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The Virtues of Animals in  
Seventeenth-Century Thought

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Discussions about animals--their purpose, their minds or souls, their interior operations, our duties towards them--have always played a role in human self-understanding. At no time, however, except perhaps our own, have such concerns sparked the magnitude of debate which took place during the course of the seventeenth century. The agenda had been set in the late 1500s by Montaigne, who had made the remarkable (if somewhat rhetorical) claim that animals were both moral and rational, and moreover, more moral and rational than humans. In the century which followed, Descartes, not to be outdone, put forward the even more contentious counter-proposal that animals were not only neither rational nor moral, but that they were not even conscious. The Cartesian hypothesis fueled a debate which continued until well into the eighteenth century.<sup>1</sup> While in recent years much attention has been given to issues of animal consciousness and cognition in seventeenth-century thought, the related question of the moral capabilities of animals has been by comparison neglected. In this paper I shall explore the converse side of the better known arguments about the rational capabilities of the beasts, focusing on seventeenth-century discussions concerning the behaviors and passions of the beasts and the extent to which animals were thought to participate in the moral universe of human beings.

I. During the first sixteen hundred years of the common era, those thinkers who directed their attention to the natural world had tended to be preoccupied neither with questions of how animals came into being nor with the direct **[End Page 463]** causes of their various operations but rather with the question of why they existed at all. Almost without exception responses to this question were variations on a single theme: animals had been placed in the world to provide for the physical needs of human beings.<sup>2</sup> While this response proved to be satisfactory in general terms, there were acknowledged deficiencies. Many living things seemed to have been rather extravagantly designed for their putative purpose. Others seemed blatantly to contradict it. Why were our meat supplies, for example, not more conveniently presented, like the fabled Scythian lamb which grew on a tree? Why was it that a significant number of creatures appeared to be useless or even downright harmful to those whom they were designed to serve? And why, finally, were human beings created such that they were dependent upon lesser creatures for their survival?

Responses to these difficulties generally took one of three forms, each of which was influential throughout the Middle Ages and beyond. First, it could be asserted that as a result of the Fall, human beings had forfeited their dominion over the creatures, many of which now served as instruments for their punishment and correction. Augustine observed that "there are many things, such as fire, frost, wild beasts and so forth, which do not suit but injure this thin-blooded and frail mortality of our flesh, which is at present under just punishment."<sup>3</sup> In the seventeenth century this view still attracted many supporters. Thus Godfrey Goodman, in *The Fall of Man* (1616), wrote that "all the creatures, forsaking their first and naturall use, did serve for mans punishment, and rebelled against him."<sup>4</sup>

Second, an appeal could be made to the Platonic principle of plenitude and the related idea of the chain of being. The principle of plenitude taught that more is better and that variety is preferable to uniformity. God, wrote the third-century Christian apologist Lactantius, "wished to display His providence and power by a wonderful variety of many things."<sup>5</sup> It followed that all existing things could be ranged in a vast scale from non-existence to God himself, with each link in the chain separated from its neighbor by a small difference. Again, this view found many adherents in the early modern period. Thomas Robinson declared that "it was necessary that there shou'd be a variety of Natures, and **[End Page 464]** different Degrees of Life and Perfection." Thus "every Creature even of the lowest Degree of Life, is Good and

Perfect in its Kind." <sup>6</sup> Important for our purposes is the fact that the chain of being provided the ontological basis for knowledge based on analogy. From our knowledge of particular links in the chain we can infer probable truths about other links. Thus, what is true of one link in the chain can be predicated of other links to an extent that depends on their proximity. Such analogical reasoning was employed by Aquinas and later came to play an important role in seventeenth-century speculations about the morality of beasts. <sup>7</sup>

According to a third view, many of the more puzzling features of the created order were to be read, as were problematic texts in scripture, as symbolic representations of certain moral or theological truths. Animals and plants were not simply to provide for the physical needs of humanity but also to serve for higher spiritual and moral needs. In Proverbs we find the familiar injunction: "Go to the ant, thou sluggard" (Prov. 6. 6). In Job, likewise: "But ask now the beasts and they will teach thee; and the fowls of the air, and they shall tell thee. Or speak to the earth, and it shall teach thee, and the fishes of the sea shall declare unto thee" (12.7f.). The moral significance of the creatures is the main theme of the hexaemeral literature of the Patristic period. "Fishes," wrote Ambrose of Milan, "follow a divine law, whereas men contravene it. Fishes duly comply with the celestial mandates, but men make void the precepts of God." The birds, similarly, are "examples for our own way of life." <sup>8</sup>

