but the former is used to avoid the metaphysical implications of permanence that infect the latter. Related to this is Mead’s comment that “a whole community selects the same consentient set” [*SW*, p. 277 (1925)].

⁵ For example, I can only communicate with those of *like response*, that is, with those whose impulses are enough like mine that I will respond to my gesture in the same way that the person gestured to responds (thus allowing for me to “take the attitude” of the other). See the following chapter on language and meaning, and Kant’s discussion of instinct, reason, and social harmony at §35. This is also important in considering whether non-humans have any rights; see the discussion at §94, below.

⁶ See *MSS*, p. 369: “...impulses which in their childish form are beginning to ripen in his central nervous system”; *MSS*, p. 337: “An impulse is a congenital tendency to react in a specific manner to a certain sort of stimulus, under certain organic conditions”; and *IS*, p. 42: “by an instinct we mean a certain definite congenital tendency to act.”

⁷ Mead discusses the perspectival nature of this second kind of consciousness at *MSS*, pp. 30-1; this is the use of ‘consciousness’...

environment, each individual will also live in its own environment, bringing to each situation its own “perspective on the world” — though these perspectives will overlap significantly within breeding-groups, and even between related groups.

Mead offers what he bills as an exhaustive list of human impulses, ten in number, in his essay on “The Biologic Individual”:

- (1) the adjustments by which the individual maintains his position and balance in motion or at rest;
- (2) the organization of responses toward distant objects, leading to movement towards or from them;
- (3) the adjustment of the surfaces of the body to contacts with objects which we have reached by movement, and especially the manipulations of these objects by the hand;
- (4) attack on, and defense from, hostile forms of prey, involving specialized organization of the general impulses just noted;
- (5) flight and escape from dangerous objects;
- (6) movements toward, or away from, individuals of the opposite sex, and the sexual process;
- (7) securing and ingesting food;
- (8) nourishment and care of child forms, and suckling and adjustment of the body of the child to parental care;
- (9) withdrawals from heat, cold, and danger, and the relaxations of rest and sleep; and
- (10) the formation of various sorts of habitats, serving the functions of protection and of parental care.¹

Elsewhere certain instincts or impulses are discussed as being “fundamental social relations,” viz., the reproductive, parental, and gregarious.² The impulse of gregariousness or “neighborliness”, not included by Mead in the “complete” list offered above, is described by him as being “a kind of generalization of the parental impulse or attitude and upon which all co-operative social behavior is more or less dependent.”³

Presumably stories can be told concerning the various modifications that each of these impulses can undergo in the course of each organism’s experience, thus distinguishing that individual from any other in its group, and resulting in a different perspective and environment for each. But a quick glance at them is enough to see that they are most likely not unique to humans. The ten might be summarized as: (1) physical balance, (2) adjustment to distance-experience, (3) adjustment to contact-experience, (4) attack and defense, (5) flight and escape, (6) sexual/reproductive, (7) nourishment, (8) parental, (9) pain/pleasure & sleep, (10) environmental control (for 4, 8, and 9). It is not difficult to imagine higher vertebrates with the very same list of basic impulses, even on Mead’s accounts of brute behavior. What this indicates is that one or both of two additional claims must be made: (1) that humans and brutes differ in the hierarchy of impulses built upon this basic set, and that it is this which distinguishes the various groups from one another, and/or (2) the infants of humans and related vertebrates have identical impulse patterns but, through their unique socialization process, the human impulses

...with reference to those conditions which are variable with the experience of the individual. [...] Different positions will lead to different experiences in regard to such an object as a penny...We want to be able to deal with these spatially perspectival differences in individuals. Still more important from a psychological standpoint is the perspective of memory, by means of which one person sees one penny and another sees another penny.

¹ *MSS*, pp. 348-49 (numbering and indentation added).

² *MSS*, p. 139n. At *MSS*, pp. 303-6, Mead divides the human impulses into those which lead to *social cooperation* (which he does not specify) and those leading to *social conflict* (e.g., impulses for self-protection and self-preservation). A similar division is made in at *SW*, pp. 212-13 (1917) between “hostile” and “friendly” instincts, noting here that a combination of the parental and sexual instincts normally underlie the friendly instincts. See also *MSS*, pp. 227-8: “The fundamental biological or physiological impulses and needs...are social in character...” and *PA*, p. 446.

³ *MSS*, pp. 228-9.

develop in significantly different ways, or, that certain physiological differences make many of the human's impulses more readily modifiable, or allow for the learning of wholly *new* "impulses" or patterns of response. Or, of course, we could conclude that Mead's list of basic impulses is just wrong. He wrote, after all, that "it is difficult...if not impossible to isolate the fundamental impulses of our nature."¹

It becomes here the task of ethologists and neuro-anatomists to determine the basis underlying the human/brute distinction. Mead was satisfied simply to wave at the CNS, assuming that the difference must be imbedded in there somewhere, and then to proceed to discuss the behavioral and social differences between humans and brutes. Most of this will be dealt with in the next two chapters, but one feature — that of impulse-modification (or "learning capacity") — is best introduced here in our discussion of the impulses.

§83. *Impulse and instinct.*

Mead did not always distinguish between impulses and instincts, but when he did the former were confined to humans and the latter to brutes. Both are congenital, wired into the CNS, and their only (although important) difference is the extent to which they can be modified:

An *impulse* is a congenital tendency to react in a specific manner to a certain sort of stimulus, under certain organic conditions. Hunger and anger are illustrations of such impulses. They are best termed "impulses," and not "*instincts*," because they are subject to extensive modifications in the life-history of individuals, and these modifications are so much more extensive than those to which the instincts of lower animal forms are subject that the use of the term "instinct" in describing the behavior of normal adult human individuals is seriously inexact.²

It is customary to speak of the *instincts in the human individual* as subject to almost indefinite modification, differing in this from the *instincts in the lower animal forms*. Instincts in this latter sense can hardly be identified in man, with the exception of that of suckling and perhaps certain of the immediate reactions of anger which very young infants exhibit, together with a few others which are too undeveloped to deserve the term.³

Mead did not intend for this to be anything more than a difference in degree, and it amounts to the claim that humans are better learners than brutes. In both cases will personal experiences modify the physiological disposition, but there is apparently a greater plasticity to these dispositions in humans. In neither case is it the act of a "will" that modifies the impulse: the changes all result directly from changes in the environment.

Although Mead did offer a list of "human impulses," he nowhere explicitly used the presence of *different* impulses to distinguish between humans and brutes (whatever comparing he does at this level is to note *similarities* and, as seems clear, each of the "human impulses" listed are found in many brutes). Mead did say in the 1927 lectures that...

...the human infant is born with no clear-cut instincts but only with some simple reactions — sucking, reaching, etc. Lower animals have many more and clearer responses than human infants.⁴

But this claim can also be taken as the observation that there are fewer instincts/impulses that are "active" in the human infant than in the brute (and thus the greater need for parental care by the former). Mead wrote elsewhere of impulses "ripening" in the human child:

In the normal child the vocal gesture arouses in himself the responses of his elders, through their stimulation of his own parental impulse and later of other impulses which in their childish form are beginning to ripen in his central nervous system.⁵

¹ "Philanthropy from the Point of View of Ethics" (1930) [SW, p. 394].

² "The Function of Imagery in Conduct" [MSS, p. 337].

³ "The Biologic Individual" [MSS, p. 349].

⁴ IS, p. 107.

⁵ MSS, p. 369.

This dormancy of human impulses has the important consequence that the human infant's responses are not physiologically determinate in the sense that he does not respond to the physical environment in the way that young brutes quickly learn to do; given the stage of infancy, the child learns instead to control its environment through other selves (normally, the mother or father) by responding primarily to them rather than to inanimate objects. (This is explored in greater detail in Chapter 16.)

There seems to be a hierarchy of impulses and instincts in organisms to which Mead alludes but does not develop. On the one hand there are highly-complex and wholly rigid instincts, perhaps rigid because of their extremely specialized role within the life of the organism:

Many of the acts of these lower forms are as highly complex as many human acts which are reflectively controlled.... The instinct may be highly complex, e.g., the preparation of the wasp for the larval life that will come from the egg which is laid in its fabricated cell; but the different elements of the whole complex process are so firmly organized together that a check at any point frustrates the whole undertaking.¹

But there is also a mutual adaptation and modification between different impulses which offers novelty to brute behavior:

The instincts even in the lower animal forms have lost their rigidity. They are found to be subject to modification by experience, and the nature of the animal is found to be not a bundle of instincts but an organization within which these congenital habits function to bring about complex acts — acts which are in many cases the result of instincts which have modified each other. Thus new activities arise which are not the simple expression of bare instincts. A striking illustration of this is found in play, especially among young animal forms, in which the hostile instinct is modified and held in check by the others that dominate the social life of the animals.²

The difference between human and brute behavior boils down to the greater degree of reciprocal modification between impulses within the human, and this is again the result of the human's more complex CNS. There are mechanisms in our brains which allow a greater degree of impulse-inhibition (see §77, above); but contrary to Kant, the inhibition is the result not of some rational faculty but of another impulse. This marks the basic difference between Kant's psychology of mental faculties and Mead's psychology of animal impulses. While Kant allowed for a competition between sensuous impulses, there always remained the possibility of a non-sensuous intervention by the faculty of reason. Mead, on the other hand, would have denied *that* intervention no less than the miraculous interventions of Divine Providence that it so resembles. The inhibition of impulses becomes for Mead a wholly sensuous affair.

§84. *Consciousness as self-reflexive response.*

If I understand Mead correctly, the first two kinds of consciousness that we have been considering have one thing in common that separates them from the third: they are both conceivable in a pre-social environment. One can imagine an isolated individual responding to features in the environment, and of possessing a set of impulses defining that environment.³ Whether Mead nonetheless believed that these could not *arise* in isolation I do not know, but it is clear that he thought this was the case with the third kind of consciousness. This third kind is described as *self-consciousness*, as reflective intelligence, where the individual responds not only to its environment (both inanimate and animate) but to itself as a part of that environment, responding to its own responses (recall Kant's discussion of the "desire within a desire"). In this capacity

¹ *MSS*, p. 362.

² "The Psychology of Punitive Justice" [*SW*, p. 212 (1917)]. The responses of insects tend to be wholly congenitally determined while higher animals require a learning-period to develop many of the responses necessary for their well-being: "This is much the case in the play period of lower animals; they are learning things they will need later — meanings. For this end the ball will serve the kitten as a mouse" [*IS*, pp. 134-5].

³ But such an isolated individual would have no "consciousness of objects" ("perceptual consciousness"), as this is parasitic on a consciousness of social objects (i.e., selves); see §91, below. It is useful to consider the state of the brute isolated from its conspecifics, whose natural state is social (e.g., wolves, bees, apes), or even the state of an organism (brute or human) isolated from all other organisms, and thus from any gesture, significant or non-significant. How might this limit "mental development"? As Mead says, "the behavior of all living organisms has a basically social aspect" [*MSS*, p. 227], at least in their natural environment.

the organism is able to internalize the attitudes of others (thereby becoming a self and minded) for in responding to its own responses is it evoking in itself more or less the same response that it would evoke in another individual. To repeat the definition of this third kind of consciousness:

Consciousness₃ = the change in an organism that has become part of its own environment, and is responding to its own changes.

The two most important features of this third kind of consciousness is that it is socially-based and that it involves reference to a self. Mead refers to the former in calling this the “social theory of consciousness”:

According to the social theory of consciousness, what we mean by consciousness is that peculiar character and aspect of the environment of individual human experience which is due to human society, a society of other individual selves who take the attitude of the other toward themselves.¹

This reflexive consciousness emerges only in the social context, and with it emerges the self:

What is...implied in an individual whose nature involves consciousness is that he is one who is an object to himself so that experiences may be referred to himself, and that as a self he may be a recognized object in past and future experience. In other words, this conception of consciousness is identical with self-consciousness.²

It is this third sense of consciousness — self-reflexive response, or self-consciousness — that served for Mead as the primary sense of the word, and is generally what is meant when, for instance, he discusses the emergence of consciousness, for it is the emergence of this that concerned him most.

The basis of self-consciousness is language. Without language there could be no consciousness as reflective intelligence, no self-consciousness, no selfhood or mentality. Understanding Mead’s view of language will thus considerably aid our understanding of his view of this third kind of consciousness, which draws such a deep divide between humans and brutes in his system.

¹ *MSS*, p. 171. See also *MSS*, p. 334: “...the type of conduct in which the individual puts himself in the attitude of the whole group to which he belongs.”

² “The Process of Mind in Nature” [*PA*, p. 411]. See also *IS*, p. 171: “In consciousness alone does the individual become an object to himself, and thus the whole social process gets into the conduct of the individual”; *MSS*, p. 168: “Such is the process within which a self arises”; *SW*, p. 144 (1913): “...that running current of awareness of what we do...”; *MSS*, p. 165:

Then there is another use of ‘consciousness’ with which we have been particularly occupied, denoting that which we term thinking or reflective intelligence, a use of consciousness which always has, implicitly at least, the reference to an ‘I’ in it.

CHAPTER 15 MEANING AND LANGUAGE

§85. *Three kinds of meaning.*

The meaning of a thing is the “adjustive response” (= “interpretation”)¹ that some organism has to that thing:

The meaning of a chair is sitting down in it, the meaning of a hammer is to drive a nail — and these responses can be innervated even though not carried out.² The innervation of these processes in the CNS is perhaps necessary for what we call meaning.³

The meaning that an object, feature, or event has for an organism is the response of the organism to that object, feature, or event. The meanings of simple stimuli are the simple *responses* they evoke. The meanings of more complicated objects are the *organized attitudes* that the organism has with respect to the object.⁴ The response is not simply a necessary and sufficient condition of the meaning; rather, it is what constitutes meaning.

There is an intimate connection between meaning and consciousness. Consciousness as an actual response (to features or gestures in the world) is no different than “having a meaning.”⁵ A feature in the world is meaningful to an organism if the organism responds to it. So, for any organism, its environment is that which has meaning for it, either actually or potentially.

Further, it should be noticed that every response can and probably will serve as a further stimulus. If the response is *overt* (i.e., involving gross bodily motion) then it can serve as a stimulus for another organism, and Mead calls it a *gesture*.⁶ If the response is *covert* (i.e., some bodily change not readily perceivable by another) then it can serve as a stimulus only to the organism whose response it is, if to anyone (here the response is called ‘self-stimulating’, and presumably it might be either conscious or subconscious). Mead refers to covert responses as *attitudes*.⁷

The term ‘response’...must cover not only the completed muscular contraction [i.e., the overt response] but also those processes in the upper reaches of the central nervous system in which the co-ordinations take place which make complex reactions possible [i.e., the covert response]. We may refer to these processes as attitudes.⁸

¹ *MSS*, pp. 77-8. This adjustive response is “the difference which arises in the environment because of its relation to the organism” [*PP*, p. 4]. See also *MSS*, p. 131: “The meaning of the object is found...in the organized attitude of response on the part of the organism to the characters and the things...The organized stimuli answer to the organized responses”; p. 268: “meanings rest upon certain responses”; and p. 280: “objects call out responses in ourselves, and these responses are the meanings or the natures of the objects.”

² This corresponds to the person merely *imagining* the response, without actualizing it in her overt behavior; that is, the response is *covert*.

³ *MSS*, p. 104.

⁴ See, for instance, Mead’s discussion at *MSS*, p. 87. Organized attitudes are groups of covert responses (“delayed overt responses”). For example, in seeing an apple I may simply respond as I would to any piece of fruit, or to any red thing, etc., but in recognizing it as an apple, there is in me a set of attitudes or anticipations of how I might next respond to the apple (e.g., by eating or throwing it).

⁵ But this is not the same as “being conscious of a meaning”; that requires the organism to be able to covertly respond to her own response, an ability unique to humans; see §88, below.

⁶ Mead defines ‘gesture’ as “that part of the act or attitude of one individual engaged in a social act which serves as the stimulus to another individual to carry out his part of the whole act” [*SW*, p. 286 (1925)]. A “social act” is an act “in which one individual serves in his action [gesture] as a stimulus to a response from another individual” [*SW*, p. 123 (1910c)].

⁷ See *MSS*, p. 362: “By ‘attitude’ I refer to the adjustment of the organism involved in an impulse ready for expression.”

⁸ *PA*, p. 130. See also *MSS*, p. 367 (“attitudes or implicit responses”). An *attitude* or *covert response* might be thought of as the beginning of the overt response, that is, as the physiological changes prior to gross motor movement. Much of this will

Brutes and humans exhibit both overt and covert responses (gestures and attitudes, respectively), but only humans are able to respond to their covert responses, an ability necessary for being conscious of the meanings of things and for using a language (as will be discussed below).

In the previous chapter, the role and nature of *impulses* (or instincts) were discussed. Impulses and responses are intimately related, for a *response* is just a satisfied impulse, an impulse that has been released by a stimulus. This response may vary in its degree of *universality* or commonality with the responses of other organisms to the same or a similar stimulus, and it is useful to distinguish three different grades of universality here which correspond to three different senses of meaning, and which I will refer to as the loose, middle, and strict senses of meaning. Mead is not this explicit, but one finds uses of ‘meaning’ in his works which correspond to each of these senses.

These three senses of meaning are distinguished by the kind of *universality of the response*. The *loose sense* has the least universality of response, and is also non-social¹ it is the response of an organism to some feature in its environment. But Mead much more commonly uses ‘meaning’ in the middle and strict senses, both of which are *social* forms of meaning. The *middle sense* is the response of an organism to a specific kind of feature in its environment, namely, to the gesture of another organism,² while the *strict sense* is the response of an organism to the gesture of another organism, where each organism is responding to the gesture in the same way.³

One can imagine a feature in the environment, or a gesture of an organism, that fails to elicit a universal response of any kind, that is, where no two responses to that stimulus or kind of stimulus are the same. But that such a stimulus could ever play a role in our lives or the lives of any organism is highly unlikely. I offer the following distinctions among universality of response in order for the reader to better appreciate the need for them, and also to disambiguate the different senses of ‘meaning’ that are encountered in Mead’s writings.

§86. Universality of meaning or response.

There is a variety of different ways that universality can enter into the stimulus/response relation, each with its own role to play in Mead’s system.⁴ A great many variations can be charted-out using the different variables introduced below, but I will mention only those that pertain to Mead’s discussion of meaning and language (with the exception of the second, which I mention simply to avoid). The first group (comprising the loose sense of meaning) considers three different ways that universality can enter into the stimulus-response relation between a *general feature* in the environment and one or more receptive organisms. The remaining three groups then apply these ways to the stimulus-response relation where the stimulus is the *gesture* of an organism; in these cases we have the added possibility of the organism stimulating itself through its

occur in the CNS, but I do not know why attitudes should be limited to this, as might be suggested in the passage quoted. Hormonal and visceral responses are normally incapable of serving as gestures for other organisms, and yet they are clearly responses; and so they must be covert responses, or attitudes.

‘Attitude’, ‘covert/implicit response’ are apparently interchangeable in Mead’s writings, as are ‘gesture’, ‘symbol’, and ‘overt response’. ‘Meaning’ and ‘interpretation’ are interchangeable with each other, and are always interchangeable with ‘response’, whether covert or overt. I will try to streamline Mead’s vocabulary by using only ‘overt response’ and ‘covert response’.

Mead is not especially careful with his own technical terms. ‘Attitude’, for instance, is sometimes used in the sense of *bodily posture*, where the attitude of one organism is thus capable of serving as a stimulus for another (in the technical sense it is covert and so cannot serve as a stimulus to another organism). Sometimes he distinguished between these by using ‘attitude’ to mean a bodily posture and ‘inner attitude’ the covert state of the organism; see *MSS*, p. 45.

¹ See *PP*, p. 4: Meaning is “the difference which arises in the environment because of its relation to the organism and its organic process of adjustment.” And see *MSS*, p. 280: “All such [physical] objects call out responses in ourselves, and these responses are the meanings or the natures of the objects.”

² *SW*, p. 110 (1910a); *MSS*, pp. 75-82.

³ See *MSS*, p. 81n: “Meaning can arise only in so far as some phase of the act which the individual is arousing in the other can be aroused in himself”; p. 89: “Meaning is that which can be indicated to others while it is by the same process indicated to the indicating individual.”