Animals not only taught important moral lessons but also served as symbolic representations of important theological truths. Basil the Great concluded that "all poisonous animals are accepted for the representation of the wicked and contrary powers." <sup>9</sup> In the third-century *Physiologus*, a work on animals, plants, and stones which was to serve as the chief source of the medieval bestiaries and books of birds, the symbolic meanings of the creatures were set forth. The fox "is a figure of the devil," the owl, "the figure of the Jewish people," the phoenix "represents the person of the saviour," and so on. <sup>10</sup> In short, for the Church Fathers and their medieval successors, the natural world was a book, a repository of rich and varied symbols which bore important meanings. So it was that whatever properties creatures had--physical characteristics, behaviors, **[End Page 465]** life histories, passions--all potentially taught some moral lesson or signified some eternal verity. The material features of creation, in short, were signs which pointed beyond themselves to another world of transcendental truths.

In the Middle Ages these three themes were reinforced by two related systematizing principles: the idea of the human being as a microcosm and a tendency to order knowledge according to physical resemblances or similitudes. <sup>11</sup> The arcane idea that man was the paragon or epitome of the animals--that in some sense he contained all creatures within himself--was initially introduced into the Judeo-Christian West as a hermeneutical principle. In the exegetical writings of Philo of Alexandria, for example, scriptural references to animals were read as references to persons or parts of persons. <sup>12</sup> The Fathers followed this lead, utilizing microcosm in the interpretation of scripture in a number of ways. Origen linked it with both allegorical interpretation and the notion of man as the image of God. <sup>13</sup> St. Gregory, who transmitted the idea of microcosm to the Middle Ages, used it to explain an awkward passage in the gospel of Mark in which the disciples are enjoined to "preach the gospel to every creature" (16.15). Wishing to avoid that implication which in a later age would prompt St. Francis to preach to birds and beasts, Gregory declared that it is actually man who is "every creature" because he comprehends all creatures in himself. <sup>14</sup> St. Ambrose had taken up a position quite similar to that of Gregory, emphasizing both the dominion of man, who is "a summation of the universe," and the significance of microcosm as the basis of tropological interpretation. <sup>15</sup>

Thus was the material world, the venue for the moral development of human beings, populated with living reminders of virtues to be imitated and vices to be shunned. The basis of tropological readings of the world was, then, in the words of Ambrose, that "we cannot fully know ourselves without first knowing the nature of all living creatures." <sup>16</sup> In the twelfth century the significance of this conception for a consideration of animal passions was explicitly stated by Jacob ibn-Zaddik: "there is nothing in the world which has not its correspondence in man.... He is courageous like the lion, timorous like the hare, patient **[End Page 466]** like the lamb, clever like the fox." <sup>17</sup> By the time of the Renaissance there was a general consensus about which animals represented particular virtues and vices. In Spenser's *Fairie Queen*, for

example, the peacock appears as a symbol of pride, the lion of wrath, the wolf of envy, the goat of lust, the pig of gluttony, the ass of sloth. <sup>18</sup>

These allied notions--that the human being was a microcosm and that the beasts represented distinct virtues or vices--enjoyed wide currency to the end of the seventeenth century. The German theosophical writer Jacob Boehme wrote in his *Mysterium magnum* (1623) that man was "a *Beast* of all beasts." There are, he thought, "various properties in man; as one a Fox, Wolfe, Beare, Lion, Dogg, Bull, Cat, Horse, Cock, Toad, Serpent; and in briefe as many kindes of creatures are upon the earth, so many and *Various* properties likewise there are in the earthly man." <sup>19</sup> In his *Government of the Passions* (1700) William Ayloffe observed similarly that we can "unite in the Person of Every Man, the Malice of a Serpent, the Fury of the Tyger, the Choler of the Lyon, and the Lubricity of the Goat." This demonstrates "that Man alone has as many Passions as all the Beasts together." <sup>20</sup> Ayloffe also relies upon the principle of macrocosm-microcosm in his account of the changes to which human passions were subject at the Fall. Just as in the macrocosm the animals rebelled against human dominion following upon Adam's lapse, so in the microcosm, human passions rebelled against a wounded reason. "Reason which ought to regulate his now disobedient Passions, is become obnublated," wrote Ayloffe, and "from this mighty Disorder proceed all the Malignity of our Passions." <sup>21</sup> In the same vein John Donne had read the granting of dominion over the beasts in Genesis as an injunction to control the beast within, and thus make "that ravening Wolfe a Man, that licentious Goate a man, that insinuating Serpent a man." <sup>22</sup> **[End Page 467]**