⁴ It should be mentioned in this context that Mead equates *universals* with *meanings* (see Ch.12 of *MSS*). See also Miller (1973), pp. 78-81.

gesture. This self-stimulation will prove to be a necessary, but not quite sufficient, condition of consciousness of meaning, language, and mindedness. (The remainder of the section should be considered as a long footnote to its closing two paragraphs, and as such can be skimmed-over quickly.)

(1) First, a group of related kinds of universality of meaning is attained whenever there is at least one organism that responds in the same way whenever it sees/hears/smells/etc. the same *feature* in the world (this amounts to having a meaning in the *loose sense*). This can be met in three different ways: (1a) for any one organism, whenever it is confronted with a stimulus of a certain type (say, a certain shade of red) it always responds in the same way,¹ or (1b) two or more organisms respond to a common stimulus in ways similar to one another,² or (1c) two or more organisms not only respond in ways similar to one another to common stimuli, but, as in (1a), they always respond in the same way to the same kinds of stimuli.³

A few words should be said of these three sub-types of universality. First, cases like (1b) seem wholly implausible, and it is mentioned more for completeness than for understanding actual responses found in the world. It seems highly unlikely that there could be a group of organisms that were so structured that they would respond similarly to the same token-stimuli *but* would not respond similarly to different stimuli of the same type, e.g., that would respond differently, *but as a group*, to each new blow of the whistle. The structure providing for universality within the group would most likely provide for a universality within types of stimuli as well. Apart from this, it beggars the imagination to conceive of how such cases as (1b) could either arise in nature, or survive for very long. There would not seem to be any special advantages attached to it; it seems likely that type-type universality (such as with 1c) would be much more preferred in organic systems. So I will not be considering (1b) cases from now on.⁴

Second, if we think of responses as always being paired with some impulse in the organism that has found expression, then (1a) and (1c) can be thought of as the *individuating* and *group-identity* impulses, respectively. If {A,B,C,...,i} are the individuals within a breeding population, then the (1a)-responses indicate those differences in the constitutions of the individuals and the (1c)-responses indicate that core of impulses common to the group. This makes clear the importance of (1a)- and (1c)-responses or meaning; nonetheless, Mead seldom intended this non-social kind of meaning, probably because he was so much more interested in a social theory of meaning, which had as stimuli not mere *general features* of the environment but the *gestures* of other organisms.

¹ For instance, a certain dog might always roll over whenever it hears a certain whistle. (This kind of universality might fall to certain objections relevant to “private languages” that were raised by Wittgenstein in his *Philosophical Investigations*, but there is no reason to pursue those objections here.)

² Here the universality concerns not the *kind* of feature or response, but their *publicity*: two or more organisms are responding in identical fashion to whatever stimuli they encounter together (because, say, they share the same internal structure, some story could be told to account for this, however unlikely that story might be). It should of course be noted that both (b) and (c) will require a notion of *stimulus* that allows for their publicity, that is, that two or more individuals can have *the same* stimulus.

³ For example, all moths might always fly towards the light. Probably the simpler the organism, the more kinds of stimuli that they would respond to in common (having fewer idiosyncratic responses to a stimulus).

These and the following kinds of universality can be schematized so as to facilitate comparison among themselves, using the following key:

S = the gesturer (the “speaker”).

A, B,... = the individuals being gestured or spoken to (the “auditors”).

G = the token gesture (or feature) responded to.

R = the token response.

SG, SR, AR, BR,... = the act (gesture or response) of an individual.

(Types or kinds referred to with **sub-scripts**. ‘>’ = “results in”.)

the three kinds of universality described above appear schematically as:

(1a) $G_1 > AR_1 \ \& \ BR_2 \ \& \dots$; **(1b)** $G > AR_1 \ \& \ BR_1 \ \& \dots$; **(1c)** $G_1 > AR_1 \ \& \ BR_1 \ \& \dots$

⁴ On recognizing tokens as being of a certain type, see *MSS*, p. 82.

Gestures can be thought of as a special kind of feature in the environment in that they involve motion or change in the environment which is linked in some important way to another organism (unlike movement due to the tides or wind, etc., or a general change in stimulus due to the bodily movements of the perceiving organism). At this level of the gesture, there are three further kinds of universality; within the first two there are two varieties each — a self-stimulating and a non-self-stimulating variety. That is, some gestures may serve as further stimuli to the gesturer, while others may not. Birds singing, dogs howling, and babies crying — to use Mead's examples — often stimulate themselves to continue to sing, howl, and cry, just as they may stimulate other birds, dogs, and babies to do likewise.

(2) Paralleling (1a), there will be universality if the same type of gesture always evokes the same type of response, but where no two individuals ever respond to the gesture in the same way. This universality includes *gesture-* and *response-*types, but does not extend to *organism-*types, where all the individuals of a type would have the same type of response to the same type of gesture. As explained above, there are two cases here: (2a) where the gesturer is self-stimulated by her own gesture, responding in her own unique fashion, and (2b) where the gesturer is not self-stimulated by the gesture. This kind of universality will not be further discussed.¹

(3) There might be a universality of response shared only among the others. For instance, when the wolf makes a gesture of "attacking a flock of sheep", a common response among the sheep is one of fear, and of fleeing as quickly as possible. We can presume that the wolf's gesture, if it inspires in him anything at all, does not inspire fear.² These second and third kinds of universality, in that they involve responses to gestures, result in meanings of the *middle sense*. The *strict sense* of meaning requires a universality of the fourth kind.

(4) Finally, there might be a universality of response not only among the group of other organisms responding to the gesturing organism, but among them and the gesturer's own self-response as well.³ Here the gesture *must* be self-stimulating.⁴ Although at least some brutes are capable of this fourth level of universality in responding to their gestures,⁵ there are two useful distinctions which separate the brutes from the humans; these concern the natures of the *impulse* that the stimulus or gesture releases and the *response* that is the result of this release. Only humans, according to Mead, are capable of this fourth level of universality in their response when the impulse released in both gesturer and auditor is not congenital or closely linked to one that is, but is instead *learned*.⁶ Unlike brutes, humans are able to internalize another's attitudes (or ways of responding, which amounts to internalizing the other's impulse).

¹ Schematically: (2a) $SG_1 > SR_1 \& AR_2 \& BR_3 \& \dots$, (2b) $SG_1 > AR_1 \& BR_2 \& \dots$. (2a) and (2b) are odd cases, and I am not sure what to make of them. If $\{A, B, \dots\}$ are all individuals of the same kind (e.g., predators, conspecifics) then this kind of universality would surely be useless to the organisms, since the other's responses would vary so much. And if the individuals of different kinds have a universal response within the kind, then we have a case similar to (3), below. *This* kind of universality, then, is no more likely to be found in the world than is (1b), and so discussion of it will be dropped.

² Schematically: (3a) $SG_1 > SR_1 \& AR_2 \& BR_2 \& \dots$, (3b) $SG_1 > AR_1 \& BR_1 \& \dots$. This might involve a universality of response among only two, or many, or all of the others.

There is probably something of interest to be said about each of these cases and, in any event, we should not assume a total universality, i.e., an absence of idiosyncratic response. That, after all, is the variety allowing for evolutionary development.

³ Schematically: $SG_1 > SR_1 \& AR_1 \& BR_1 \& \dots$. Again, the universality may not be complete among the auditors. Mead will, however, demand that it be complete or nearly so in his doctrine of the generalized other. Thinking itself is impossible without taking the attitude of the generalized other [see *MSS*, p. 335]. The more abstract the thought, the more universal the response must be [*MSS*, pp. 155-56n].

⁴ Mead suggests two necessary conditions for this fourth kind of universality of response: (1) the stimulator must be affected by the same stimulus that affects the other, and she must be affected through the same sense channel, (2) there should be an impulse seeking expression which is functionally equivalent to that impulse in the auditor that the stimulus releases [*MSS*, p. 364].

⁵ See §88, below.

⁶ This presumes a fairly clear distinction between "innate" and "learned" response; for the view that this distinction may be difficult to make within the organism, see Bernard Rollin, *Natural and Conventional Meaning: An Examination of the Distinction* (The Hague: Mouton, 1976).

Closely dependent upon this first ability, humans are also able to respond *covertly* to the beginnings of their gestures. This covert response occurs because of the internalized attitudes of the other. When humans attain to this fourth level of universality of response, and a gesturing human covertly responds to the gesture because it releases an internalized impulse of an other, the gesture is a *significant symbol*, and can count as an element of a *language*. Only humans can internalize other's impulses and thus be capable of constructing elaborate systems of arbitrary (non-natural) impulses, or ways of responding (what we call a language).

§87. *The conversation of gestures.*

Conversation is a social act, a dialogue between two individuals upon which the monologue is parasitic. When one organism responds overtly to a gesture of a second organism, and this responsive gesture of the first organism serves in turn to stimulate the second, then we have a conversation of gestures.¹ This is a basic level of communication common to brutes and humans, and out of which a true language can emerge. Human language has evolved, first...

...by gestures on the lower planes of human evolution, and [then] by significant symbols (gestures which possess meanings and are hence more than mere substitute stimuli) on the higher planes of human evolution.²

Conversations involving significant symbols are performed *consciously* while those with mere symbols are performed *unconsciously*:

Conscious communication develops out of unconscious communication within the social process; conversation in terms of significant gestures out of conversation in terms of non-significant gestures; and the development in such fashion of conscious communication is coincident with the development of minds and selves within the social process.³

Mead's examples of unconsciously performed conversation are usually of dogs, boxers (the human kind), fencers facing off, or even pedestrians on the sidewalk, continuously re-positioning themselves in response to the other's moves, protecting themselves by blocking the other's moves with counter-moves or defensive postures. Central in all of these is that the participants respond *automatically* (immediately, without reflection) and *overtly* such that each response acts as a *further stimulus* to the other individual; the first (and perhaps only) response to each stimulus will be overt (reflection amounting to an exchange of *covert* responses within the organism, whereby it tests alternative overt responses).⁴ There is, as Mead puts it, no *idea* behind the response; it is immediate, without pause for reflection.

When the communication is unconscious, the gestures of one organism has a meaning for the other but not for itself. The gesturing organism does not respond to its own gesture (at least not covertly). All the meanings (responses) are out in the open in the overt behavior of the individuals. There is, of course, covert behavior occurring in the brute; these attitudes (e.g., anger, fear) are the covert beginnings of overt gestures: "Anger expresses itself in attack; fear expresses itself in flight."⁵ I can often tell when a dog is angry and when it appears to be on the verge of attacking — this is the meaning that its physical posturing or gesturing has for me. But the dog itself is not responding to its gestures as I am:

¹ For helpful discussions of this, see "Social Consciousness and the Consciousness of Meaning" [SW, pp. 123-25 (1910c)] and *IS*, p. 36.

² *MSS*, p. 75. Humans still, of course, carry-on much of their communication on the level of mere gestures, as for instance when steering our paths through a crowd of people. See Mead's example of this at *SW*, p. 286 (1925) and *MSS*, p. 55: "People get into a crowd...they adjust themselves to people coming toward them, as we say, unconsciously."

³ *MSS*, p. 179. See also *MSS*, p. 81:

Gestures may be either conscious (significant) or unconscious (non-significant). The conversation of gestures is not significant below the human level, because it is not conscious, that is, not *self-conscious* (though it is conscious in the sense of involving feelings or sensations.)

⁴ Mead does not always speak of fencers and boxers as responding automatically. For instance, at *MSS*, p. 242, the boxer "is aware of what he is doing" (such self-awareness requires a gesture with a meaning in the strict sense). In other passages the responses are clearly unreflective [*SW*, p. 110 (1910a)].

⁵ *MSS*, p. 45.

We cannot say the animal *means* it in the sense that he has a *reflective determination* to attack. A man may strike another before he means it; a man may jump and run away from a loud sound behind his back before he knows what he is doing. If he *has the idea* in his mind, then the gesture [of attacking, striking, running away] not only means this to the observer but it also means the idea which the individual has.¹

Mead calls these automatic gestures ‘non-significant symbols’ (or simply ‘symbols’), but they are by no means “nonsensical”: a nonsensical gesture would presumably elicit no response at all, since it would mean nothing to the person gestured to.² At the same time they are not like the gestures of an articulate language, the words and phrases (linguistic gestures) of which he calls ‘significant symbols’.³ A *significant symbol* is any gesture which evokes the same response in gesturer as in gestured, where the response is covert in the gesturer, and either covert or overt in the other organism. To continue the above passage:

When...that gesture means this idea behind it and it arouses that idea in the other individual, then we have a significant symbol.... Where the gesture reaches that situation it has become what we call ‘language’....

The vocal gesture becomes a significant symbol...when it has the same effect on the individual making it that it has on the individual to whom it is addressed or who explicitly responds to it.... [...]

Gestures become significant symbols when they *implicitly* arouse in an individual making them the same responses which they *explicitly* arouse, or are supposed to arouse, in other individuals.⁴

Mead elsewhere suggests the “analytic” nature of symbols and their responses:

A *symbol* is nothing but the stimulus whose response is given in advance. That is all we mean by a symbol....The response is...something given in the very stimulus itself....

Now, if that response can be given in terms of an attitude utilized for the further control of action, then the relation of that stimulus and attitude is what we mean by a *significant symbol*.⁵

The gesture of one organism (A) is a stimulus for another organism (B), and as such is a *symbol*. B responds to A’s gesture, and B’s response was “given in advance” in A’s gesture. Given the sort of organisms involved, B’s response *necessarily* follows from A’s gesture, with the sort of necessity one finds in living things (e.g., the necessity of an oak sapling developing into an oak tree, or a human embryo into an adult human).⁶ Further, if A responds *covertly* to the beginning of its gesture by imagining B’s overt response, and this response is used “for the further control” of A’s overt gesture, then the gesture is a *significant symbol*.

Significant symbols (linguistic gestures) must “contain” to some extent the response of the other in it for, if it did not, then the speaker could not use the gesture to communicate. A word, to be usable, must have a common meaning. But for it to have a common meaning is just to say that both speaker and auditor will respond in the same way to tokens of the same type. When successful, the speaker *intends* the response that her linguistic gesture evokes; it stimulates the same kind of

¹ *MSS*, p. 45.

² Of such nonsense Mead cites St. Paul: “...some of the saints spoke with tongues that had no significance to them. They made sounds which called out no response in those that made them. The sounds were without meaning” [*SW*, p. 288 (1925)].

³ See also the definition of ‘significant symbol’ at *MSS*, p. 327. Remember that ‘symbol’ and ‘gesture’ are inter-changeable here.

⁴ *MSS*, pp. 45-6, 47. See also *SW*, p. 288 (1925):

Where a vocal gesture uttered by one individual leads to a certain response in another, we may call it a *symbol* of that act; where it arouses in the man who makes it the tendency to the same response, we may call it a *significant symbol*.

⁵ *MSS*, p. 181 (emphases and indentation added).

⁶ A’s gesture might elicit an overt response in A as well. If A and B are of the same breeding-group, the responses elicited may be similar; if they are not (e.g., hound and hare), the response may differ widely (e.g., the hound’s bellowing might elicit further bellowing and pursuit in the hound, while it elicits further fear and fleeing in the hare).

response in her, covertly, when she utters it, or when she assumes the attitude in preparation of its utterance. We might say that she *anticipates* the other's response to her utterance.

§88. Consciousness of meaning.

Conscious communication consists of the participants being conscious of the meaning of the gestures (symbols), and thus conscious communication makes use of significant symbols. To be conscious of the meaning of a symbol is for that symbol to be significant. Meaning is the response to a stimulus, so the consciousness of meaning is the response to a response. Specifically, it is a reflective response: the meaning of some object, event, or gesture is one's own response to it, and being conscious of that meaning is responding to one's own response.

Only humans are conscious of meaning.¹ Mead allows that brutes have *imagery*,² that is, that they respond covertly to stimuli, and he allows that they are at times self-stimulating and, in the case of birds, that the self-stimulating response is even identical to the response found in others, such that the brutes seem to share the attitudes of each other.³ But brutes are unable to internalize the attitudes of others (where the individual doesn't already *share* the attitude of the other by virtue of being the same kind of organism, and thus was born with a similar set of impulses) and, with this, they are unable to respond covertly to the beginnings of their own acts (which would be to *think*). These two abilities are intimately related, the second depending upon the first, and characterize well the relationship between being minded and being a self: the first ability gives rise to the self while the second is what it means to think or be minded.

Responding covertly to one's own gestures makes possible one's imagining the other's response to the gesture, and therefore allows preparation for that response by the other.⁴ Further, it makes possible the imagining of the response even prior to the gesture, so that the gesture can be inhibited; many impulses seek and find release at the same time, but since not all are able to be expressed overtly there must be some arbitration as to which will be allowed immediate expression. Thus there will be responses which are covert and which remain so. The ability to respond *covertly to one's own acts* is learned from observing other's overt responses to one's acts. Imagine the following sequence of interactions:

- (1) A acts and B responds to the act.
- (2) A sees B's response, and responds covertly to it; this covert response is A's *image* of B's response.
- (3) When A later repeats the act, he responds covertly to his act while B responds overtly.
- (4) With time, A is able to respond covertly to the very beginnings of the act and so is able to imagine B's response *prior* to his response, and even prior to A's own completion of the act.

This early covert response enables A to inhibit his act should the response seem undesirable, and it is here that A is conscious of the meaning of the act.

Of course, consciousness of meaning need not involve another self: one might just as easily be conscious of a stone's meaning as that of another's gesture. "The consciousness of meaning consists mainly in a consciousness of attitude," i.e., one's response to one's attitude toward something:

¹ See *IS*, pp. 45-6:

In contrast with the animal, we can see the meaning of its action, but that meaning is not present to the consciousness of the animal...A dog may frighten another dog by his attitude, but there is little evidence that the animal is aware of the changes that he makes, and the adjustment takes place with little consciousness of the adjustment itself.

To be aware of this would require the first dog to have internalized the impulse/attitude of the second dog which the first dog's gesture released, such that the first dog could feel or imagine the fear evoked in the second dog by the gesture.

² See *MSS*, p. 183; *IS*, p. 30.

³ *SW*, pp. 139-40 (1912); *MSS*, pp. 63-4, 361. But see also *IS*, p. 152: "The parrot does not know what it is saying; for it cannot stimulate itself in the same manner in which it stimulates others."

⁴ *SW*, p. 111 (1910a).

The feeling of readiness to take up or read a book, to spring over a ditch, to hurl a stone, are the stuff out of which arises a sense of the meaning of the book, the ditch, the stone.¹

But such covert response or self-reflection is more common in social interaction, for it is here where adjustments of the act occur most often:

One is more aware of his response in conversation than of his walking around the room, avoiding chairs, etc....In physical conduct this awareness...produces awkwardness. Control over physical objects consists of being very delicately aware of all the elements in the situation to which we must respond, but in not being aware of our own response. But in social conduct, self-consciousness is the normal thing.²

Where one's response in a situation is unproblematic there will not be any consciousness of the meaning of the situation — everything will proceed automatically. Only when readjustment is necessary will consciousness of meaning arise:

Consciousness implies that the action which carries us from one moment to the next is inhibited and a readjustment is necessary...Consciousness is not simply adjustment, so that an action can go on, but a situation in which adjustment must take place, and in which we are looking for those signs which will enable us to make that readjustment...A state of consciousness, then, in which we are picking out different stimuli, which enables inhibited activity to go on, is one in which we have an awareness of meaning.³

The difference between symbols and significant symbols, and between being unconscious and conscious of the meaning of gestures, is highlighted in Mead's example of "the sentinel":

The sentinel of a herd is that member of the herd which is more sensitive to odor or sound than the others, who then follow along, in virtue of a herding tendency to run together. There is a social stimulus, a gesture, if you like, to which the other forms respond.⁴

Compare these animal sentinels with their human counterparts, such as the person in the crowded theater who, smelling smoke, cries 'Fire!'. The human sentinel, but not the brute, "knows what his signal means,"⁵ that is, he has "internalized the attitude of the others" while the brute does not. Outwardly, this is what we might see of these sentinels:

(1) *Brute case*: the sentinel (S) smells a predator before the others in the group due to a keen sense of smell, and proceeds to run, perhaps giving-out a cry. The others follow suit.

(2) *Human case*: S smells smoke before the others in the group due to a keen sense of smell, and proceeds to run, perhaps giving-out a cry. The others follow suit.

The behavior is identical in the two cases, so where does the difference between them enter? Not here, for our human sentinel has responded just like a brute.⁶ Significant symbols appear in a third scenario:

(3) *Human case "involving the use of reason"*: S smells smoke before the others in the group due to a keen sense of smell, and assumes the attitude "to run and scream hysterically" (as in 2).

But, being a rational creature, this attitude (covert response) that the smell invoked becomes a *further* stimulus to her, invoking a second attitude of "terror and a crazed scramble to escape" on behalf of the crowd. That is, her response to the smell of smoke stimulates in her an *image* of how the responsive action which has been initiated (viz., running and screaming) would stimulate the others.

¹ *SW*, p. 125 (1910c).

² *IS*, pp. 45-6.

³ *IS*, p. 44.

⁴ *MSS*, p. 190. See also *MSS*, pp. 59, 253; *MT*, pp. 379-80; *IS*, p. 159.

⁵ *MSS*, p. 190.

⁶ Perhaps they even respond to their gesture just as the others do by being further stimulated (first by the smoke, and now by their own fleeing and cries) to flee yet more hastily. But they fail to have internalized the other's attitude such that a covert response is elicited by the beginnings of their overt gesture so that the gesture could be inhibited.

This image *inhibits* her initial attitude of panic, and she instead searches “mentally” (i.e., covertly) for a response with a more favorable overall result. Having tested several, she finds one and performs the act overtly. (All of this must happen rather quickly, of course.)

Mead suggests that the basic difference between (3) and the first two cases is that in (3) the individual has “internalized” (i.e., made covert) the overt responses of the others:

The only thing that has happened here is that what takes place externally in the herd has been imported into the conduct of the man. There is the same signal and the same tendency to response, but the man not only can give the signal but also can arouse in himself the attitude of the terrified escape, and through calling that out can come back upon his own tendency to call out and can check it.¹

This is the difference between non-significant and significant symbols. The initial attitude in (3), which would have resulted in the gesture of running and screaming, acted as a *significant symbol* because the individual who was about to gesture overtly instead responded covertly to its very image in the way that others would overtly, and consequently was able to inhibit it in favor of a more useful overt gesture. In (1) and (2) the gestures of running and crying-out were immediate, done without reflection, and so were *non-significant symbols*.²

In physiological terms, the human possesses a CNS with a complex enough structure that a *delay* between stimulus and overt response arises, viz., the covert response. The individual is consequently in the position of being further stimulated by this covert response even before she can respond overtly to the first stimulus. This second stimulus may *inhibit* her initial response (by releasing an opposing impulse). A series of internal stimulations may go on for some time (e.g., the pondering scholar: without overt behavior one might wonder what she is “doing”), usually resulting in an overt response, although this depends upon the initial stimulus, and further sensory stimuli that may follow.

The above is Mead’s doctrine of “consciousness of meaning” and reflects his claim that thought or mind arises out of gesturing and the organism’s own sensitivity to its gestures (resulting in a conversation of covert gestures within a single organism, or thought).³ Because “conditioned reflexes plus consciousness of the attitudes and meanings they involve are what constitute language,”⁴ I will turn next to Mead’s account of linguistic gestures.

§89. *The linguistic gesture.*

Language involves using gestures which have the same meaning for the speaker as for the listener so that speaker and listener have the same item of discourse.⁵ Since the meaning of a word is the behavioral response it elicits, to *share a meaning* requires that the speaker respond (or be able to imagine such a response) in exactly the same way as the listener.⁶ Languages must consequently consist of significant symbols, and language use involves a consciousness of the words’ meanings.

Another way of putting this is to say that the primary function of language is to allow the individual *to evoke in himself the attitudes of others*;⁷ this can be thought of in terms of *anticipating* the listener’s response, since in doing this the speaker

¹ *MSS*, pp. 190-91. See also *IS*, p. 136: “A herd of deer is stimulated to flee danger when one of them sniffs contaminated air, but there is no sign that the animal is indicating to himself the thing that he is indicating to others. He does not tell himself to run, for there is no significant symbol.”

² On this distinction, see also *MSS*, pp. 45-7, 71-2, 81, 181, 268-9, 335.

³ This conversation is between the I and the Me [see *MSS*, p. 335].

⁴ *MSS*, p. 122n.

⁵ These gestures may be vocal but need not be. Vocal gesturing was crucial only during the phylogenetic development of the human CNS, and thus for the development of the human capacity for rationality. Deaf-mutes, contrary to Kant’s beliefs, are capable of rational thought. On the importance of the vocal gesture, see *MSS*, pp. 14n, 65-70, 372; *MT*, pp. 378-80; *PP*, pp. 187-8; *SW*, pp. 136-7 (1912). *Some* form of linguistic communication is necessary of the development of selfhood and mindedness in the individual, however; see *MSS*, pp. 135, 149, 234.

⁶ That is, the speaker must respond either *overtly* (in terms of bodily gesture) or *covertly* (by imagining those bodily gestures, that is, by assuming the attitude which — if not inhibited — would result in those gestures), and he must respond in the same way that the listener responds.

⁷ *MSS*, p. 335.

is responding in the way he thinks the listener will respond.¹ To the extent that these anticipations are accurate do speaker and listener share the same meaning of the words and phrases (the linguistic gestures).

The very existence of a gesture's meaning is to be doubted to the extent that these anticipations are off their mark. If I say "Hello" or "How are you?" or some similar utterance — that is, if I undertake to *greet* some person — then I anticipate a similar utterance as his response. If instead he responds with words such as "Funny you should mention *that...*" or "I haven't been there for days!", then I *could* deem the respondent mad or deaf, so that the failure to "get across the meaning" of my words would at worst be taken as idiosyncratic. But if my anticipation of the response always or nearly always missed its mark, then I would probably question the meaning of my own words; I would no longer feel certain that I knew what I was saying.² Thus Mead wrote that without this anticipation, or evocation of the other's response in oneself, "language as a significant symbol would disappear, since the individual would not get the meaning of that which he says."³

Gestures that fail to elicit a roughly uniform response have little utility in the success of the individual and its community. Indeed, such gestures tend, if anything, to have a disutility. The example of the failed greetings should be indication enough that such gestures have no place in our lives nor any function to perform. They are not even *meaningful* in any of the senses given above, being mere non-sense sounds or gestures, and so will not gain currency in the language. As Mead wrote:

The attitudes are parts of the social reaction; *the cries would not maintain themselves* as vocal gestures unless they did call out certain responses in the others....⁴

In another context, Mead explains significance — the difference between significant and non-significant symbols — as follows:

A gesture is not significant when the response of another organism to it does not indicate to the organism making it what the other organism is responding to.⁵

This implies that the gesturer is unable to even *recognize* a response to his gesture unless he responds to it in the same way as the other responds. Thus, without meaning in the strict sense (Mead would also require the response to be covert and non-natural), the gesturing organism is unaware of the gesture's effects on others. The non-significant gesture should not be thought of as a sign given by the organism to convey some information to the other; the organism has no sense of the effects of its gestures, and so cannot be thought of as using those gestures as a means to communicate.

Mead wrote that "there is a possibility of language whenever a stimulus can affect the individual as it affects the other,"⁶ but that suggests that there is a possibility of language among the brutes, since they often share each other's response to stimuli. Attaining the fourth level of universal response by brutes, however, is based on their sharing what might be called "natural sets" of impulses, impulses that all or most individuals of that kind would possess, so that the universal response does *not* require the ability to *internalize* these impulses of another. With brutes, this fourth level of universal response is

¹ Mead does not speak in terms of 'anticipation', but I think it describes his intentions well enough. A good example of this, which Mead provides, is of the chess player: "A good chess player has the response of the other person in his system. He can carry four or five moves ahead in his mind..." (MSS, p. 243).

² This is not such an unusual occurrence, especially for people learning to use a new language among its native speakers. Several times in Germany, for instance, did I unwillingly forgo a second serving of cake or coffee by responding to a person's offers with '*danke*' instead of '*bitte*', whereupon he would act as though I had declined the offer for another serving (which I had indeed, though unknowingly).

³ MSS, p. 145. See also MSS, p. 147: "A person who is saying something is saying to himself what he says to others; otherwise he does not know what he is talking about."

⁴ MSS, p. 189. The claim that gestures evoking no uniform response across auditors are purely nonsensical isn't quite right, since we have useful words which are nonetheless limited in their universality of meaning. Code words, for instance, do not enjoy a uniform response, nor do many words or phrases unique to a family or location.

⁵ MSS, p. 81.

⁶ MSS, p. 149.

based on natural similarities of impulses, and not on similarities that arise because the individuals have internalized the other's impulses and in this way come to possess similar impulse sets.¹

A brief example might help clarify the basic outlines of this idea. Consider a community of three humans (A, B, C) and the set of impulses unique to each (x, y, z, respectively). If they internalized each other's impulses perfectly, then the sets of impulses constituting the two poles of their self, the I and the Me, would be as follows:

A: I = {x}, Me = {y,z}

B: I = {y}, Me = {x,z}

C: I = {z}, Me = {x,y}

Everyone in the community possesses the same set of impulses (viz., x, y, z, plus whatever impulses they shared naturally), but they are distributed differently. A's overt gestures are initiated naturally in the set x, but the beginnings of these gestures will often elicit covert responses from y and z (for often the covert responses of the Me will be in conflict with those of the I, as the former stem from others in the community). Reciprocal responding at the covert level between the impulses of the I and the Me constitutes thought.

The above suggests a central role of language in the life of the community. For instance, Mead has claimed that human impulses are much more modifiable than are the instincts of brutes (see §83); this modifiability has as a consequence the possibility that mature human forms will differ more in the constitution of their "impulse-set" than will the mature forms of a non-human breeding group. As will be argued in §94, empathy, or at least mutually-coordinated activity among individuals, is possible only to the extent that they share impulses. Consequently, although the actual mainsprings of language might have been something wholly different, it appears that language plays an important role in the cohesion of the community, for it sets in place an artificial system of impulses which can be made fairly standard throughout the community (viz., in grammars and in dictionaries).²

This parallels a line of thought found in Kant's works (as discussed in §35): recall where he noted that brutes are capable of living in society without the need for laws or a leader, but that humans are not; he even attributed this ability to the brutes' "knowing each other" through their shared instincts. Kant, of course, attributed the human inability to "naturally" live in society to our *freedom* (as opposed to the modifiability of our impulses), but one need only recall Kant's accolade for the man of character who lived by principles ("of him we know definitely what to expect")³ to sense these same concerns of empathy and the cohesion of the group.

¹ Of course, by virtue of humans belonging to the same breeding-group, they will share many impulses naturally, and it could be that this natural similarity might be necessary as a base upon which a non-natural system of attitudes (viz. a language) could be built (on this, see §86, above). This might be of some importance should humans ever meet up with another species of rational organism which has a wholly different set of natural impulses, for it might not be possible to recognize them as rational — a point which makes problematic the question of language and rationality in brutes; see §94, below. This is the problem of translating between "different conceptual frameworks," which has been discussed in the writings of Quine, Davidson, and Rorty; see, for instance, Richard Rorty, "The World Well Lost" in *The Journal of Philosophy*, 69:649-65 (1972).

² Mead notes that successful group-leaders tend to be able to internalize a wide-variety of different attitudes within the group (thus being able to anticipate and understand the needs of the group) [MSS, pp. 256-7]. A recent article in the sociobiology literature endorses this by suggesting that there is a selective pressure for articulateness insofar as group-leaders tend to be the most articulate of the group, and furthermore tend to leave more offspring (by virtue of their social pre-eminence, presumably, and not as a direct result of their verbal skills). Because articulateness and one's ability to internalize the attitudes of others develop together, according to Mead, a corollary of his doctrine would be that group-leaders would in fact tend to be the most articulate; see Robbins Burling, "The Selective Advantage of Complex Language" in *Ethology and Sociobiology*, 7:1-16 (1986).

³ Kant, *Anthropologie* [STW, xii.65].

CHAPTER 16 PERCEPTION

§90. *Do brutes perceive?*

Mead devoted an early essay to the question of whether brutes perceive, or are aware of, physical objects (POs).¹ His answer was that they are not aware of physical objects, and thus that brutes lack “perceptual consciousness” as well as ratiocination:

Can we draw a line between perception and higher cognitive processes, leaving below the line a cognition which is not rational though intelligent, such as characterizes the adaptations of a crab or a rat, and placing above the line all the consciousness of a relation which makes human intelligence rational?²

No, says Mead; but that does not in any way blur the line between humans and brutes, since brutes — as Mead will argue — cannot perceive. In this essay, ‘perception’ takes on an added component that mere ‘sensation’ lacks, for “what is implied in perception is the association of the new sensory experience with the old,” such that the new stimulus does not simply evoke the same overt behavior as that kind of stimulus always evokes, but that it evokes the *imagery* (covert responses) of past overt responses to a similar stimulus.³

Mead offers an example that would seem to damage his claim: a chick, he notes, will instinctively peck at a moving orange peel (or a piece of cinnabar), reject it, and will thereafter discriminate between moving orange peels and real worms, always rejecting the former. How are we to explain this adaptive behavior?⁴ One might find in this an example of animal perception, but Mead suggests an alternative account (the second, below):

(1) The chick tastes the disagreeable orange peel when it strikes instinctively at the moving object before it, and the bad taste brings it to instinctively reject the peel. Upon seeing a moving orange peel a second time, the chick *remembers* the bad taste associated with the last object (with that appearance), and consequently does not peck.

(2) The chick tastes the disagreeable orange peel when it strikes instinctively at the moving object before it. This bad flavor releases an equally instinctive reaction to reject the peel; at the same time, the chick eyes the peel under the excitement of the bad taste and, in this way, the original pecking-instinct is modified so that it discriminates against orange-peel appearing objects. The appearance of a moving orange peel will no longer release the impulse to peck.⁵

¹ “Concerning Animal Perception” in *The Psychological Review*, 14: 383-390 (1907) [reprinted in *SW*, pp. 73-81].

² *SW*, p. 73 (1907a). In the 1914 lectures on social psychology Mead re-iterates this denial of a sharp distinction between perception and higher cognition: “The distinction between the percept and the concept is only a matter of degree” [*IS*, p. 31]. But see [*PP*, p. 87], where Mead distinguishes thought, perception, and imagination.

³ *SW*, p. 76 (1907a). This suggests that perception requires the ability to *remember* as well as the ability to *associate*. Mead elsewhere lists four features of perception: (1) unity, (2) imagery from past experiences, (3) responsiveness, (4) a “filling-in” of the sensation with imagery [*IS*, p. 29]. Compare this with Descartes’ account of sensation, discussed in §8, above.

⁴ Mead’s explanation of adaptive behavior will be strikingly similar to Descartes’; see art. 50 of *The Passions of the Soul*:

...custom can be acquired by a solitary action....Thus when we unexpectedly meet with something very foul in food that we are eating with relish, the surprise that this event gives us may so change the disposition of our brain, that we can no longer see any such food without horror, while we formerly ate it with pleasure. And the same thing is to be noticed in brutes.... [*HR*, i.356]

⁵ *SW*, p. 75. These two accounts might be laid out in the following components:

1st Account

(1) sees (1st peel)

(2) strikes

2nd Account

(1) sees (1st peel)

(2) strikes

The first explanation involves what Mead calls a ‘redintegrated psychosis’, and amounts to ascribing perception, as defined above, to the chick.¹ What is important is that this explanation requires of the chick the ability to remember past events (e.g., the appearance of the orange peel, combined with the bad taste) so as to be able to compare them with present events (e.g., the appearance of the present object).

Mead clearly favored the second explanation, offering the following argument against the first:

The mere redintegration of the experience would not protect the chick. Either the chick would peck again, since presumably the same bad taste and same rejection would follow, simply re-enforced by the revival of the past experience, and this would bring about no improvement in adaptation; or else the past experience would be revived with the appearance of the old stimulus...[and this] would lead to the rejection, not of cinnabar [or orange peel] caterpillars alone, but of all moving objects within reach...²

...since the original stimulus was simply that of “a moving object within reach” and not that of cinnabar or orange peel. That is, either the memory of the past experience will do nothing to prevent the continued pecking at orange peels (since the impulse to peck at them has not been altered), or the memory will wholly inhibit the impulse to peck, leading to the likely extermination of the animal.

I take this argument against the first explanation to be unsound,³ since one would only need to allow for a more discriminatory memory on the part of the chick. Mead’s account *is* the better one, however, because it requires us to attribute fewer powers to the chick. No comparison between present with past stimuli and experiences is needed in the second account since the *discrimination* (between real and fake worms) was already carried out during the initial experience, and embodied in the modified pecking impulse. The discrimination can all occur at the level of the impulse, making memory and the association of ideas redundant.

But two problems confront us here. First, if memory and association as Mead defines it, perception is redundant in the life of chicks, when is it *not* redundant? When will discrimination simply at the level of impulse or instinct prove inadequate? Or is the traditional account of perceptual consciousness mistaken even with respect to humans?

(3) tastes	(3) tastes
(4) rejects	(4) rejects and sees again
(5) associates (1 & 3)	[image now releases rejection-impulse]
(6) sees (2nd peel)	(5) impulse (connecting 1 & 2) is modified
(7) remembers (5)	(6) sees (2nd peel)
(8) associates (1 & 6)	(7) (no impulse released)
(9) impulse to strike inhibited.	

¹ ‘Redintegrated psychosis’ is a term most likely unfamiliar to those outside of academic psychology. Mead means by ‘psychosis’ simply an *experience*, as opposed to a neurosis which is “what is taking place in the CNS” that parallels the experience [see *MSS*, pp. 109-10].

English and English offer a definition of ‘redintegration’ that was probably Mead’s meaning: “The principle that presence of a single element [e.g., seeing the peel] of a former event [e.g., seeing-striking-tasting the peel] tends to bring about the psychological consequence [e.g., rejecting the peel] of the event as a whole” [from *A Comprehensive Dictionary of Psychological and Psychoanalytical Terms* (New York: David McKay Co., 1958), p. 446]. See also Mead’s use of ‘redintegration at *MSS*, p. 341.

² *SW*, pp. 75-6 (1907a). The chick’s incorporation of the past into its CNS (through the modification of its pecking impulse) appears to involve the same mechanism that Mead says underlies *human intelligence* [see *MSS*, p. 116]. The two positions offered above are similar to those ascribed to Hobhouse and Thorndike, respectively (Mead siding with Thorndike’s account); see Mead, “The Relation of Imitation to the Theory of Animal Perception,” *Psychological Bulletin*, 4:210 (1907) this is an abstract of a paper read at the 15th annual meeting of the American Psychological Association, at which the presidential address, given by Mead’s colleague J. A. Angell, was on “the Province of Functional Psychology.”

³ One might think that a third explanation could combine the above accounts: the chick modifies its impulse to peck (as in the second account) but also remembers the past unsavory experiences of pecking at orange peel, and so refrains from pecking at the present one. But the memory is redundant: with the altered impulse, the chick will no longer peck at orange peel-appearing objects, regardless of the chick’s ability to remember; the most forgetful chick would still fail to peck at the peel.

Second, how are we to allow for a uniquely human perception? The account of the chick sounds very much like the internalization of a new impulse (although it is not altogether new in being the modification of an old one), which was described in the previous chapter as an ability unique to humans. We will see that perception *is* to be found in human experience and *only* there, and that humans are capable of a kind of “remembering” that brutes are not. Remembering is possible in humans due to our complex CNS, and involves the internalization of new impulses, the release of which are “memories” in the form of covert responses. Much of human learning is of the same nature as the chick’s, but humans are capable of much more.