The second systematizing principle is the notion of "resemblance" or "similitude." Michel Foucault has identified the category "similitude" as the governing feature of sixteenth-century explanations of the natural world. <sup>23</sup> It is physical resemblance which allows connections to be made between microcosm and macrocosm, between adjacent links in the chain of being, between aquatic and terrestrial creatures, between the celestial and terrestrial objects, between the motions of the soul and movements of the body. Knowledge itself is constituted by those links. Sympathy, antipathy, and analogy are all related conceptions. Jacob Boehme explicitly relied on this principle when he observed that "whatsoever is Internally, and howsoever its operation is, so likewise it hath its Character externally." In beasts "every thing as it is inwardly ... so it is outwardly signed." <sup>24</sup> The signs of the passions of beasts resemble the signs of human passions, and this resemblance serves in turn to reinforce the principle of the human being as a microcosm.

If we ask, then, what is the significance of the behaviors of animals prior to the modern period, one important answer is that animal behaviors are so many different representations of human passions, virtues, and vices, presented in a living pageant, accessible to the meanest minds, to the end that we might all learn moral rectitude. Animals acting under the impulse of some passion display to the world "characters" of the passions. These are natural signs by which we learn moral lessons. They indicate our relatedness to the whole of creation. While there is some evidence of interest in what we would call the "physiological" basis of the passions, their chief significance lies in their being signs *for us* rather than being outward effects of internal operations. <sup>25</sup> Animals are cyphers, insignificant in themselves, yet useful for humans at every level. In this radically anthropocentric view every feature of the existence of the creatures plays some role in the physical, moral, or theological development of human beings. **[End Page 468]**

The *Historium animalium* (1612) of Wolfgang Franzius is a typical early seventeenth-century work of natural history, which draws together these various themes. In his introduction Franzius observes that "God hath also given beasts inward senses, they can see objects, and distinguish between them by their Phancy, and they can remember them, but yet they have not right reason, what they do is in imitation, and have only shadows of Virtue." <sup>26</sup> Addressing himself to the subject of the passions, Franzius continues: "As to the sensitive and locomotive faculties that are in beasts, *they have them analogously as they are in man*; the external Senses receive external objects, and so are carried to the braine, there causing joy or grieffe." <sup>27</sup> Moreover, "the affections that happen in the blood are the same that happen in

man. An ass is foolish, a Horse hot in love, and in war, and a Wolf unruly, a Lyon bold, a Fox crafty, the Dog docile, and so other creatures I could instance in." <sup>28</sup>

These general considerations are exemplified in the descriptions of individual animals. The Lion, for example, "is a fierce and intractable Creature, but yet famous, because it hath the shadows of many Vertues, which we may learn partly from the propertyes of his body, and of his soul." <sup>29</sup> Properties in the soul of the lion which receive mention are its generosity, pride, cruelty, and hastiness. As an example of "properties of the body" or "*caractères*" of the passions Franzius uses anger: "and as Horses shew their anger by hair, so do Lyons by their tayl, which they strike against the ground when at any time they are angered; but when their passion is a little over, they strike their own backs with it." <sup>30</sup> It is important to note that while it had long been acknowledged that the passions had been placed in creatures to assist in their preservation, many of the movements of the body which accompanied the passions--such as the lion's thrashing its tail--were not obviously related to the survival of the creature. It [End Page 469] was reasoned that since nature does nothing in vain, such motions of the body which accompany the passions must be "external or sensible signes" which make possible "the knowledge of the inside by the outside." <sup>31</sup> They were signs, moreover, for the human observer, signs which facilitated a reading of the innermost motions of the souls of beasts, and even more importantly, for the studious observer, of the souls of men.