One naturally wonders *why* brutes cannot perceive, especially since it appears that they do. The oddness of this claim is due in part to Mead’s technical use of ‘perception’; but even given that, the claim is unusual, especially since he has already attributed consciousness to brutes. Although they are not conscious in the sense of covert self-reflexive response (due to their inability to internalize the attitude of the other, which is due to their lacking the proper kind of CNS), brutes are conscious in the sense of actual and potential responsiveness. But to what sort of thing do brutes respond? For reasons that I examine in the following three sections, Mead limited their responsiveness to mere *sensory stimuli*, as opposed to *physical objects*, or past and impending events (and thus also to features of time and even space).¹

In *Mind, Self, and Society*, Mead discusses perception in the familiar terms of stimulus and response as discussed above in the chapter on consciousness. Here perception is said to involve two parts: (1) the initial response to some sensation, and (2) a response to this response (its interpretation):

One perceives an object in terms of his response to it. [...] It is the response that interprets to us what comes to us in the stimulus, and it is such attention which makes the percept out of what we call ‘sensation’. The interpretation of the response is what gives content to it.²

Perception is here explicitly based on the ability of covert self-reflexive response that Mead reserves only to mature humans. Consequently, brutes have the power to sense (which is being responsive to stimuli) but not to perceive. The nature of perception and two of Mead’s explanations for the brute’s inability to perceive will be examined in the remainder of the chapter.

§91. Social objects are prior to physical objects.

Social objects (SOs) include selves and their paraphernalia of gestures, roles, and attitudes — everything that goes into a social act.³ Mead’s claim that an awareness of social objects must be prior to physical objects will strike many as a strange and surely false claim, for it is a standard prejudice in modern philosophy that awareness of physical objects (POs) is prior to an awareness of other selves, there being some doubt that other selves even *exist*. But it is a claim not made lightly and, if true, has several important consequences.⁴ Mead bases this claim on various observations concerning the emergence of perceptual awareness. First, he suggests the priority of SOs in the *ontogenetic* development of perception:

¹ See the discussion of organized attitudes in §85. Brutes apparently lack the capacity for organized attitudes, i.e., groups of covert responses which together constitute the meaning of an object. Responding to such attitudes would amount to being conscious of this meaning.

² *MSS*, p. 114.

³ See *PA*, p. 362: “social objects, or persons”; p. 400: “the self as a social object; p. 411: “the self as an object is a social object”; *SW*, pp. 105-13 (1910a); *SW*, p. 137 (1912): “The social object will...be the gestures ...plus the imagery from past experience of the final result of the act”; *SW*, pp. 279-80 (1925): “I mean by a social object one that answers to all the parts of the complex act, through these parts are found in the conduct of different individuals”; *IS*, p. 27: “The social object is the self.”

⁴ Explicit assertions of this claim can be found, for instance, at *MSS*, pp. 277-81, at *PA*, p. 292:

The physical object is found to be that object to which there is no social response which calls out again a social response in the individual. The objects with which we cannot carry on social intercourse are the physical objects of the world.
[also quoted in *MSS*, p. 184n]

At *PA*, pp. 426-32: “the PO is but an abstraction from the SO”; and at *SW*, p. 113 (1910): “Whatever theory may be as to the history of things, social consciousness must antedate physical consciousness.” The importance of the claim is in part due to its relevance to the “problem of other minds” for, if it is true, then the existence of other minds is no longer

[The infant] acts toward physical objects and persons in very much the same, if not exactly the same, way. But important responses are essentially social. He is depending...on social responses as his means of control. He isolates certain social stimulations in the countenances of others, and comparatively early he forms satisfactory responses to them. He thus forms social objects before he forms physical objects....His whole control of his immediate environment is very definitely through a social mechanism.¹

Later in the same passage Mead suggests that the same might also be true in the *phylogenetic* development of perception:

What is true of the child is also, so far as we can find out, true of the race, as seen in the attitude of primitive people. The method of control over the world is a social technique. It may be a hopelessly inefficient technique, but it is simply carrying the social technique into this larger world.²

In general, children and primitive peoples distinguish little between SOs and POs, for at first *everything* is an SO:

If we go into the life history of children and primitive people there is no sharp line, practically no line, drawn between physical objects and social objects. Myths socialize physical objects....Our aesthetic experience of nature is essentially a social experience. We find also in situations of great stress that there is a social attitude and act. One who has no belief in gods, in such cases, may pray. This is the outcome of an instinctive social attitude toward nature.³

Both of these priorities of the SO are supported by Mead's claim that *only* mature humans can perceive POs, and that consequently the emergence of the self had to precede the emergence of physical objects as perceived entities. This claim is in turn based on two arguments: first, that the perception of POs requires a universality of which only minded organisms are capable, and second, that perceiving POs requires the ability to separate the object from the stimulus, which requires certain analytic and manipulative skills. With both of these arguments, the conclusion is that POs presuppose minds; and since minds in turn presuppose selves or SOs,⁴ then POs presuppose SOs.

A parallel can be drawn between the perception of social and physical objects: in either case an "other" is perceived through some form of responsive interaction. Where the other is a PO, the interaction is through actual or imagined contact experience as mediated by the hand; where the other is a SO, the interaction is through verbal communication.⁵ Neither hands nor spoken language are necessary for the ontogenetic development of the mind and self (and thus for the perception of POs), but they were necessary, according to Mead, for the phylogenetic emergence of the physical basis in the CNS which makes possible the actual emergence of mind and perceptual awareness in the individual. Many brutes have capacities to manipulate objects and to gesture verbally that approach our own but they lack a CNS that is capable of the analysis underlying human manipulation, or which makes possible such a high degree of gestural articulation, as is found in mature humans. In the following two sections I will describe this universality and manipulation which form the basis of PO perception, and then in the final section discuss our perception of humans and brutes.

§92. Perception and universality.

This argument from universality can best be understood as stemming from a special case falling under the 3rd and 4th kinds of universality of meaning (as discussed in the preceding chapter), where the "auditor" is now a physical object (PO), and the organism is the gesturer.

problematic. This claim is important for the present study insofar as it touches on knowledge and existence of the "inner lives" of brutes (should they have any).

¹ *IS*, pp. 51-2. See also *MSS*, pp. 186-7n; *PA*, p. 311; *PP*, p. 169.

² *IS*, p. 52; see the discussion of magic at *MSS*, p. 186, and at *PA*, p. 109: "...the social attitude of primitive man toward his habitat and especially toward his tools and weapons. It flowers out in what we term 'magic'."

³ *IS*, pp. 31-2. See also *IS*, pp. 39, 157: "among primitives...everything is social, even sticks and stones, but not personified." See also *PA*, pp. 150, 190; *MSS*, p. 184: "The immediate reaction of children to things about them is social"; *MSS*, p. 377.

⁴ *SW*, pp. 139-40 (1912): Parrots have the mechanism for internalizing SOs, but lack SOs in their environment, and so never become minded.

⁵ Language is the mechanism for personality [*MSS*, p. 324].

The claim is that perception of POs requires a universality of the fourth kind; now brutes are capable of this higher universality of response but only when they by nature share the relevant impulse with the other. The attitudes of objects, however, must be *learned* by the organism, and consequently only humans are able to share the object's attitude and respond towards it with this fourth level of universality. Only minded organisms are thus able to perceive them.¹ Setting-up the argument in these terms admittedly appears a little strange, for if a PO is to audit an organisms gesture's, then it must in some sense "respond" — but what could it mean for a PO to "respond" to one's gestures? Mead had in mind here the *contact experiences* that we have of POs, and in particular that feeling of *resistance* that is true of all POs. At the level of resistance these contact experiences of POs are *universal*:

Contact constitutes what we call the substance² of such a thing...[POs] are universal in the sense that they belong to the experience of all of us...The actual enjoyments may take on forms which represent an experience that is accessible only to separate individuals, but *what the hand handles is something that is universal* [i.e., the contact experience is universal].³

The perception of all POs will involve the experience of this resistance. First, the individual must be able to become a PO itself upon contact with an object, and to do this by meeting its own inertia with that of the object:

...there is in the individual and the environment a content of effort in the organism of the individual which is aroused by the pressure of the individual upon the object, and which goes into the object. Because this content is in the organism, the individual may identify himself with the object, and act toward his own physical organism by way of resistance to his own pressure and thus become a physical object over against the first object. It is this possibility of taking now the one position and now the other that constitutes what is termed the consciousness of the object, as well as of the self as a physical object.⁴

Second, one must be able to re-invest this quality of resistance into the object even when it is no longer in contact, but appears only at a distance. For we perceive not only those objects which we are actually touching, but also those experienced at a distance. Mead saw contact experience as the test of reality;⁵ consciousness of distant objects required associating a thing's distance-appearance with its contact-appearance. In the essay on animal perception Mead defined perception in just these terms:

¹ This is the obverse of the cases considered under the 1st kind of universality, and can be schematized as follows: (3*) $SG_1 > SR_1 \& POR_2$, and (4*) $SG_1 > SR_1 \& POR_1$. Of course, self-stimulation need not occur in 3*. (See §86 for key to symbols.)

It should be remembered here that the identity of the gesturer is to be taken as irrelevant. No matter who performs the gesture, for a certain PO the response to that kind of gesture is supposed always to be the same.

² See Mead's discussion of matter in "The Process of Mind in Nature" [PA, pp. 427-30].

³ MSS, p. 185. See Mead's discussion of resistance with respect to 17th and 18th century philosophy in "The Physical Thing" [PP, p. 134].

⁴ "The Process of Mind in Nature" [PA, pp. 435-6]. See also PA, pp. 104-7: "consciousness of the promise of the object"; p. 147:

In the manipulatory area both *the distance promise* and *the resistance contact fulfilment* unite in a percept, but the percept does not become an object except in a situation within which the organism is also an object. It is this involvement of the organism...which we denominate as consciousness. [...] The original biological act is one that goes through to its consummation [without manipulation of the object] and has within it, at least in lower animal forms, no perceptual world of physical things. It is a world of stimuli and responses.

and PA, pp. 160, 310-11, 431; PP, pp. 169-70.

⁵ See, for instance, PA, p. 108: "When we state that we are conscious of a PO, we do not refer to the distance characters as contents but to the physical reality of the object which if realized would be in contact experience"; p. 143: "The contact experience that constitutes the reality of the physical thing"; p. 190: "Beyond the manipulatory area lie the promises of contacts which constitute other physical things"; IS, p. 123: "we identify reality with contact experience, for with contact experience the act is complete." Any distance-stimuli that are not connected with any contact-stimuli are mere *hallucinations*. Those connected with the wrong contact-stimuli are *perceptual errors*, unless they are consistently so connected, in which case the distance-experience is one of *illusion*; see PA, p. 436.

Perception is a process of mediation within the act, [namely] that form of mediation by which the possible contact value¹ of the distance stimulation appears with that stimulation, in other words, a mediation by which we are conscious of physical things.²

What is crucial for all of this is that there be a universality of shared response between the organism and the PO:

An engineer who is constructing a bridge is talking to nature in the same sense that we talk to an engineer. There are stresses and strains there which he meets, and nature comes back with other responses that have to be met in another way. *In his thinking he is taking the attitude of physical things.* He is talking to nature and nature is replying to him. Nature is intelligent in the sense that there are certain responses of nature toward our action which we can present and which we can reply to, and which become different when we have replied.³

Like organisms, POs have *attitudes*;⁴ this gives rise to the distinction between 3* and 4*, viz., the case where the gesturing organism does not assume, or is incapable of assuming, the attitude of the PO, and the case where the organism *is* capable and does. In 3*, Mead holds that the organism is unaware or unconscious of POs, while in 4* the organism *is* conscious. Because brutes are incapable of internalizing the attitude of an other, even the attitude of an object where the attitude is nothing more than resistance, they are incapable of perceiving objects:

When the dog carries a stick or the bitch picks up a puppy, the beginnings of the experience of a physical thing can be detected, but the physical thing must play a vanishingly small part in the dog's existence.⁵

Only humans are conscious of physical objects, and move about in a world composed of them; Mead thereby arrives at a conclusion similar to the one Kant arrived at two centuries earlier. Kant considered brutes incapable of forming judgments, which left their world void of anything like physical objects, or even of spatio-temporal determinations of the scattered stimuli that comprised the whole of their "inner lives" (see §27). Mead, on the other hand, linked this lack of perceptual consciousness with their inability to empathize with objects.

§93. Perception and manipulation.

The second argument that only minded organisms can perceive physical objects concerns the human's ability to interrupt the consummation of our impulse-driven acts by manipulating the object of interest with our hands. At least in the phylogenetic emergences of our nervous system this manipulation was important, for it allowed us to separate the object from the impulse which its stimulus released, which in turn made possible the reconciliation of conflicting stimuli in the same object through what Mead called 'analysis'.⁶ I will first turn to the act of manipulation.

Perceptual consciousness requires a phase of the act which includes contact with the object, but which is not the consummation of the act, since that makes distinguishing the object from the consummation difficult. Such a phase is the manipulatory, and this requires the possession of hands, or some part of the body without a specific or determinate role or

¹ This value must arise through the imagery of past contact experiences.

² *SW*, p. 79 (1907a). Contact provides the "identical core" which is the substance of the physical thing, and to which the various qualities sensed at a distance (primarily visually) are attributed (*Ibid.*, p. 78).

³ *Ibid.* Mead says that in being aware of a chair, e.g., as something to sit in, "the individual takes the attitude of the chair. We are definitely in that sense taking the attitude of the objects about us" [*MSS*, p. 280].

We ascribe personality to POs, as we do to brutes as well. Taking the attitude of the PO is not just to sense it; the relation is a social one, parallel with and parasitic upon our relations with other selves. Objects even have gestures [*PA*, p. 310].

⁴ An attitude shown by all POs is resistance [*PA*, p. 152]. Mead devotes several pages to taking the role of the physical thing at *IS*, pp. 157-9.

⁵ "Mediate Factors in Perception" [*PA*, p. 136]. See also "The Perspective Theory of Perception":

There is a very wide field of physical adjustment, such as that acquired in learning to ride a bicycle... Presumably this latter is the type of adjustment which is acquired by all animals except man. It is only man who has entered into a social relation with his environment, and then has abstracted and generalised it into a physical theory. [*PA*, pp. 109-10]

⁶ See *IS*, p. 121: "The hand is master of the human body and the basis of the CNS. It is thus the control means in conduct; it resolves things by its grasp and analyzes means and ends."

function (for with such a role, the use of that part would be inextricably connected with the phase of the act with which the role is associated). Mead claimed that the human hand is the only such part to be found in the animal world. The hands of apes, for instance, are still too much associated with climbing and locomotion.¹

The hand therefore plays a prominent role in Mead's system, first in the *coordination* that it facilitates between the distance- and the contact-stimuli (as noted in the preceding section), and second in its suitability for *manipulating objects*. On the latter Mead writes that...

...there are two respects in which the contact experiences of lower animal forms are inferior to those of man....[1] The organs of manipulation [e.g., hands, paws, mouth] are not as well adapted in form and for manipulation itself....[2] The contact experiences of lower animals are, to a large extent, determined, not by the process of manipulation, but are so a part of eating, fighting, repose, etc., that it is hard to believe that a consciousness of a "thing" can be segregated from these instinctive activities.²

These two behavioral features that the human hand makes possible (viz., coordination of distance and contact experience, and the manipulation of objects) underlie our very consciousness of perceptual objects:

The hand is responsible for what I term physical things, distinguishing the physical thing from what I call the consummation of the act. If we took our food as dogs do by the very organs by which we masticate it, we should not have any ground for distinguishing the food as a physical thing from the actual consummation of the act, the consumption of the food. We should reach it and seize it with the teeth, and the very act of taking hold of it would be the act of eating it. But with the human animal the hand is posed between the consummation and the getting of the object to the mouth. In that case we are manipulating a physical thing.³

The hand, in effect, makes possible an intermediate stage of manipulation in our acts, coming between the *stimulus-stage* (where the sight or smell of food releases our impulse to eat) and the *consummation-stage* (where we satisfy the impulse by eating).

The contact experiences of most of the vertebrate forms lower than man represent the completion of their acts...contact is coincident with the goal of the instinct; while man's hand provides an intermediate contact that is vastly richer in content than that of the jaws or the animal's paws.⁴

A physical object is a "weighty" thing; it has a being-ness or existence about it that the stimuli associated with the object lack.⁵ Getting a sense of this weightiness of objects requires, first of all, contact-stimulation with the object but, second, it

¹ But see Mead, "The Relation of Imitation" (1907b), p. 211: "a rich kinaesthetic experience in manipulation may be almost a precondition of perception...[which consequently] could hardly arise before the primate with his highly sensitive flexible hand." See also §77, above.

This view of the hand as indeterminate and universal can be found in Kant (§12, above) and also in Aquinas: "Horns and claws...do not suit the nature of man. Instead of these, he has reason and hands whereby he can make himself arms and clothes, and other necessities of life, of infinite variety, wherefore the hand is called by Aristotle (*De Anima*, 3.8) *the organ of organs*. Moreover this was more becoming to the rational nature, which is capable of conceiving an infinite number of things, so as to make for itself an infinite number of instruments" [*Summa Theologiae*, i.77.4].

² "Concerning Animal Perception" [*SW*, p. 79 (1907a)].

³ *MSS*, p. 184. See also *MSS*, p. 237: "...the hand for the isolation of physical things"; p. 249: "physical things...are in a real sense the products of our own hands"; and *MT*, pp. 382-3: "We have built up an implemental world by the use of our hands"; *PP*, p. 170: "the hand fashions the physical or perceptual thing."

⁴ "The Self and the Process of Reflection" [*MSS*, pp. 362-3]. See also *PA*, p. 136 and *IS*, p. 122: "lower forms do not live in a world of physical things; their contacts are consummations...."

⁵ This difference in how brutes and humans regard the items of their respective experiences brings to mind a passage from Hegel's *Phenomenology of Spirit*. In a discussion of Holy Communion and the "Mysteries of Ceres and Bacchus" Hegel wrote:

For he who is initiated into these Mysteries not only comes to doubt the being of sensuous things, but to despair of it...Even the animals are not shut out from this wisdom but, on the contrary, show themselves to be most profoundly initiated into it; for they do not just stand idly in front of sensuous things as if these possessed intrinsic being, but, despairing of their reality, and completely assured of their nothingness, they fall to without ceremony and eat them up" ["Sense-Certainty," §109; Miller transl., p. 65].

also requires that this stimulation occur outside the ongoing process of impulse gratification. The pattern of impulse-stimulus-response needs to be interrupted by a contact-stimulation which is not the organism's response to the initial impulse — an interruption which presumably comes about due to some other impulse which inhibits the first, and causes a “hesitation” on the part of the organism's act: “The arrest [of the act] affords the opportunity for competing tendencies to respond to arise within the act.”¹ These “competing tendencies” arise in the form of covert response: the hand and the manipulative phase of the act thus underlie the ability for various impulses to respond covertly to each other within the organism. Because brutes lack this manipulative phase, they never experience the reality of the thing, they never make contact with it² and are constantly in the state of pursuing the stimulus, of immediately responding to each stimulus without pause:

In the experience of lower forms which have no such manipulatory area there is no reason to believe that there is any permanent world which is irrelevant to passage. They must live in a Minkowski world where all stimuli are spatiotemporally away from them.

There are experiences of our own in which the interest is so centered on the temporal distance of the stimulus that it hardly appears as an object that exists simultaneously with ourselves in the manipulatory areas, e.g., when we are straining to grasp a passing something, when in falling over a cliff one strives to get hold of the stem of a sapling. There is no reality now. It all lies spatiotemporally ahead of us.³

The life of the brute is one of continuously falling off cliffs. While they experience change and motion, they lack all sense of objects and of a “now.”⁴ There are certain unclaritys surrounding Mead's doctrine of manipulation and perception, but these troubles do not threaten to vitiate the doctrine so much as possibly to alter his conclusions as to the inner lives of brutes.⁵

I will now briefly examine Mead's doctrine of analysis. By ‘analysis’ Mead means the ability to relate separate and perhaps contradictory distance-stimuli by attaching them to the same object; this is just another way of saying that humans respond to *objects* while brutes respond to *stimuli*. So, for instance, a piece of food with the scent of humans might both attract and repel an animal, the brute advancing and retreating in response to the different stimuli. But the human will respond to objects as a whole:

The dog, in alternatively remaining and approaching, is responding to two separate stimuli.⁶ Men construct and separate these two objects which include both characters. As long as we have entirely different responses, we have two objects, e.g., the child who gets his hand into the flame of a candle. His *analysis* enables him to bring both characters plaything and object that burns into a single object.... There is a

¹ *PA*, p. 24.

² *PA*, p. 24: “This contact experience is not the bare contact with the surface of the organism. This, as in the case of feeling for a thing or in contacts of currents of air, may be a distance experience which leads to the thing itself.”