If for Franzius aspects of the behavior of lions serve as signs, it is no less true that the whole animal is a living sign. It has significance at two levels, levels of meaning drawn from the standard medieval hermeneutical approach to scripture: tropological (moral) and allegorical. The tropological reading is as follows: "Moreover we read *Eccles.* 4.35 where it is said, *be thou as a Lyon in the house*, by which all Governours of Families are taught to be mild and gentle towards their Families, and never to disturb that conjugal love and society which ought to be between Man and Wife, which we are taught by the *Lyon*..." <sup>32</sup> In the allegorical reading, the lion is seen to symbolize the devil: "as the *Lyon* doth not eat one part of his prey only, but devours it all, so the Devil doth destroy both body and soul; and as *Lyons* are fiercest when old, wandring near Cities making a prey of Men, so the Devil in these last times is most diligent and watchful to seduce the souls of men ... and as a *Lyon* cannot endure the crowing of a *Cock*, so the Devil is only by the sound of the Gospel overcome..." <sup>33</sup> Franzius concludes his treatment of the lion by observing that "those several fables of the *Lyons* are not to be made light of, for from them we may learn good Morals." <sup>34</sup>

Franzius's account has the typical features of early seventeenth-century natural history. First, there is what seems to us a rather credulous acceptance of the traditional sources. Second, we find reasoning by analogy. Man differs from those creatures below him in the chain of being, by virtue of his possession of "right reason." Yet beasts possess "shadows of vertues" and "faculties analogously as they are in man." Third, we are taught morality by the beasts--in the case of the lion, about family and marital relations. Fourth, animals are symbolic objects standing for other things. Fifth, we see the attempt to arrive at characters of the passions--outward *signs* of spiritual condition of soul: "the lion thrashing its tail."

II. Having considered some of the general themes which inform early seventeenth-century accounts of the virtues of animals, I propose now to consider in more detail the discussion of this issue which took place in seventeenth-century France. Here we can identify three distinct positions. First, the group [End Page 470] to whom, following George Boas, I shall refer as "theriophilists" (literally, "animal lovers"). These thinkers, who took their cue from the sixteenth-century essayist Montaigne, were champions of animal virtue and sagacity. They argued that if animals were to be moral exemplars, they must in consequence be our superiors. Animals are more moral than us and possibly are even more rational as well. Their chief representatives in the seventeenth century were Pierre Charron and Marin Cureau de la Chambre.

The middle ground was occupied by the more traditional Aristotelians, who believed that animals have only a sensitive soul while human beings have a rational soul. In a strict sense, for these Peripatetics, animals could be neither moral nor rational for while they have sensitive appetites, moved by sensible goods--such as food--they do not have a rational

appetite, that is to say, a will, which could approve or disapprove of the motions of the sensitive appetite. <sup>35</sup> Even so, the proximity of some of the beasts to their human relatives in the scale of being would suggest that they have "shadows of virtues" and "footsteps of reason." Thus animals could serve as moral exemplars, but only in a formal sense, for they are not genuine moral agents.

Ranged against both theriophilists and Peripatetics were the Cartesians who denied that animals had any soul at all. <sup>36</sup> Animals could not reason. They could not be moral agents. They could not be the subjects of any mental states whatsoever. Thus while animals were regarded as having passions in the sense that they exhibited certain physiological and behavioral responses to particular states of affairs, they nonetheless were presumed to lack those psychological states which in humans accompany the passions. Passions for animals were solely bodily operations, whereas for humans they were bodily operations which were consciously represented in the soul.

The theriophilists argued that animals were our moral teachers essentially because they lived in accordance with the dictates of nature. The most important source for the seventeenth-century champions of animals were the writings of Montaigne, who himself had rehearsed many of the arguments and examples of animal champions of antiquity. <sup>37</sup> Montaigne adopted the Stoic doctrine that to live rightly is to live in accordance with nature. "We cannot erre in following nature," he insisted, "and the sovereign document is, for a man to conforme himself to her." For this reason "our wisdom should learne of the beasts, the most profitable documents." <sup>38</sup> Neither should we believe, Montaigne urged, that the beasts are compelled to follow the dictates of nature through instinct: **[End Page 471]**

I should say therefore, there is no likelihood, we should imagine, the beasts doe the very same things by a naturall inclination and forced genuities, which we doe of our own freewill and industrie. Of the very same effects we must conclude alike faculties; and by the richest effects infer the noblest faculties, and consequently acknowledge that the same discourse and way we hold in working, the very same, or perhaps some other better, doe beasts hold. <sup>39</sup>

The beasts thus possess "reason, discourse, and forcast," as well as a range of passions: sympathy, affections, joy, love, hate, jealousy, licentiousness, avarice, revenge, and grief. <sup>40</sup> Montaigne concludes that in the absence of direct access to "the inward and secret motions of the beasts," only human pride leads us to deprive them of these higher cognitive functions. <sup>41</sup>

In the seventeenth century the most prominent defenders of Montaigne's position were Pierre Charron and Marin Cureau de la Chambre. Charron, while not always entirely consistent, also defended the position that the goal of life was to live in conformity with nature and that animals seemed to be much better at this than humans:

If we regard the living in agreement with Nature, and in conformity with what she dictates and requires from us, Beasts seem to excel us in this respect, very much; for they lead a Life of more Freedom, more Ease and Security, more Moderation and Contentedness, than Men do. And that Man is deservedly reputed *Wise*, who makes *them* his Pattern, and his Lesson, and reaps Profit by *their* Example; by reforming himself to that Innocence, Simplicity, Liberty, Meekness, and Gentleness of Temper, which Nature had originally implanted both in us and Them: And which in Brutes is still very conspicuous, but in Us is decay'd, chang'd, and utterly corrupted by our Industrious Wickedness, and Artificial Depravations; thus debauching and abusing the particular Prerogative we pretend to, and rendring our selves more vile than the Beasts, by means of that very Understanding and Judgement, which sets us so far above them. Hence sure it is, that God intending to Shame us into Vertue, sends us to School in Scripture, and bids us grow wiser by the Example of these Creatures. <sup>42</sup>

When arguing for a comparability of psychological states, Charron appeals explicitly to the chain of being. "Those, whom Nature hath placed near, or close to one another," he writes, "have all of them a mutual Resemblance." **[End Page 472]** Man and the higher beasts thus

have "several Properties alike, and common to both," for they are "next adjoining Links, twisted within one another, in the great Chain of the Universe."<sup>43</sup>

A more articulate and persuasive spokesman for theriophilists in the seventeenth century was Cureau de la Chambre, sometime physician to the king of France. In 1645 La Chambre published as the second volume of his *Les caractères des passions*, an essay entitled *Des passions courageuses. de la connoissance des bêtes*.<sup>44</sup> Here he suggested that beasts are capable of reasonings of a certain kind. While this latter work stands in the tradition of Plutarch, Porphyry, Raimond de Sebonde, and Montaigne, there is an important difference. La Chambre follows the lead of Descartes in locating his discussion of animal psychology in the context of human psychology. The *Traité de la connoissance* is virtually devoid of the anecdotal evidence which was so typical of preceding and contemporary works on animal psychology. Instead, La Chambre follows Charron's lead, invoking the chain of being. "The order which God hath established through the whole universe," said La Chambre, is one in which "the lesse noble things serve for the degrees whereby we rise to the most excellent, and all of them have some beginnings of that perfection which is more full and perfect in these."<sup>45</sup> La Chambre marshals arguments to show that in the sensitive soul of animals, there are "images" or "vestiges" in which the "first draught" of reasoning may be observed.<sup>46</sup> He goes on to argue in the standard fashion that when animals act in ways which are to a degree analogous to the way in which humans act, they must have faculties analogous to human ones. It follows that animals deliberate, are subject to the passions of hope and fear, may doubt, and are aware of the passage of time.

His most convincing argument for a reasoning faculty in animals comes in his discussion of animal passions, where he betrays a reliance on the classical view that passions arise out of knowledge.<sup>47</sup> Setting up a distinction which approximates the traditional division between irascible and concupiscible passions, he argues as follows:

When the Soul indeed thinks herself weaker than the Ill, She endeavours to shun the encounter, and according to the motions she makes to estrange [End Page 473] herself from it, she forms Hatred, Aversion, Grief, Fear, and Despaire. But when she thinks herself sufficiently strong to overcome it, or at least to bear against its assaults, then she raiseth up Boldness, Anger, and Constancy.... For if the Soul thinks it self stronger or weaker then the ills, she must compare her forces with theirs, and consequently she must Reason; for asmuch as without reasoning we cannot compare one thing with another. So that the Soul of Beasts which is susceptible of these Passions must be oblig'd to reason, when she would make use of them; And so she would become Reasonable. And so Reason would no longer be that difference which distinguisheth Man from other Animals.<sup>48</sup>

Animals thus have both passions, reason, and, as La Chambre goes on to show, morals in some weak sense. God "hath signed in all Animals the strokes of his Justice, and hath given them knowledge of the wrong which may be done to them, and the just desire they have of revenging themselves."<sup>49</sup> The "morality" of beasts, then, consists in their ability to choose sensible goods over sensible evils.