³ “The Social Factor in Perception” [*PA*, p. 143]. On the Minkowskian model of the universe and perception within it, see “Perspective Theory of Objects” [*PA*, pp. 159-64].

⁴ *Ibid.*, p. 149.

⁵ Two problems which persist are the identification of acts and the explanation of apparent manipulative behavior of brutes. As for the first: could not the handling of the object be the act's consummation? What if the impulse seeking release was simply to touch something and not at all to eat it, etc? Admittedly, it may not be so extravagant to assume a minimum number of human impulses natural to our forms (as the ten listed by Mead) out of which issue various acts. But it is still an assumption wanting closer scrutiny.

As for the second: how is Mead to explain the behavior of brutes “playing” with small objects, either animate or inanimate? For instance, Mead notes instances of dog's carrying sticks [*MSS*, p. 248; *PA*, p. 427]. This would seem to count as manipulation, but elsewhere he suggests that this is simply a kind of approach and withdrawal [*PA*, p. 24]. Related to this is the apparent tool-use found among brutes [*IS*, p. 124], or food-washing among raccoons. But see *MSS*, p. 151, where Mead distinguishes brute-play from the play of human children.

⁶ Mead compares this method of “advance and retreat” employed by many brutes (known as the method of “trial and error” when employed by humans) with the scientific method [*MT*, pp. 346, 366-7; *MSS*, pp. 95, 122-23]. Elsewhere it is compared with reflection in humans [*MSS*, pp. 354f.], and in *The Philosophy of the Act* he writes that “in the case of the ape, almost all of the manipulatory processes are simply steps in approach or withdrawal” [*PA*, p. 24]. Mead also contrasts “random movements” with “perception” [*IS*, pp. 29-30].

conscious construction which men carry out that we do not find in the lower animals. There is an ability to hold in consciousness the conflicting stimulations and tendencies to respond in a conflicting fashion. And then we can suggest a hypothetical way which will include all the elements with all these tendencies to respond.¹

As discussed above, the manipulation of objects by an individual is important for the development of that individual's perceptual abilities, but the importance of this manipulation must surely lie primarily in the phylogenetic emergence of the human CNS than in the maturation of any individual human. The human's ability to "analyze" indicates this; for while the paws of a dog, hoofs of a horse, or fingers of our cousin primates may not be as adept in manipulation, they would seem to be quite capable of performing the minimal operations necessary for an experience to count as contact-stimulation.

Studies in developmental psychology have borne out the claim that manipulative practices are necessary for certain perceptual skills in later life; but the young of many other breeding-groups are not so limited by the physiology of their outer limbs that they could not perform the perfunctory exercises, if that is all that would be necessary. Clearly something more is missing than hands in the maturing dog, and this something is no doubt the CNS of a maturing human. Further, given the abilities of humans born without hands or even limbs to mature into minded and self-conscious adults indicates that the importance of hands and manipulation lies primarily at the phylogenetic level.

§94. *Perceiving the other.*

Is it possible to ascertain the impulses (and with them the worlds and inner lives) of brutes? Is it possible to empathize with a brute? How might we come to know the nature of brute consciousness?

This is not the same problem as knowledge of *other* (human) *minds*, for given Mead's social view of the self, where the human's own self-awareness depends upon the other selves in her community, this Cartesian difficulty does not arise.² Indeed, as children we anthropomorphize brutes and inanimate objects, for at first *all* objects are social in nature (i.e., are selves); as noted in §91, it is only later that we learn to distinguish physical from social objects, and the occasional relapse to anthropomorphism is a natural one. The question now before us is: can we ascertain the nature of another organism's *experience*? And if so, how?

A standard behaviorist method might be employed here: when the jaws of some organism wrap around *one* part of the world instead of another part (e.g., around a rabbit instead of a rock), then the organism has selected *that* part of the world (the rabbit) the parts of the world that the jaws bite into belong to the environment of the organism, while the rest do not. We thus presume that only those parts or features of the world that the organism responds to actually belong to its environment, and this accords well with the first sense of consciousness, where being conscious of something is just to respond to it. What is not responded to by an organism does not exist for that organism.

This method is promising, but its use is tainted with an assumption of omniscience, viz., that humans have some kind of privileged, God-like access to the world as it *really is*, thus hiding our limitations as *human* knowers. I imagine that we share many impulses and sensitivities with other organisms, but it seems likely that to a significant degree we all cut-up the world in different ways, including and excluding different parts and kinds of parts. There is no "cutting the universe at the joints," according to Mead, no proper or objective way that the world is "in itself" — or at least what that could possibly be is utterly beyond us (and one would have to postulate some super-organism, some God, to even make sense of this notion).³

¹ *IS*, p. 52. See Mead's extended discussion of the child/candle example at *SW*, pp. 13-15 (1900).

² See, for instance, "The Nature of Scientific Knowledge": "The dividend that I wish to see declared on this social nature of mind and the self is the equal immediacy that may attach to the assimilation of other's experience with that of our own" [*PA*, p. 53]. See also *PA*, p. 153 and *SW*, pp. 111-12 (1910a): "Other selves in a social environment logically antedate the consciousness of the self which introspection analyzes"; *SW*, p. 121 (1910b): "the consciousness of self depends primarily upon social relations"; "Review of C. L. Morgan," p. 401: the child "could never form the conception of himself as psychical without the conception of others."

³ Where we as humans *ought* to cut the world (as opposed to where we *do* cut it) hinges on human interests; that way of seeing the world which is most successful in meeting these human needs is how the world ought to be seen. Needs match with impulses, and so there will be at best a core-group of impulses common to most humans, possibly leaving the idiosyncratic needs of each individual at odds with the common "ought".

But how can we ever know how another form cuts-up the world? How can we know what features in the world it selects (as in the rabbit/rock example above)? For if we do not ourselves recognize that feature in the world, then it is unlikely that we will recognize any response to it on the part of another organism. Pavlov conditioned his dogs to the bell, and knew when they responded by measuring saliva output. But imagine the many subtle stimuli and correspondingly subtle responses in the dogs of which Pavlov was never aware, perhaps never *could* be aware, simply because his responsiveness is that of a human being and not that of a dog.

There is of course much that is possible for humans to discover concerning the experiences of brutes — a reading of Karl von Frisch’s popular work on bees, for example, convinces one of that.¹ Von Frisch and others have been able to determine, through various ingenious behavioral tests (including the measuring of nerve-firing responses to different stimuli), what the visual experiences of bees are like (e.g., that they are blind to red but sensitive to ultraviolet radiation (UV), and that their primary colors are UV, blue, and yellow). But this remarkable work is still possible only because we recognize, for instance, the presence of UV-radiation, having developed means for detecting it so as to compensate for our inability to sense its presence “naturally”. Otherwise, the fact that the white blossoms of two different species of flower are seen as having distinctly different colors by bees would go completely unnoticed by us. One can only guess how much more of the brutes’ lives still remain hidden from human view.²

This is a problem that arises from Mead’s model of human and brute behavior (both overt and mental). It is not a question that could arise in Descartes’ system, as brutes were there machines in a world whose components were quite familiar to us. The question *could* have arisen in Kant’s system had he considered the possible phenomenal grounding of the categories, so as to draw parallels between epistemic or moral judgments and animal instinct. But with both Descartes and Kant, the prejudice remained that humans are best thought of as brutes *plus* something extra (a soul, a higher cognitive faculty, etc.), so that we were by nature intimately acquainted with the dimensions of non-human experience, on top of which were added our uniquely human experiences.³

Related to this is the question of *empathy*: to what extent is empathy with the brutes possible (and with it, *interspecies* understanding and kindness)?⁴ This is an issue too rich to be discussed within the confines of these pages; but I would add that Mead’s model of impulse and communication offers a useful framework for its discussion. Implicit in his system is that empathy depends on the similarity between the impulse-sets of the individuals; “mutual understanding” is possible only to the extent that a shared response to the same impulse is possible. A common desire of children is to speak or communicate with individuals of other species, and the frustrations are many when the child’s intended kindnesses only frighten or leave unmoved the brute — the child’s impulses are generally not shared by the brute, and so the responsive feeling that his action evoked in himself (e.g., that of kindness or caring or comradery) is not evoked in the brute.⁵

This is a problem confronting animal-rights activists, especially those whose concern is based on the brute’s comfort and well-being. Mead held that a common response was critical for the recognition of rights in others.⁶ He did not say whether something like the response to pain, which would seem to be common to humans and the higher vertebrates, would allow for

¹ *Bees: their Vision, Chemical Senses, and Language*, 2nd edition (Ithaca: Cornell U.P., 1971); first published in 1950.

² Only in the last few years have humans learned of the low-frequency sounds (inaudible to the human ear) that elephants use for communicating to each other. Because of their low frequency, these sounds travel great distances on the plain.

³ See Pfueteze’s discussion of this: Paul Pfueteze, *Self, Society, Existence: Human Nature and Dialogue in the Thought of George Herbert Mead and Martin Buber* (New York: Harper and Brothers, 1954), p. 61.

⁴ ‘Empathy’ usually implies a *conscious* understanding of the other; and to this extent one should not speak of empathy between brutes, but merely *coordination* in their responses to stimuli. Mead does, however, attribute sympathy to brutes: sympathy is “an immediate attitude of care, the assistance of one individual by another, such as we find especially in the relations among the lower forms” [*MSS*, pp. 289-9; see also pp. 297-99]. Compare this with Kant’s version of sympathy, which he reserved for humans.

⁵ See Mead’s discussion of love and the universal response to suffering [*MSS*, pp. 289-90], and his discussion of communicating with rational agents with whom we might share no interests (e.g., Martians) [*MSS*, pp. 257-8].

⁶ See *MSS*, p. 261: “If we assert our rights, we are calling for a definite response just because they are rights that are — response which everyone should, and perhaps will, give.”

the attribution of rights in brutes; Mead did claim in one passage that “animals have no rights,” but that claim is supported by the premise that brutes have no sense of the future (and thus lose nothing should their lives be cut short).¹ That is, Mead was perhaps merely denying brutes a right to life, which could still be consistent with allowing them a right not to be tortured or to suffer needlessly. It is to be doubted, however, that Mead would have ascribed to brutes even this minimal right for, in lacking a self, the brute does not experience pain “as its own”:

We have no reason to assume...that in lower animals there are such entities as selves; and if no such entities, then that which takes place within the organism cannot be identified with such a self. There is pain; there is pleasure....These belong to the organism in a certain sense. But the individual animal does not associate them with a self because it has no self.²

I harbor no doubts that there are some impulses common to humans and (at least some groups of) brutes — but the extent of this similarity is for me still a huge question-mark.³

¹ *MSS*, p. 183.

² *MT*, p. 384.

³ This worry is hardly new: see, for instance, Thomas Nagel, “What is it Like to be a Bat?” in *Philosophical Review*, 83:435-50 (1974), or Donald Gustafson’s “Review of D. R. Griffin, *Animal Thinking*” in *Environmental Ethics*, 8:179-82 (1986). This issue is closely related to that of so-called “conceptual frameworks” and the translation between them. Nagel’s general approach follows naturally from Mead’s system.

CHAPTER 17 AT HOME WITH THE BRUTES

Much of the preceding has been historical research of a sort that does not lend itself to ready summary, and I will not attempt such here. A few points should be highlighted, however, and perhaps a few generalizations made. But generalizations as to which philosophical tradition (e.g., dualist or monist) most adequately captures the relation between humans and brutes are nevertheless difficult to formulate and defend. Descartes, for instance, was only one of many dualists engaged in nearly as many varieties of dualism. This is not to say that the issue of our place in nature is a point of irrelevancy when evaluating philosophical positions, but we do need to examine certain core features of these positions rather than the singular pronouncements of our representatives.

A metaphysical dualism divides what is real between two substances normally characterized as mind and matter, or souls and bodies. Now there is nothing to prevent a dualist from attributing a soul to all living things, or even to inanimate objects (so that these two substances would be everywhere juxtaposed). At this far extreme we would find something like Leibniz's monadology, except that with Leibniz each monad is itself a single substance which has a material and a spiritual (entelechi) element. But Leibniz's monadology is no dualism, and it is likely that any dualist with such panpsychic proclivities would rather assume a Leibnizian ontology and dispense altogether with the substantive distinction between mind and matter. So the dualist will want to stop somewhere in her pairing of souls with bodies. Descartes started and stopped with humans beings, others might include all anthropoids, or all animals, or all living things. But the problem — and this was a problem that Descartes' contemporary critics raised — is in deciding where to draw the line between besouled and unbesouled bodies. This problem will confront nearly every dualist, and herein lies the question of how humans and brutes differ.

Descartes' solution was perhaps most satisfactory to those wishing for humans a monopoly on that middle ground connecting the material and the spiritual realms, humans having a foot in each. But each realm involves a separate form of explanation (viz., mechanical vs. rational or spiritual), and there are enough similarities between human and brute behavior to convince many that the behavior of humans and at least some brutes must share the same form of explanation: if all brute behavior is mechanically explicable, then so is human; if some human behavior requires a soul to explain it, then so does some brute behavior. Dualisms like Descartes' thus suffer an inherent instability: dividing the world into mind and matter, with their attendant forms of explanation, will in the end most likely collapse humans and brutes together, as tended to happen in the wake of Cartesianism.

Consequently, while Descartes' dualism might have offered the sharpest distinction between humans and brutes (and perhaps *because* of this), it was also the least stable, threatening to collapse into either materialism or panpsychism. Whether or not Descartes was right in his claim that all brute behavior is mechanically explicable, with the advance of the sciences it has become ever more likely that the same will hold for human behavior as holds for that of brutes. Distinguishing us from the brutes by means of the form of explanation appears now even less viable.

Kant and Mead used the same form of explanation for the entire biological realm, viz., teleological [see §45, 74]. And in opposition to Descartes' metaphysical distinction between humans and brutes is Mead's whole-hearted rejection of this and Kant's restriction that, while such a distinction might exist, it can at best be only postulated and never proved. Kant's *Critical Philosophy* offered at least the hope, if not the promise, of a noumenal existence (with its freedom) that was distinct from the existence of mere brutes. All living things required some kind of "immaterial principle" and all creatures were subsumable under the same forms of teleological explanation, but only humans were (possibly) free [§34-35, 43, 45]. In short, Descartes posited a soul to account for rational behavior, Kant to account for moral behavior, and Mead accounted for both without a soul at all; the ontological commitment moved from assertion, to hypothesis, to elimination [§73].

The dualist's problem of deciding where to draw the mind/matter divide is avoided by the naturalist's claim that the world consists of a single kind of substance (normally called 'matter') of which there are varying degrees of complexity, and *with* these degrees of complexity different qualities and forms of behavior (e.g., sentient or rational). We find Kant midway between the metaphysical dualist and the Darwinian naturalist. Kant recognized a need for belief in a human existence

separate from that of brutes (viz., the existence of the human soul) but he did not claim to know anything about this existence or that it even obtains. Reason is consequently on all fours with animal instinct although Kant thought of it as a separate and higher faculty and not merely as a glorified instinct (all of which, however, stems from an inferred act of divine creation, and not naturally in the manner that Mead endorsed) [§47, 51-2, 73]. There lies in Kant the seeds of a naturalistic interpretation of human existence, seeds which are perhaps nourished by his “having made room for faith” in that our demands for spiritual self-worth are appeased without compromising science through unsupportable claims. Perhaps the most significant change made in the move from Kant to Mead is that the latter dispensed with talk of mental faculties so that the human’s all-important ability to inhibit impulses occurred not by the rational faculty overriding sensuous desire, but through the release of a still more compelling impulse [§35, 77, 93].

As noted above [§56], subscribing to a Darwinian naturalism does not in itself determine the moral relevance of brutes. But Darwinian evolution *does* pose a threat to most dualist accounts that hope to keep humans and brutes separate metaphysically; Kant also rejected Darwinian-like views, although for other reasons (viz., the need to make possible reason’s completion). Darwinian evolution will be a given in most modern versions of naturalism, as it was with Mead’s. Yet while Darwin failed to find anything but “differences in degree” between humans and brutes, Mead’s belief in emergent properties (and specifically the emergence of mind or reason) made the differences between humans and brutes one of kind [§66].

Kant’s and Mead’s systems are surprisingly similar in their assessments of humans and brutes, but Mead believed in an ancestral relation between present-day humans and brutes, while Kant did not [§56, 60, 66]; yet for all of his talk of progress and teleological explanation, Kant believed in that all-pervasive mechanism of the phenomenal world which was at odds with Mead’s fundamental belief in an open universe wherein new forms and properties are constantly emerging [§73]. In this capacity does Kant again appear as intermediate between Descartes’ mechanical science and Darwinian naturalism.

In the remaining pages I would like to reiterate a few differences and similarities between Descartes, Kant, and Mead with respect to their views on: the brute’s inner experience and moral status, the brute’s non-rationality, and the relevance of society in understanding human nature.

Both Descartes and Kant seemed to suppose that the brute’s inner experience was *like* ours, only *less* (e.g., that it wasn’t as complex or as unified, or that there was no awareness attached to it) [§25, 27, 30]. With Mead, on the other hand, we have a model of experience which suggests the possibility of a brute experience wholly alien to our own, and thus perhaps no more understandable to us than is our own to them. Creatures from completely separate breeding groups may have sets of impulses so different from each other that it is not possible to share many or any of the other’s attitudes. This raises the problem of “different conceptual frameworks” and the translation of a putative language into one’s own [§89, 94].

Both Kant and Mead (and presumably Descartes) limit the brute’s “awareness” to mere stimuli; brutes do not experience objects or, for Kant, anything that is determinate in any way [§8, 27]. Each arrived at this view of brute experience differently, working from different presuppositions in their system. Descartes found in brutes a responsiveness but no “feeling,” while Kant and Mead found both pain and pleasure but no happiness or dread. It is not obvious that Descartes’ “responsiveness” is any different than Kant’s “pleasure without happiness,” but in any event they all agree that brutes fall beyond the pale of moral relevance [§8, 37, 94]. This is not because brutes lack sentience (at least for Kant and Mead), but because they are not free (Kant) and are unaware of their own condition and the future (Mead).

Something like “reason” figured heavily in distinguishing humans from brutes. For Descartes, the presence of our rational soul was indicated by our linguistic abilities and the modifiability of our responses [§12, 13, 15]. For Kant, it was our ability to inhibit sensuous desire that “pointed to” some supersensuous faculty, and it was this that placed humans above the brutes [§35]. For Mead the primary difference between humans and brutes was the humans’ greater ability to inhibit impulses [§84]. For all three, reason was closely tied to freedom: rationality was some substance (Descartes) or faculty (Kant) which, by virtue of its immaterial origin, was the source of spontaneous causal chains. With Mead, for whom mechanical causation had lost its universal grip on the natural world, reason was simply a neurological feature allowing for an internalization of external relations (i.e., attitudes of the other towards one’s acts). In all three cases, reason released the individual from the moment’s incitement to respond, regardless of how that freedom, or that incitement, was interpreted.

Motivations for considering brutes non-rational varied somewhat. Descartes focused on the feature of *novelty* (flexibility, open-endedness) in human behavior, in particular our ability to generate a seemingly endless variety of linguistic responses [§12]. Kant also stressed novelty as a distinctively human trait, but emphasized the apparent monopoly humans

have on the ability to inhibit “sensuous impulses” and follow instead principles of reason [§33-35]. And while the question of whether linguistic behavior was mechanically explicable or not was the bottom-line for Descartes, Kant ignored this issue and instead suggested links between language-use and concept-formation, and thus the ability to think or reason [§26]. More important than the mere possession of reason, for Kant, was the postulated freedom of humans that brutes allegedly lacked, and one feature of language that gave it importance might be that it allowed for a more articulate expression of one’s interests [§13]; while not pursued by Kant, this suggestion follows the spirit of his position, wherein freedom and human interests are central to his conception of humans.

The possession of language has always been central in characterizing the uniqueness of humans among the animals, but its role differed considerably in the three systems studied. For Descartes language-use was merely a *sign* of an underlying rational soul (in that there could be no language without a soul, although there could presumably exist souls bereft of language). Kant reversed this position by making the *spoken* language a necessary condition of rationality (at least in the *Anthropology*), so that language as such was not a sign of rationality. Mead suggested a mutual dependency between language and mentality bordering on an identity relation, where the two emerged together and were aspects of the same underlying mechanism [§13, 26, 72, 89].

The role of the community assumed an increasing importance in moving from Descartes to Mead. For Descartes, humans are first individuals and then, perhaps, members of a community; one begins with the Cogito and works out from there [§5]. It is consequently of little surprise that he does not emphasize differences in the social existence of humans and brutes (which would, in any event, require some explanation of the brutes’ ability to coordinate their behavior within the group). Both Kant and Mead, on the other hand, saw social existence as a necessary-condition for the complete development of the human [§46, 51, 76, 91]. Rationality, for Kant, can come to perfection only in the context of that society and, as for the self as knower, it is what we know least, not first, as Descartes believed. The role of society in Mead’s system, of course, is of the highest importance. Without society and, for that matter, certain forms of society, there would simply have arisen no selves and no mind or rationality. Self and mind can develop only within the context of a social existence and, once developed, make sense only within that context: Robinson Crusoe brought with him to his island a better part of English society, apart from the materials saved from his ship.

Related to their emphasis on our social existence is the problem of knowing other minds. For Descartes this is a central problem, and the success of his solution is not obvious. With Kant the problem dissolves insofar as all knowledge is of phenomena, with the result that my empirical self is roughly as accessible to others as to myself [§39]. Sensations like pain may be hidden from another’s view, but normally they are not; and the noumenal ego, Kant’s equivalent of Descartes’ metaphysical self, is unknowable to *everyone*. The “I think” of apperceptive unity is simply a function of the understanding, a contentless form, and thus hardly a substantial, unknowable self. As for Mead, the problem of other minds vanishes completely in that self-consciousness is parasitic upon the awareness of others. The self can only arise in a community of other selves [§75, 78].

Trying to understand one’s place in the scheme of things is a “primal urge” in philosophy, and my primary concern in this dissertation has been to explore the answers offered by three prominent philosophers. This has been meant as little more than groundwork for further inquiry into our proper relationship with brutes and the rest of nature. Dualist and naturalist each offer an account of our place in nature; which we accept is often decided by some dark and inarticulate process. If my discussion has at all illuminated these accounts and motivations for accepting them, then I will have accomplished what I had hoped. With that said is this project neither finished nor abandoned but temporarily set-aside.

Bibliography

A note on the citations in the text:

Descartes: all works will be cited by the translations in the Haldane and Ross (HR) edition when possible: Elizabeth S. Haldane and G. R. T. Ross, *The Philosophical Works of Descartes*, 2 vol. (Cambridge: Cambridge University Press, 1969). All others will cite the more recently translated edition (PW): John Cottingham, Robert Stoothoff, and Dugald Murdoch, editors and translators, *The Philosophical Writings of Descartes*, 2 volumes (Cambridge: Cambridge University Press, 1985), or the Adam and Tannery edition (AT): Charles Adam and Paul Tannery, editors, *Oeuvres de Descartes*, 12 vol. (Paris: Leopold Cerf, 1897-1910). Quotations from Descartes' letters will cite the translated edition by Anthony Kenny, *Philosophical Letters* (Minneapolis: University of Minnesota Press, 1981), or the AT edition for those letters not translated by Kenny.

Kant: the Weischedel edition (STW) will be cited for those works contained therein, with the exception of the *Critique of Pure Reason*, which will be cited using the standard A/B pagination: Immanuel Kant, *Werkausgabe*, edited by Wilhelm Weischedel (Frankfurt am Main: Suhrkamp Taschenbuch Verlag, 1977). The Berlin Academy edition (AA) will be cited for all other collected works: *Kants gesammelte Schriften*, edited by the Königliche Preußischen Akademie der Wissenschaften (1910-). Available translations will also be cited. As to the date given for lectures, the German system divides the year into semesters: the winter semester (WS), running roughly from October until mid-February, and the summer semester (SS), running from mid-April through July.

Mead: the *Selected Writings*, (*SW*), edited by Andrew Reck (Indianapolis: Bobbs-Merrill Company, 1964) will be cited for those published articles it contains, listing the date of publication alongside the page number to indicate the article (see Bibliography for publication data of individual articles).

[A] René Descartes [1596-1650]

- (c.1628) *Regulae ad directionem ingenii*. First published in Amsterdam, 1701.
Translated by G. R. T. Ross as *Rules for the Direction of the Mind* in [HR, i.1-77].
- (c.1630) *De Homine*. First published in 1662, with a preface by Florentine Schyl. Published in French as *Traité de l'homme et de la formation de foetus* by Claude Clerselier, with a Preface by him (Paris: Nicholas Le Gras, 1664).
Translated by Robert Stoothoff as *Treatise on Man* in [PW, i.99-108].
- (1637) *Discours de la méthode, pour bien conduire la raison et chercher la vérité dans les sciences* (Leiden: Jan Maire, 1637).
Translated by Elizabeth S. Haldane as *Discourse on the Method of Rightly Conducting the Reason and Seeking for Truth in the Sciences* in [HR, i.81-130].
- (1641) *Meditationes de prima philosophia* (Paris: Michael Soly, 1641).
Translated by Elizabeth S. Haldane as *Meditations on First Philosophy* in [HR, i.133-199].
- (1644) *Principia philosophiae* (Amsterdam: Louis Elzvir, 1644).
Translated in part by E. Haldane as *The Principles of Philosophy* in [HR, i.203-302].
- (1647) *Notes Directed against a Certain Programme Published in Belgium at the end of the Year 1647 Under this Title: "An Explanation of the Human Mind..."*, translated by Elizabeth S. Haldane in [HR, i.431-50].
- (1649) *Passions de l'ame* (Amsterdam: Louis Elzevir, 1649).
Translated by Elizabeth S. Haldane as *The Passions of the Soul* in [HR, i.331-427].
- , *Philosophical Letters*, translated and edited by Anthony Kenny (Minneapolis: University of Minnesota Press, 1981).

[B] Immanuel Kant (1724-1804)

- (1755) *Allgemeine Naturgeschichte und Theorie des Himmels, oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes, nach Newtonischen Grundsätzen abgehandelt* (Königsberg and Leipzig: Johann Friederich Petersen, 1755). Reprinted at STW, i.219-396.
Translated by W. Hastie as Kant's Cosmogony, as in his Essay on the Retardation of the Rotation of the Earth and his Natural History and Theory of the Heavens (Glasgow: J. Maclehose, 1900). Revised and edited by Willey Ley (New York: Greenwood Publ. Co., 1968).
- (1762) (a) *Die falsche Spitzfindigkeit der vier syllogistischen Figuren erwiesen* (Königsberg: Johann Jacob Kanter, 1762). Reprinted at STW, ii.599-615.
Translated by Thomas Kingsmill Abbott as "The Mistaken Subtilty of the Four Syllogistic Figures" in his Kant's Introduction to Logic and his Essay on the Mistaken Subtilty of the Four Figures (New York, Philosophical Library, 1963). Orig. publ. in 1885.
(b) *Metaphysik* Herder: "Aus den Vorlesungen der Jahre 1762 bis 1764, auf Grund der Nachschriften Johann Gottfried Herders," edited by Hans Dietrich Irmscher, published as Kant-Studien Ergänzungsheft, vol. 88 (1964). Reprinted at AA, 28: 57-117. Pagination is also given, when available, to the sections reprinted in Paul Menzer, *Kants Lehre von der Entwicklung in Natur und Geschichte* (Berlin: Georg Reimer, 1911).
- (1763) *Der einzig mögliche Beweisgrund zu einer Demonstration des Daseins Gottes* (Königsberg: Johann Jakob Kanter, 1763). Reprinted at STW, ii.621-738.
Translated by Gordon Treash as *The One Possible Basis for a Demonstration of the Existence of God* (New York: Abaris, 1979).
- (1764) *Untersuchung über die Deutlichkeit der Grundsätze der natürlichen Theologie und der Moral* (Berlin: Haude and Spener, 1764). Reprinted at STW, ii.741-775.
Translated by D. E. Walford as "Enquiry concerning the Clarity of the Principles of Natural Theology and Ethics" in G. B. Kerferd and D. E. Walford, editors, *Kant: Selected Pre-Critical Writings* (New York: Barnes and Noble, 1968), pp. 3-35.
- (1765) *Nachricht von der Einrichtung seiner Vorlesungen in dem Winterhalbenjahre, von 1765-1766*. Reprinted at STW, ii.907-17.
- (1766) *Träume eines Geistersehers, erläutert durch Träume der Metaphysik* (Königsberg: Johann Jacob Kanter, 1766). Reprinted at STW, ii.923-89.
Translated by Emmanuel F. Goerwitz as *Dreams of a Spirit-Seer, Illustrated by Dreams of Metaphysics* (London: Swan Sonnenschein, 1900).
- (1771) "Rezension zu Peter Moscati, Von dem körperlichen wesentlichen Unterschiede zwischen der Struktur der Tiere und Menschen" in *Königsbergischen Gelehrten und Politischen Zeitungen*, August 23, 1771, pp. 265-6. Reprinted at STW, xii.767-69; AA, 2.421-425.
- (1775) (a) "Von den verschiedenen Rassen der Menschen." Originally appeared as a lecture announcement for the Summer Semester, 1775; newly-worked version appeared in J. J. Engel, ed., *Der Philosoph für die Welt* (Leipzig: 1777). Reprinted at STW, xi.11-30; AA, ii.427-443.
Abridged translation by Earl W. Count as "On the Different Races of Man" in Earl W. Count, ed., *This is Race* (New York: Henry Schuman, 1950), pp. 16-24.
(b) "Philosophisches Enzyklopädie" (SS 1775) Reprinted in AA, 29:1-45. The date proposed by the editors for the composition of this (SS 1775) is uncertain (see AA, 29:664).
(c) *Eine Vorlesung Kants über Ethik*, edited by Paul Menzer (Berlin: Pan Verlag Rolf Heise, 1924).
Translated by Louis Infield as *Lectures on Ethics* (Indianapolis: Hackett Publ., 1963; orig. publ. in 1930).
- (1778) *Metaphysik Pölitz*. Reprinted at AA, 28:195-350. Menzer dates these "L₁" lectures as just prior to 1781, and so from either WS 1778/9 or WS 1779/80 (see AA, 28:1345).
- (1778/9 or 1787/8) *Menschenkunde. Nach handschriftlichen Vorlesungen*, edited by Fr. Ch. Stark [pseudonym for J. A. Bergk] (Leipzig: 1831). Reprinted in 1976 under the same title (Hildesheim: Georg Olms Verlag).
On the dating of these lectures, see Norbert Hinske, *Kant als Herausforderung an die Gegenwart* (Freiburg: Verlag Karl Alber, 1980), pp. 40-42n.
- (1781) *Kritik der reinen Vernunft* (Riga: J. F. Hartknoch, 1781). 2nd edition: 1787. Reprinted at STW, vol. iii-iv.
Translated by Norman Kemp Smith as *Immanuel Kant's Critique of Pure Reason* (London: Macmillan, 1929).

- (1783) (a) *Prologomena zu einer jeden künftigen Metaphysic, die als Wissenschaft wird auftreten können* (Riga: F. J. Hartknoch, 1783). Reprinted at STW, v.113-264.
Translated by Carus and L.W. Beck as *Prologomena to Any Future Metaphysics Which will be Able to Come Forth as Science* (Indianapolis: Bobbs-Merrill, 1950).
- (b) *Metaphysik Mrongovius*. Reprinted at AA, 29:743-940.
- (c) *Metaphysik Volckmann*. Reprinted at AA, 28:352-459. These have been dated as stemming from WS 1783/4 (see AA, 28:1363).
- (1784) (a) *Logik Mrongovius* (25 May 1784). Reprinted at AA, 29:1045-7.
- (b) "Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht" in *Berlinischen Monatsschrift* (November, 1784), pp. 385-411. Reprinted at STW, xi.33-50.
Translated by Ted Humphrey as "Idea for a Universal History with a Cosmopolitan Intent" in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 29-40.
- (c) "Beantwortung der Frage: Was ist Aufklärung?" in *Berlinischen Monatsschrift* (December, 1784), pp. 481-494. Reprinted at STW, xi.53-61.
Translated by Ted Humphrey as "An Answer to the Question: What is Enlightenment?" in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 41-46.
- (1785) (a) *Grundlegung zur Metaphysik der Sitten* (Riga: Johann Friedrich Hartknoch, 1785); 2nd edition: 1786. Reprinted at STW, vii.11-102.
Translated by Lewis White Beck as *Foundations of the Metaphysics of Morals* (Indianapolis: Bobbs-Merrill Co., 1959).
- (b) "Rezension zu Johann Gottfried Herder, *Ideen zur Philosophie der Geschichte der Menschheit* (Erster Teil)" in the *Jenaier Allgemeinen Literatur-Zeitung*, January 6, 1785, pp. 17-20.
- (c) "Errinerungen des Rezensenten der Herderschen *Ideen zur Philosophie der Geschichte der Menschheit* über ein im Februar des *Teutschen Merkur* gegen diese Rezension gerichtetes Schreiben" in the *Jenaier Allgemeinen Literatur-Zeitung*, Appendix to the March issue.
- (d) "Rezension zu Johann Gottfried Herder, *Ideen zur Philosophie der Geschichte der Menschheit* (Zweiter Teil)" in the *Jenaier Allgemeinen Literatur-Zeitung*, November 15, 1785, pp. 153-6. The above three works reprinted at STW, xii.781-806.
Translation (of the above three works) by Robert E. Anchor as "Reviews of Herder's *Ideas for a Philosophy of the History of Mankind*" in Kant, *On History* (Indianapolis: Bobbs-Merrill, 1963), edited by L. W. Beck, pp. 27-52.
- (e) "Bestimmung des Begriffs einer Menschenrasse" in *Berlinischen Monatsschrift* (November, 1785), p. 390-417. Reprinted at STW, xi.65-82.
- (1786) (a) "Mutmaßlicher Anfang der Menschengeschichte" in *Berlinischen Monatsschrift* (January, 1786), pp. 1-27. Reprinted at STW, xi.85-102.
Translated by Ted Humphrey as "Speculative Beginning of Human History" in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 49-60.
- (b) *Metaphysische Anfangsgründe der Naturwissenschaften* (Riga: Johann Friedrich Harknoch:1786). Reprinted at STW, ix.11-135.
Translated by James Ellington as *Metaphysical Foundations of Natural Science* (Indianapolis: Bobbs-Merrill, 1970).
- (1788) (a) "Über dem Gebrauch teleologischer Principien in der Philosophie" in *Teutscher Merkur* (January/February 1788). Reprinted at STW, ix.139-70.
- (b) *Kritik der praktischen Vernunft* (Riga: Johann Friedrich Hartknoch, 1788). Reprinted at STW, vii.105-302.
Translated by L.W. Beck as *Critique of Practical Reason* (Chicago: University of Chicago Press, 1949).
- (1789) *Erste Fassung der Einleitung in die Kritik der Urteilskraft*. Reprinted at STW, x.9-68.
Translated by James Haden as *First Introduction to the Critique of Judgment*, (Indianapolis: Bobbs-Merrill, 1965).

- (1790) (a) *Kritik der Urteilskraft* (Berlin and Libau: Lagarde and Friederich, 1790); 2nd edition: 1793. Reprinted at STW, x.73-456; AA, 5:165-485.
Translated by J. H. Bernard as *Critique of Judgment* (New York: Hafner Press, 1951).
- (b) *Anweisung zur Menschen- und Weltkenntnis. Nach dessen Vorlesungen im Winterhalbjahre von 1790-1791*, edited by Fr. Ch. Starke (1831). Reprinted in 1976 as an appendix to *Menschenkunde. Nach handschriftlichen Vorlesungen*, (Hildesheim: Georg Olms Verlag).
- (1791) *Anthropologie Dohna* (WS 1791/2). Reprinted in Arnold Kowalewski, editor, *Die philosophischen hauptvorlesungen I. Kants* (Hildesheim: Georg Olms Verlag, 1965), pp. 67-376.
- (1792) *Metaphysik Dohna* (WS 1792/3). Reprinted in AA, 28: .
- (1793) (a) *Religion innerhalb der Grenzen der bloßen Vernunft* (Königsberg: 1793); 2nd edition: 1794. Reprinted at STW, viii.648-879.
Translated by Theodore M. Greene and Hoyt H. Hudson as *Religion within the limits of Reason Alone* (New York: Harper, 1960); originally published in 1934.
- (b) “Über den Gemeinspruch: Das mag in der Theorie richtig sein, taugt aber nicht für die Praxis” in *Berlinischen Monatsschrift* (September 1793), pp. 201-284. Reprinted at STW, xi.127-72.
Translated by Ted Humphrey as “On the Proverb: That may be true in theory, but is of no practical use” in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 61-92.
- (c) *Welches sind die wirklichen Fortschritte, die die Metaphysik seit Leibnizens und Wolf's Zeiten in Deutschland gemacht hat?.* Edited by Friedrich Theodor Rink and published with the additional title prefixed to the above: *Immanuel Kant über die von der Königl. Akademie der Wissenschaften zu Berlin für das Jahr 1791 ausgesetzte Preisfrage*: (Königsberg: Goebbels and Unzer, 1804). Reprinted at STW, vi.585-676.
Translated and with an Introduction by Ted Humphrey as *What Real Progress has Metaphysics Made in Germany since the Time of Leibniz and Wolff* (New York: Abaris Books, 1983).
- (1794) (a) “Das Ende aller Dinge” in *Berlinischen Monatsschrift*, June 1784, pp. 495-522. Reprinted at STW, xi.175-90.
Translated by Ted Humphrey as “The End of All Things” in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 93-106.
- (b) *Metaphysik Arnoldt*. Reprinted in AA, vol. 29:945-1040. Arnoldt dates these “K₃” lectures at WS 1794/5 (see AA, 28:1343).
- (1795) “Zum ewigen Frieden. Ein philosophischer Entwurf” (Königsberg: 1795). Reprinted at STW, xi.195-251.
Translated by Ted Humphrey as “To Perpetual Peace: a Philosophical Sketch” in Kant, *Perpetual Peace and Other Essays* (Indianapolis: Hackett Publ., 1983), pp. 107-143.
- (1796) (a) “Remarks on Sömmering’s *Über das Organ der Seele*,” printed in Samuel Thomas Sömmering, *Über das Organ der Seele, nebst einen Schreiben von Imm. Kant* (Königsberg: Friederich Nicolovius, 1796), pp. 81-86. Reprinted at STW, xi.253-59.
- (b) “Verkündigung des nahen Abschlusses eines Traktat zum ewigen Frieden in der Philosophie” in *Berlinischen Monatsschrift* (December 1796), pp. 485-504. Reprinted at STW, vi.405-416.
- (1797) *Die Metaphysik der Sitten in zwei Teilen* (Königsberg: Friedrich Nicolovius, 1797); 2nd edition: 1798. Reprinted at STW, vii.309-634.
Part One (“Metaphysische Anfangsgründe der Rechtslehre”) translated by John Ladd as *The Metaphysical Elements of Justice* (Indianapolis: Bobbs-Merrill, 1965).
Part Two (“Metaphysische Anfangsgründe der Tugendlehre”) translated by Mary J. Gregor as *The Doctrine of Virtue* (New York: Harper and Row, 1964).
- (1798) (a) *Anthropologie in pragmatischer Hinsicht abgefaßt* (Königsberg: Friedrich Nicolovius, 1798); 2nd edition: 1800. Reprinted at STW, xii. 399-690.
Translated by Mary Gregor as *Anthropologie from a Pragmatic Point of View* (M. Nijhoff, 1974). Also by Victor Lyle Dowdell (Carbondale, IL: Southern Illinois U.P., 1978).
These were the only lectures that Kant himself sent to the press. His published lectures on logic (1800), for instance, were edited by Jäsche. The lecture notes are drawn from as far back as the Winter Semester (WS) 1772/3, when Kant first treated the topic.

(b) *Der Streit der Facultäten, in drey Abschnitten* (Königsberg: Friedrich Nicolovius, 1798). Reprinted at STW, xi.267-393.

Translated by Mary Gregor as *The Conflict of the Faculties* (New York: Abaris Books, 1979).

Pt. II translated by Robert E. Anchor as "An Old Question Raised Again: Is the Human Race Constantly Progressing?" in Kant, *On History*, edited by L. W. Beck (Indianapolis: Bobbs-Merrill, 1963), pp. 137-154.

(1800) *Immanuel Kants Logik, ein Handbuch zu Vorlesungen*, edited by Gottlob Benjamin Jäsche (Königsberg: Friedrich Nicolovius, 1800). Reprinted at STW, vi.421-582.

Translated by Robert S. Hartman and Wolfgang Schwarz as *Logik* (Indianapolis: Bobbs-Merrill, 1974).

(1801-2) *Immanuel Kants physische Geographie*, edited by Friederich Theodor Rink (Mainz and Hamburg: Gottfried Vollmer, 1801 [vol. 1]-1802 [vol. 2]). Reprinted at AA, 9:151-436.

(1803) *Über Pädagogik*, ed. by Friederich Theodor Rink (Königsberg: Friederich Nicolovius, 1803). Reprinted at STW, xii.695-761; AA, 9:437-499.

Translated and edited, with an introduction, by Edward Franklin Buchner in *The Educational Theory of Immanuel Kant* (Philadelphia: Lippincott, 1904). Also translated by A. Churton as *Education* (Ann Arbor: 1960).

Kant lectured four times on pedagogy, first in the WS 1776/7 and the last in the WS 1786/7.

(Undated) (a) *Logik Nachlaß*. Reprinted in AA, vol.16.

(b) *Reflexionen zur Anthropologie*. Reprinted at AA, 15:55-654.

(c) *Entwürfe zu dem Colleg über Anthropologie aus den 70er Jahren*. Reprinted at AA, 15:657-798.

(d) *Entwürfe zu dem Colleg über Anthropologie aus den 80er Jahren*. Reprinted at AA, 15:799-899.

(e) *Reflexionen*. Reprinted in AA, vol.17.

(f) *Bemerkungen zu den Beobachtungen über das Gefühl des Schönen und Erhabenen*. Reprinted at AA, 20:1-192.

(g) *Opus Postumum*. Reprinted as AA, vols. 21-22.

Kant, Immanuel, *Briefwechsel*, edited by Otto Schöndörfer (Hamburg: Felix Meiner, 1972).

Kant, Immanuel, *Philosophical Correspondence*, edited, translated, and with an Introduction by Arnulf Zweig (Chicago: University of Chicago Press, 1967).

[C] **George Herbert Mead (1863-1931)**

(1) Works cited published during his life.

(1895) "Review of C. L. Morgan, *An Introduction to Comparative Psychology*" in *Psychological Review*, 2:399-402 (1895).

(1900) "Suggestions Toward a Theory of the Philosophical Disciplines" in *The Philosophical Review*, 9:1-17 (1900). Reprinted in SW, pp. 6-24.

(1903) "The Definition of the Psychical", *Decennial Publications* (Chicago: University of Chicago Press, 1903), First Series, 3:77-112. Reprinted in part in SW, pp. 25-59.

(1906) "The Imagination in Wundt's Treatment of Myth and Religion" in *Psychological Bulletin*, 3:393-9 (1906).

(1907) (a) "Concerning Animal Perception" in *Psychological Review*, 14:383-390 (1907). Reprinted in SW, pp. 73-81.

(b) "The Relation of Imitation to the Theory of Animal Perception" in *Psychological Bulletin*, 4:210-1 (1907). Abstract of a paper delivered at the 15th annual meeting of the American Psychological Association.

(1909) "Social Psychology as Counterpart to Physiological Psychology" in *Psychological Bulletin*, 6:401-8 (1909). Reprinted in SW, pp. 94-104.

(1910) (a) "What Social Objects Must Psychology Presuppose?" in *The Journal of Philosophy, Psychology, and Scientific Method*, 7:174-80 (1910). Reprinted in SW, pp. 105-113.

(b) "The Psychology of Social Consciousness implied in Instruction" in *Science*, 31:688-93 (1910). Reprinted in SW, pp. 114-22.

(c) "Social Consciousness and the Consciousness of Meaning" in *Psychological Bulletin*, 7:397-405 (1910). Reprinted in SW, pp. 123-33.

(1912) "The Mechanism of Social Consciousness" in *The Journal of Philosophy, Psychology, and Scientific Method*, 9:401-6 (1912). Reprinted in SW, pp. 134-141.

- (1913) "The Social Self" in *The Journal of Philosophy, Psychology, and Scientific Method*, 10:374-80 (1913). Reprinted in SW, pp. 142-49.
- (1917) "The Psychology of Punitive Justice" in *The American Journal of Sociology*, 23:577-602 (1917-18). Reprinted in SW, pp. 212-39.
- (1922) "A Behavioristic Account of the Significant Symbol" in *The Journal of Philosophy*, 19:157-63 (1922). Reprinted in SW, pp. 240-247.
- (1925) "The Genesis of the Self and Social Control" in *International Journal of Ethics*, 35:251-77 (1924-5). Reprinted in SW, pp. 267-93.
- (1927) "The Objective Reality of Perspectives" in *Proceedings of the Sixth International Congress of Philosophy*, edited by Edgar Sheffield Brightman (New York: Longmans, Green and Co., 1927), pp. 75-85. Reprinted in SW, pp. 306-19.
- (1929) (a) "National-Mindedness and International-Mindedness" in *International Journal of Ethics*, 39:392-407 (1929). Reprinted in SW, pp. 355-70.
 (b) "Cooley's Contribution to American Social Thought" in *American Journal of Sociology*, 35:693-706 (1929/30). Reprinted with Charles Horton Cooley, *Human Nature and the Social Order* (New York: Schocken Books, 1964), pp. xxi-xxxviii, and in Mead, *On Social Psychology*, edited and with an Introduction by Anselm Strauss (Chicago: University of Chicago Press, 1964), pp. 293-307.
- (1930) "Philanthropy from the Point of View of Ethics" in *Intelligent Philanthropy*, edited by Ellsworth Faris, Ferris Laune, and Arthur J. Todd (Chicago: University of Chicago Press, 1930), pp. 133-48. Reprinted in SW, pp. 392-407.

(2) Works cited posthumously published.

- (1932) *The Philosophy of the Present*, edited, with an Introduction, by Arthur E. Murphy and with "Prefatory Remarks" by John Dewey (La Salle: Open Court Publ., 1932).
 This is manuscript delivered by Mead as "The Paul Carus Lectures" delivered at Berkeley in December 1930]
- (1934) *Mind, Self, and Society from the Standpoint of a Social Behaviorist*, edited, with an Introduction, by Charles W. Morris (Chicago: University of Chicago Press, 1934).
 This is a stenographic account of one of Mead's 1927 courses in Social Psychology, with additions from the 1930 course, the last offered by Mead.
- (1936) *Movements of Thought in the Nineteenth Century*, edited, with an Introduction, by Merritt H. Moore (Chicago: University of Chicago Press, 1936).
- (1938) *The Philosophy of the Act*, edited, with an Introduction, by Charles W. Morris, in collaboration with John M. Brewster, Albert M. Dunham, and David L. Miller; and with "Biographical Notes" by Henry C. A. Mead (Chicago: University of Chicago Press, 1938).
- (1964) (a) *Selected Writings*, edited, with an Introduction, by Andrew J. Reck (Indianapolis: Bobbs-Merrill Co., 1964).
 (b) "Two Unpublished Papers," with an Introduction by David L. Miller in *The Review of Metaphysics* 17: 511-556 (1964).
- (1982) *The Individual and the Social Self*, edited, with an Introduction, by David L. Miller (Un. of Chicago Pr., 1982). [Indicated in the text as *IS*]
 This includes two sets of student notes from Mead's courses in Social Psychology: one from 1914 and one from 1927, the latter being wholly distinct from *MSS*, indicating that Mead taught the course both semesters in 1927.

[D] Other works cited

- Aboulafia, Mitchell, *The Mediating Self: Mead, Sartre, and Self-Determinism* (New Haven: Yale University Press, 1986).
- Ameriks, Karl, *Kant's Theory of Mind: An Analysis of the Paralogisms of Pure Reason* (Oxford: Clarendon Press, 1982).
 ——— "Kant and Guyer on Apperception" in *Archiv für Geschichte der Philosophie*, 65:174-86 (1983).
- Aquinas, Thomas, *Summa Theologiae*, 4 vols. (Rome: Marietta, 1948).

- Aristotle, *On the Soul*, translated by J. A. Smith in *The Basic Works of Aristotle*, edited and with an Introduction by Richard McKeon (New York: Random House, 1941).
- *On the Motion of Animals (De Motu Animalium)*, translated by A. S. L. Farquharson in *The Works of Aristotle*, edited by J. A. Smith and W. D. Ross (Oxford: Clarendon Press, 1912), vol. 5.
- *The History of Animals*, translated by D'Arcy Wentworth Thompson in *The Basic Works of Aristotle*, edited and with an Introduction by Richard McKeon (New York: Random House, 1941).
- *On the Parts of Animals*, translated by William Ogle in *The Basic Works of Aristotle*, edited and with an Introduction by Richard McKeon (New York: Random House, 1941).
- *On the Generation of Animals*, translated by Arthur Platt in *The Basic Works of Aristotle*, edited and with an Introduction by Richard McKeon (New York: Random House, 1941).
- Augustine, *De civitate Dei*.
Translated by Marcus Dods as *The City of God* (New York: The Modern Library, 1950).
- Bayle, Pierre, *Dictionnaire historique et critique*, edited by A. J. Q. Beuchot, 16 volumes (Paris: Desoer, 1820-24). Originally published: 1697. See the Slatkine reprint (Geneva: 1969).
Anonymously translated as *Historical and Critical Dictionary*, 4 volumes (London: C. Harper, D. Brown, et al., 1710).
Translated by the Reverend Mr. John Peters Bernard and others as *A General Dictionary, historical and critical: in which...*, 10 volumes (London: J. Roberts and Paul Vaillant, 1734-1741).
Selections translated, and with an Introduction and Notes, by Richard Popkin, with the assistance of Craig Brush, as *Historical and Critical Dictionary* (Indianapolis: Bobbs-Merrill, 1965).
- Beloselsky, Alexander, prince of, *Dianyologie ou tableau philosophique de l'entendement* (Dresden: 1790).
Translated into the German as *Dianyologie, oder philosophisches Gemälde des Verstandes* (Freiberg and Annaberg, 1791).
- Bhattacharya, Nikhil, "Psychology and Rationality: The Structure of Mead's Problem" in *Philosophical Forum*, 10:112-38 (1978).
- Block, Ned, editor, *Readings in the Philosophy of Psychology*, 2 volumes (Cambridge: Harvard University Press, 1980).
- Blumenbach, Johann Friederich, *De Generis humani varietate nativa* (Göttingen: Vandenhoeck, 1775).
— *Handbuch der Naturgeschichte* (Göttingen: J. C. Dieterich, 1777).
— *Über den Bildungstrieb* (Göttingen: Johann Christian Dieterich, 1781).
Translated by A. Crichton as *An Essay on Generation* (London: T. Cadell, 1792).
- Boas, George, *The Happy Beast in French Thought of the Seventeenth Century* (Baltimore: The Johns Hopkins Press, 1933).
— "Theriophily" in *Dictionary of the History of Ideas*, edited by Philip P. Wiener (New York: Charles Scribner's Sons, 1973), vol. iv, pp. 384-89.
- Bonnet, Charles, *Palingénésie philosophique, ou Idées sur l'état passé et l'état futur des êtres vivans* (Geneva: C. Philebent, 1769).
- Boswell, James, *The Hypochondriack, being the seventy essays by the celebrated biographer, James Boswell, appearing in the London magazine, from November 1777 to August 1783*, edited by Margery Bailey (Stanford: Stanford University Press, 1928).
- Brett, G. S., *The Philosophy of Gassendi* (London: Macmillan and Co., 1908).
- Broad, C. D., *Religion, Philosophy, and Psychical Research* (New York: Humanities Press, 1969).
- Broadie, Alexander and Elizabeth M. Pybus, "Kant's Treatment of Animals" in *Philosophy*, 49:375-83 (1974).
— "Kant and the Maltreatment of Animals" in *Philosophy*, 53:560-1 (1978).
- Broughton, Janet and Ruth Mattern, "Reinterpreting Descartes on the Notion of the Union of Mind and Body" in *Journal of the History of Philosophy*, 16:23-32 (1978).
- Buffon, Georges Louis Leclerc, comte de, *Histoire naturelle, générale et particulière, avec la description du cabinet du roi*, 44 volumes (Paris: De l'Imprimerie Royale, 1749-1804).
Translated by William Smellie, and enlarged by William Wood, as *Natural History, general and particular*, 20 volumes (London: T. Cadell and W. Davies, 1812).

- Burling, Robbins, "The Selective Advantage of Complex Language" in *Ethology and Sociobiology*, 7:1-16 (1986).
- Bury, J. B., *The Idea of Progress* (London: Macmillan, 1920).
- Camper, Petrus, *Natuurkundige verhandelingen van Petrus Camper over den orang outang; en eenige andere aap-sorten. Over den rhinocerus met den dubbelen horen, en over het rendier* (Amsterdam: P. Meijer, 1782).
Translated by J. F. M. Herbell, and with additions by the author, as *Naturgeschichte des Orang-Utang und einiger andern Affenarten, des Africanischen Nashorns, und des Rennthiers* (Düsseldorf: Johann Christian Dänzer, 1791).
- Caton, Hiram, *The Origin of Subjectivity: an Essay on Descartes* (New Haven: Yale University Press, 1973).
- Chanet, Pierre, *Consideration sur las sagesse de Charron* (Paris: C. Le Groult, 1643).
- Charron, Pierre, *De la sagesse* (Bourdeaux: Simon Millanges, 1601).
Translated by Samson Lennard as *Of Wisdome* (London: Edward Blount and Will Aspley, 1612).
- Chomsky, Noam, *Cartesian Linguistics* (New York: Harper and Row, 1966).
- Comte, Auguste, *Cours de philosophie positive* (Paris: Bachelier, 1830-42).
Translated in part by Gertrud Lenzer in *August Comte and Positivism: The Essential Writings* (New York: Harper and Row, 1975).
- Condillac, Étienne Bonnot de, *Essai sur l'origine des connaissances humaines. Ouvrage où l'on réduit à un seul principe tout ce qui concerne l'entendement humain...* (Amsterdam: Pierre Mortier, 1746).
Translated by Mr. Nugent as *An Essay on the Origin of Human Knowledge. Being a supplement to Mr. Locke's essay on the human understanding* (London: J. Nourse, 1756). Reprinted, with an Introduction by Gobert G. Weyant (Gainesville, FL: Scholars' Facsimiles and Reprints, 1971).
Translated by Mag. Michael Hissmann as *Versuch über den Ursprung der menschlichen Erkenntnis* (Leipzig: 1780).
- *Traité des animaux, où après avoir fait des observations critiques sur le sentiment de Descartes & sur celui de M. de Buffon, on entreprend d'expliquer leurs principales facultés. On a joint à cet ouvrage un Extrait raisonné du Traité des sensations* (Amsterdam: De Bure, 1755).
- Cooley, Charles Horton, *Human Nature and the Social Order* (New York: Schocken Books, 1964). First published: 1902.
- Cornell, John F., "Newton of the Grassblade? Darwin and the Problem of Organic Teleology" in *Isis*, 77:405-21 (1986).
- Cottingham, John, "'A Brute to the Brutes?': Descartes' Treatment of Animals" in *Philosophy*, 53:551-59 (1978).
- Count, Earl W., editor, *This is Race* (New York: Henry Schuman, 1950).
- Darwin, Charles, *Darwin's Notebooks on Transmutation of Species*, edited and with an Introduction and Notes by Gavin DeBeer in *Bulletin of the British Museum (Natural History)*, Historical Series, vol. 2, #2 (London: 1960).
- *N Notebook*, transcribed and annotated by Paul H. Barrett in Howard E. Gruber, *Darwin on Man: a Psychological Study of Scientific Creativity* (New York: E. P. Dutton, 1974).
- *The Origin of Species*, 1st ed. (London: John Murray, 1859). Reprinted by Penguin Books (1968), edited and with an introduction by J. W. Burrow.
- *The Descent of Man and Selection in Relation to Sex* (London: John Murray, 1871). Reprinted by Princeton University Press (Princeton: 1981), with an Introduction by John Tyler Bonner and Robert M. May.
- *The Expression of the Emotions in Man and Animals* (London: John Murray, 1872). Reprinted, with a Preface by Konrad Lorenz, by the University of Chicago Press (Chicago: 1965).
- Dawson, Virginia P., *The Animal Machine and the Problem and the Polyp in the Letters of Bonnet, Trembley, and Reaumer* (Ph.D Dissertation, Case Western Reserve, 1983).
- Dessoir, Max, *Geschichte der neueren deutschen Psychologie* (Berlin: Carl Duncker, 1894), vol. i: "Von Leibniz bis Kant".
- Drews, Arthur C. H., *Kants Naturphilosophie als Grundlage seines Systems* (Berlin: Mitscher and Röstel, 1894).
- Eisler, Rudolf, *Kant-Lexikon* (Hildesheim: Georg Olms Verlagsbuchhandlung, 1961).
- English, Horace B. and Ava Champney English, *A Comprehensive Dictionary of Psychological and Psychoanalytic Terms* (New York: David McKay Co., 1958).

- Fouts, Roger S., "More on Chimpanzees, Language, and Communication" in *Current Anthropology*, 17:726-31 (1976).
- Frankfurt, Harry G., "Freedom of the Will and the Concept of Reason" in *The Journal of Philosophy*, 68:5-20 (1971).
- Frisch, Karl von, *Bees: their Vision, Chemical Senses, and Language*, rev. edition (Ithaca: Cornell University Press, 1971).
- Gardner, B. T. and R. A. Gardner, "Teaching Sign-Language to a Chimpanzee" in *Science*, 165:664-72 (1969).
- Glass, Bentley, "Heredity and Variation in the Eighteenth-Century Concept of the Species" in Bentley Glass, Owsei Temkin, and William Straus, Jr., *Forerunners of Darwin: 1745-1859* (Baltimore: Johns Hopkins Press, 1959), pp. 144-72.
- Greene, John C., *The Death of Adam: Evolution and its Impact on Western Thought* (Ames, Iowa: Iowa State University Press, 1959).
- Griffin, Donald R., *The Question of Animal Awareness: evolutionary Continuity of Mental Experience*, revised edition (New York: The Rockefeller University Press, 1981).
- Gulyga, Arsenij, *Immanuel Kant*, translated into German by Sigrun Bielfeldt (Frankfurt am Main: Insel Verlag, 1981).
- Gunderson, Keith, "Descartes, LaMettrie, Language, and Morality" in *Philosophy*, 39:193-222 (1964).
 — *Mentality and Machines*, 2nd edition (Minneapolis: University of Minnesota Press, 1985).
- Gustafson, Donald, "Review of D. R. Griffin, *Animal Thinking*" in *Environmental Ethics*, 8:179-82 (1986).
- Haeckel, Ernst, *Natürlichen Schöpfungsgeschichte* (Berlin: Georg Reimer, 1868).
- Hansen, A., "Herders Beziehung zur Deszendenzlehre" in *Archiv für die Geschichte der Naturwissenschaften und der Technik*, 4:307-314 (1912).
- Hartley, David, *Observations on Man, his Frame, his Duty, and his Expectations* (London: J. Leake and W. Frederick, 1749).
- Hastings, Hester, *Man and Beast in French Thought of the Eighteenth Century* (Baltimore: Johns Hopkins University Press, 1936).
- Hegel, Georg Wilhelm Friedrich, *Phänomenologie des Geistes* (Bamberg and Würzburg: J. A. Goebhardt, 1807).
 Translated by A. V. Miller as *Hegel's Phenomenology of Spirit* (Oxford: Oxford University Press, 1977).
- Helvetius, Claude Adrien, *De l'esprit* (Paris: Durand, 1758).
 Translated as *Essays on the Mind* (Albion Press, 1810).
- Herder, Johann, *Ideen zur Philosophie der Geschichte des Menschen*, 4 parts (Riga and Leipzig: Johann Friedrich Hartknoch, 1784-85). Reprinted in Johann Gottfried Herder, *Sämtliche Werke*, edited by Bernhard Suphan, 23 vols. (Hildesheim: Georg Olm, 1967-68), 13:207-441.
 — *Älteste Urkunde des Menschengeschlechtes*, 2 vol. (Riga: Johann Friedrich Hartknoch, 1774/6 Reprinted in Johann Gottfried Herder, *Sämtliche Werke*, edited by Bernhard Suphan, 23 vols. (Hildesheim: Georg Olm, 1967-68), 6:193-511 and 7:1-171.
 — *Sprachphilosophische Schriften*, selected, annotated, and with an Introduction by Erich Heintel (Hamburg: Felix Meiner Verlag, 1960).
- Hinske, Norbert, *Kant als Herausforderung an die Gegenwart* (Freiburg: Verlag Karl Alber, 1980).
- Hobbes, Thomas, *Elementorum philosophiae sectio tertia de cive* (Paris: 1642).
 — *Human Nature: or, The fundamental elements of policie. Being a discoverie of the faculties, acts, and passions of the soul of man, from their original causes (...)* (London: Fra. Bowman, 1650). Reprinted in Sir William Molesworth, editor, *The English Works of Thomas Hobbes of Malmesbury* (London: John Bohn, 1840), volume iv, pp. 1-76.
 — *Leviathan, or The matter, forme, and power of a common-wealth ecclesiasticall and civill* (London: Andrew Croke, 1651; Latin edition, 1668). Reprinted in Sir William Molesworth, editor, *The English Works of Thomas Hobbes of Malmesbury* (London: John Bohn, 1839), volume iii.
 — *Elementorum philosophiae. Sectio prima. De corpore* (London: Andrew Croke, 1655).
 — *Elements of Philosophy* (London: Andrew Croke, 1656). Reprinted in Sir William Molesworth, editor, *The English Works of Thomas Hobbes of Malmesbury* (London: John Bohn, 1839), volume i. This work is a translation of [1642], [1655], and [1658] into English and under a single cover.

- *Elementorum philosophiae sectio secunda de homine* (London: Andrew Crooke, 1658).
- Hoff, Christina, “Kant’s Invidious Humanism” in *Environmental Ethics*, 5:63-70 (1983).
- Hoffmann, Paul, “The Unity of Descartes’s Man” in *The Philosophical Review*, 95:339-70 (1986).
- Hume, David, *A Treatise of Human Nature* (London: John Noon, 1739). Reprinted, and with an analytical index, by L. A. Selby-Bigge, 2nd edition (Oxford: The Clarendon Press, 1978).
- *An Inquiry Concerning Human Understanding* (London: Millar, 1748). Reprinted, and with an Introduction by Charles W. Hendel (Indianapolis: Bobs-Merrill, 1955).
- *Natural History of Religion*, originally published as the first of *Four Dissertations* (London: A. Millar, 1757). Garland Publishers have reprinted a facsimile (New York: 1970).
- *Dialogues Concerning Natural Religion* (1779). Reprinted, and with an Introduction by Norman Kemp Smith (Indianapolis: Bobbs-Merrill, 1947).
- Huntley, William B., “David Hume and Charles Darwin” in *Journal of the History of Ideas*, 33:457-70 (1972).
- Huxley, Thomas, *Man’s Place in Nature* (New York: D. Appleton and Co., 1896). Originally published: 1863.
- James, William, “The Thing and its Relation” in *The Journal of Philosophy, Psychology, and Scientific Method*, 2:29-41 (1905). Reprinted in *Essays in Radical Empiricism* (New York: Longmans Green and Co., 1912).
- Joas, Hans, *Praktische Intersubjektivität* (Frankfurt/Main: Suhrkamp, 1980).
Translated by Raymond Meyer as *G. H. Mead: A Contemporary Re-Examination of his Thought* (Cambridge, Mass.: MIT Press, 1985).
- Kang, W., *G. H. Mead’s Concept of Rationality* (The Hague: Mouton, 1976).
- Kitcher, Patricia, “Kant on Self-Identity” in *Philosophical Review*, 91:41-72 (1982).
- “Kant’s Real Self” in Allen Wood, editor, *Self and Nature in Kant’s Philosophy* (Ithaca: Cornell University Press, 1984), pp. 113-47.
- Koelreuter, J. G., *Vorläufige Nachricht von einigen des Geschlecht der Pflanzen...* (Leipzig: 1761-66).
- Korsgaard, Christine M., “Two Distinctions in Goodness” in *The Philosophical Review*, 92:169-95 (1983).
- “Kant’s Formula of Humanity” in *Kant-Studien*, 77:183-202 (1986).
- Kortlandt, A., “Comment on Hewes” in *Current Anthropology*, 14:13 (1973).
- Kowalewski, Arnold, editor, *Die philosophischen hauptvorlesungen I. Kants* (Hildesheim: Georg Olms Verlag, 1965)
- LaMettrie, Julien Offray de, *L’homme machine* (Leyden: 1748).
Translated by Gertrude C. Bussey (1912), revised by M. W. Calkins, as *Man a Machine* (LaSalle, IL: Open Court Press, 1912).
- *Histoire naturelle de l’âme* (La Haye: Jean Neaulme, 1745).
- Lane, Harlan, *The Wild Boy of Aveyron* (Cambridge: Harvard University Press, 1979).
- Lange, Friederich Albert, *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart* (1866). Reprinted, with an Introduction by Alfred Schmidt, 2 volumes (Frankfurt/Main: Suhrkamp Verlag, 1974).
Translated by Ernest Chester Thomas as *The History of Materialism*, 2 volumes (New York: Harcourt Brace, 1925).
- Leibniz, Gottfried Wilhelm, *Monadology and Discourse on Metaphysics*, transl. by George R. Montgomery in *Leibniz: Basic Writings* (LaSalle, IL: Open Court Press, 1962).
- *Nouveaux essais sur l’entendement* (c. 1704). First published by R. E. Raspe in 1765.
Translated by Peter Remnant and Jonathon Bennett as *New Essays on Human Understanding* (Cambridge: Cambridge University Press, 1982).
- *The Principles of Nature and of Grace, based on Reason* (1714), translated and annotated by Leroy E. Loemker in his edition of Leibniz’s *Philosophical Papers and Letters*, second edition (Dordrecht: D. Reidel, 1969), pp. 636-642.
- *Essais de théodicée*, translated by E. M. Huggard, and edited, with an Introduction by Austin Farrer, as *Theodicy: Essays on the Goodness of God, the Freedom of Man, and the Origin of Evil* (LaSalle, IL: Open Court Press, 1985).
- Lenoir, Timothy, *The Strategy of Life: Teleology and Mechanics in 19th Century German Biology* (Boston: D.Reidel, 1982).

- Lielb-Weckowicz, Helen, "Herder's Place in the Development of Ideas on Human Genesis and Evolution" in *Eighteenth Century Life*, 9:62-82 (1984).
- Linnaeus, Carolus (Karl von Linné), *Systema Naturae* (Leyden: Theodorus Haak, 1735).
Translated and edited by William Turton as *A General System of Nature* (London: Lackington, Allen, and Co., 1806).
Facsimile of the first edition (1735) of *Systema Naturae*, with an Introduction and a first English translation of the "Observations" by Dr. M. S. J. Engel-Ledeboer and Dr. H. Engel (Nieuwkoop: B. de Graaf, 1964).
- Locke, John, *An Essay Concerning Human Understanding* (London: Thomas Basset, 1690). Reprinted, with annotations and introduction, by Alexander Campbell Frazier, 2 vol. (New York: Dover Publ., 1959).
— *Some Thoughts Concerning Education* (London: A. and J. Churchill, 1693). Reprinted, with an Introduction and Notes by James Axtell in *The Educational Writings of John Locke* (London: Cambridge University Press, 1968).
- Lovejoy, Arthur, "Kant and Evolution" in B. Glass, O. Temkin, W. Strauss, eds., *Forerunners of Darwin: 1745-1859* (Baltimore: Johns Hopkins, 1959), pp. 173-206.
- Löw, Reinhard and Robert Spaemann, *Die Frage Wozu?: Geschichte und Wiederentdeckung des teleologischen Denkens* (Munich: Piper Verlag, 1981).
- Lyell, Charles, *The Geological Evidences of the Antiquity of Man with Remarks on Theories of the Origin of Species by Variation* (London: John Murray, 1863).
- Malcom, Norman, "Thoughtless Brutes" in *Proceedings and Addresses of the APA*, 46:5-20 (1973).
- Mandelbaum, Maurice, *History, Man, and Reason: a Study in Nineteenth-Century Thought* (Baltimore: Johns Hopkins, 1971).
- Marchand, James W., "The Reception of Science among German Men of Letters in the Late Eighteenth Century" in *The Influence of Early Enlightenment Thought upon German Classical Science and Letters* (New York: Neale Watson Academic Publishers, 1972), pp. 19-26.
- Matthews, Gary, "Animals and the Unity of Psychology" in *Philosophy*, 53: 437-54 (1978).
- May, Walther, "Kants Stellung zum Dezendenzproblem" in *Archiv für die Geschichte der Naturwissenschaften und der Technik*, 3:103-26 (1912).
- McMullin, Ernan, "Introduction: Evolution and Creation" in McMullin, editor, *Evolution and Creation* (Notre Dame: The University of Notre Dame Press, 1985), pp. 1-56.
- McRae, Robert, *Leibniz: Perception, Apperception, and Thought* (Toronto: University of Toronto Press, 1976).
- Mead, Margaret, *Coming of Age in Samoa: a Psychological Study of Primitive Youth for Western Civilization*, with a Foreward by Franz Boas (American Museum of Natural History, 1973). First published: 1928.
- Meier, Georg Friedrich, *Lehrgebäudes von den Seelen der Thiere* (Halle: 1750).
- Menzer, Paul, *Kants Lehre von der Entwicklung in Natur and Geschichte* (Berlin: G. Reimer, 1911).
- Midgley, Mary, "The Concept of Beastliness: Philosophy, Ethics, and Animal Behavior" in *Philosophy*, 48:111-35 (1973).
— *Beast and Man: The Roots of Human Nature* (Ithaca: Cornell University Press, 1978).
— "Persons and Non-Persons" in Peter Singer, editor, *In Defence of Animals* (Oxford: Basil Blackwell, 1985), pp. 52-62.
- Miller, David L., *George Herbert Mead: Self, Language, and the World* (Austin: University of Texas Press, 1973).
- Montaigne, Michel Eyquem de, *Essais*, 5th edition, with additions (Paris: Abel L'Angelier, 1588).
- Moore, James R., *The Post-Darwinian Controversies: A study of the Protestant struggle to come to terms with Darwin in Great Britain and America 1870-1900* (Cambridge: Cambridge University Press, 1979).
- Morris, Charles W., *Six Theories of Mind* (Chicago: University of Chicago Press, 1932).
- Moscatti, Pietro, *Delle corpore differenze essenziali che pasano fra la struttura de bruti e la Umana* (Milan: Giuseppe Galeazzi, 1770).
Translated by Johann Beckmann as *Von dem körperlichen wesentlichen Unterscheide zwischen der Struktur der Thiere und der Menschen* (Göttingen: Vandenhoeck, 1771).
- Mounin, Georges, "Language, Communication, and Chimpanzees" in *Current Anthropology*, 17:1-21 (1976).
- Nagel, Thomas, "What is it Like to be a Bat?" in *Philosophical Review*, 83:435-50 (1974). Reprinted in Nagel, *Mortal Questions* (Cambridge: Cambridge University Press, 1979), pp. 165-80.

- Natsoulas, Thomas, "George Herbert Mead's Conception of Consciousness" in *Journal for the Theory of Social Behavior*, 15:60-75 (1985).
- Nordenskiöld, Erik, *The History of Biology*, translated from the Swedish by Leonard Buchnall Eyre (New York: Tudor Publishers, 1928).
- Passmore, John, *The Perfectibility of Man* (New York: Charles Scribner's Sons, 1970).
- "The Treatment of Animals" in *Journal of the History of Ideas*, 36:195-218 (1975).
- Paton, H. J., *The Categorical Imperative: a Study in Kant's Moral Philosophy* (Philadelphia: University of Pennsylvania Press, 1971). Originally published in 1947.
- Pereira, Gomez, *Antoniana margarita* (Medina del Campo: Antony Grasbeet, 1554).
- *Apologia* (Medina del Campo: 1555).
- Peters, R. S. and C. A. Mace, "Psychology" in *The Encyclopedia of Philosophy*, edited by Paul Edwards (New York: Macmillan Publishing Co, 1967), volume vii, pp. 1-27.
- Pfuetze, Paul, *Self, Society, Existence: Human Nature and Dialogue in the Thought of George Herbert Mead and Martin Buber* (New York: Harper and Brothers, 1954).
- Platner, Ernst, *Neue Anthropologie für Aerzte und Weltweise. Mit besonderer Rücksicht auf Physiologie, Pathologie, Moralphilosophie und Aesthetik*, volume i (Leipzig: S. L. Crusius, 1790).
- Plato, *Phaedo*, translated by Hugh Tredennick in Edith Hamilton and Huntington Cairns, editors, *The Collected Dialogues of Plato* (Princeton: Princeton University Press, 1961), pp. 40-98.
- Premack, David, "Teaching Language to an Ape" in *Scientific American*, 227:92-99 (1972).
- and Ann James Premack, *The Mind of an Ape* (New York: W. W. Norton and Co., 1983).
- Radner, Daisie, "Descartes' Notion of the Union of Mind and Body" in *Journal of the History of Philosophy*, 9:159-70 (1971).
- Randall, John Hermann, *The Career of Philosophy* (New York: Columbia University Press, 1965), volume ii.
- Regan, Tom, "Broadie and Pybus on Kant" in *Philosophy*, 51:471-72 (1976).
- "The Case for Animal Rights" in Peter Singer, editor, *In Defense of Animals* (Oxford: Basil Blackwell, 1985), pp. 13-26.
- and Peter Singer, *Animal Rights and Human Obligation* (Englewood Cliffs, New Jersey: Prentice-Hall, 1976).
- Reimarus, Hermann Samuel, *Allgemeine Betrachtung über die Triebe der Thiere, hauptsächlich über ihre Kunsttriebe: zum Erkenntnis des Zusammenhangs der Welt, des Schöpfers und unser selbst*, 2nd edition (Hamburg: Bohn, 1762). First edition: 1760.
- Ritter, Joachim, editor, *Historisches Wörterbuch der Philosophie*, 4 volumes (Stuttgart: Schwabe and Company, 1971).
- Rollin, Bernard E., *Natural and Conventional Meaning: An Examination of the Distinction* (The Hague: Mouton, 1976).
- "Beasts and Men: The Scope of Moral Concern" in *The Modern Schoolman*, 55:241-60 (1978).
- *Animal Rights and Human Morality* (Buffalo, NY: Prometheus Books, 1981).
- Rorarius, Hieronymus, *Quod animalia bruta saepe ratione utantur melius homine*, edited by G. H. Ribow (Helmstedt: 1728).
- Rorty, Richard, "The World Well Lost" in *The Journal of Philosophy*, 69:649-65 (1972).
- Rosenfield, Leonora C., *From Beast-Machine to Man-Machine: the Theme of Animal Soul in French Letters from Descartes to La Mettrie* (New York: Octagon Books, 1968), first published in 1940.
- Rousseau, Jean-Jacques, *Discours sur l'origine et les fondements de l'inégalité parmi les hommes* (1754).
- Translated by Lowell Bair as *Discourse on the Origin and Basis of Inequality among Men* in *The Essential Rousseau* (New York: New American Library, 1974).
- *Emil, ou, De l'éducation* (1762).
- Translated, with an Introduction, by Alan Bloom as *Emile: On Education* (New York: Basic Books, 1979).
- Ryle, Gilbert, *The Concept of Mind* (New York: Barnes and Noble, 1949).
- Schatzberg, Walter, *Scientific Themes in the Popular Literature and the Poetry of the German Enlightenment, 1720-1760* (Bern, Switzerland: Herbert Lang, 1973).

- Schultz, Fritz, *Kant und Darwin* (Jena: Hermann Duft, 1875).
- Silhon, Jean de, *De l'immortalité de l'ame* (Paris: C. Iouvrnel, 1662). First published: 1630?
- Singer, Peter, editor, *In Defence of Animals* (Oxford: Basil Blackwell, 1985).
- Sloan, Phillip R., "Descartes, the Sceptics, and the Rejection of Vitalism in Seventeenth-Century Physiology" in *Studies in the History and Philosophy of Science*, 8:1-28 (1977).
- "Buffon, German Biology, and the Historical Interpretation of Biological Species" in *The British Journal for the History of Science*, 12:109-53 (1979).
- "The Question of Natural Purpose" in McMullin, editor, *Evolution and Creation* (Notre Dame: The University of Notre Dame Press, 1985), pp. 121-50.
- and John Lyon, *From Natural History to the History of Nature: Readings from Buffon and his Critics* (Notre Dame, IN: University of Notre Dame Press, 1981).
- Slotkin, J. S., editor, *Readings in Early Anthropology* (Chicago: Aldine Publishing Co., 1965).
- Spinoza, Baruch, *Ethics*, transl. by James Gutman in *Ethics* (New York: Hafner Publ., 1949).
- Sumner, John Bird, Archbishop of Canterbury, *A Treatise on the Records of Creation, and on the moral attributes of the creator; with particular reference to the Jewish history and to the consistency of the principle of population with the wisdom and goodness of the Deity* (London: J. Hatchard, 1816).
- Tetens, Johann Nicolaoi, *Sprachphilosophische Versuche*, edited by Heinrich Pfannkuch and with an Introduction by Erich Heintel (Hamburg: Felix Meiner Verlag, 1971).
- Tiger, Lionel and Robin Fox, *The Imperial Animal* (Toronto: McClelland and Stewart, 1971).
- Turner, J. H. and L. Beeghly, *The Emergence of Sociological Theory* (Homewood, New Jersey: The Dorsey Press, 1981).
- Überweg, Friedrich, *Grundriß der Geschichte der Philosophie*, transl. by George S. Morris from the 4th ed. as *History of Philosophy* (New York: G. Scribner's, 1896).
- Van Kirk, Carol A., "Kant and the Problem of Other Minds" in *Kant-Studien*, 77: 41-58 (1986).
- Vartanian, Aram, "Trembley's Polyp, La Mettrie, and Eighteenth-Century French Materialism" in *Journal of the History of Ideas*, 11:259-86 (1950).
- Wallace, Alfred Russell, *Darwinism* (1889).
- Warda, Arthur, *Immanuel Kants Bücher* (Berlin: Martin Breslauer, 1922).
- Watson, John B., "Psychology as the Behaviorist Views It" in *Psychological Review*, 20:158-77 (1913).
- Weiler, Gershon, "Kant's 'Intermediate Concept' and the Concept of Man" in *Revue Internationale de Philosophie*, 16:432-46 (1962).
- "Kant's Question: What is Man?" in *Philosophy of the Social Sciences*, 10: 1-23 (1980).
- Willis, Thomas, *De anima brutorum quae hominis vitalis ac sensitiva est, exercitationes duae. [...]* (London: Wells and Robert Scott, 1672).
- Translated by S. Pordage as *Two Discourses concerning the Soul of Brutes, which is that of the Vital and Sensitive of Man. [...]* (London: Thomas Dring, 1683).
- Wilson, Margaret D., *Descartes* (London: Routledge and Kegan Paul, 1978).
- "Body and Mind from the Cartesian Point of View" in R.W. Rieber, *Body and Mind* (Academic Press, 1980), pp. 35-55.
- Wood, Allen W., "Kant's Compatibilism" in Alan Wood, ed., *Self and Nature in Kant's Philosophy* (Ithaca: Cornell University Press, 1984), pp. 73-101.
- Wundt, Max, *Die deutsche Schulphilosophie im Zeitalter der Aufklärung* (Hildesheim: Georg Olms Verlagsbuchhandlung, 1964).
- Yolton, John W., *Thinking Matter: Materialism in Eighteenth Century Britain* (Oxford: Basil Blackwell, 1984).
- Yovel, Yirmiahu, *Kant and the Philosophy of History* (Princeton: Princeton University Press, 1980).
- Zumbach, Clark Edward, *The Lawlessness of Living Things: Kant's Conception of Organismic Activity*, Ph.D dissertation (Rutgers University, 1980).

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