La Chambre's work is in some respects a considerable advance over that of his predecessors, if for no other reason than for the absence of those dubious tales of animal sagacity which are liberally sprinkled through the writings of Montaigne and Charron. He was nonetheless firmly anchored in that Renaissance tradition which sought connections in the natural world based on resemblance or similitude. In the first volume of *Les caractères des passions* (1658) he argues that the human body bears external signs which serve to show not only the interior operations of the body but which also link those operations, by means of similitude, to other bodies, inanimate, animate, and celestial.<sup>50</sup> The general science of these signs was physiognomy, which, along with its discrete branches--chiromancy, podomancy, metoscopy--had come into vogue in the sixteenth century and enjoyed considerable popularity throughout the seventeenth.<sup>51</sup> [End Page 474]

Physiognomy, explains La Chambre, concerns "the exact knowledge deduced from physical effects." These "Effects, or Signs, which are imprinted on the Body" may be one of two kinds--

"one is *Natural*, which proceeds from the constitutions of the Body, and the other *Elementary Causes*; the other, the *Astrological*, which proceeds from the Stars or Celestial Bodies." The most obvious of the natural signs are "the Figure, the Air of the Countenance, and Motion," and the less important, "the Colour, the skin, the Fleshiness of the parts, and the Voice." Unless we know the meaning of these various signs, we cannot hope to penetrate to the secret motions of the soul. "There cannot be an assured judgement made of the Soul's inclinations," insists La Chambre, "otherwise than by the proper and permanent Signs, and that these are commonly drawn from the Figure, the Air of the Countenance, the Motions, and the Fleishy parts of the Body." <sup>52</sup>

The meaning of the permanent signs was to be established through a consideration of four kinds of resemblance: the physical signs on one man may resemble those of another man, a beast, a woman, or a man from a different climatic zone. <sup>53</sup> Of the man-beast relation La Chambre states simply that "judgement was made of the conformity of their Inclinations, by the resemblance there was between them." <sup>54</sup> Because no-one perfectly resembles a beast it is usually necessary to consider several individuals who have the same "sign," and compare them with several animals who have the same sign. Men who have large mouths and thick and strong extremities, for example, are to be compared to "Lions, Bulls, Eagles, and Tigres"-creatures known to have the virtue of strength. These characters in men, therefore, are a sign of strength. <sup>55</sup> To know the nature of men's souls, then, one must study the signs of the passions in the creatures: "it is therefore requisite [to treat] of the natures of these Animals, and especially of those parts of them, whereto those of men may have any resemblance, and of the inclinations they denote." <sup>56</sup> La Chambre thus echoes the teaching of the Fathers, that man is, in a sense, every creature, and that he cannot know himself without first knowing all the creatures. Study of the **[End Page 475]** characters of the passions, then, was primarily a science of signs, based upon physical resemblance. And the significance of these characters lay in the fact that they were signs bearing meaning, rather than the effects of physiological causes. <sup>57</sup>

The possibility that the various "characters" of animal passions might serve as signs for the animals themselves and not merely for human observers had not escaped the theriophilists. It was frequently alleged, against the Cartesians in particular, that animals had natural languages of their own, bodily or vocal, and that the human inability to comprehend these languages reflected a failing on our part, rather than theirs. <sup>58</sup> Some claimed that we had once enjoyed the ability to comprehend the natural languages of bird and beast, a capacity now lost. Our present deficiency in this regard was variously attributed to the Fall, to the events which took place at Babel, or simply to the artificial and affected structures of human language as compared to the natural languages of animals. Vestiges of what might have once been our natural language remained, however. <sup>59</sup> In his *Chirologia* (1644), John Bulwer, for example, argued that human gestures were "naturall signes" which enjoyed certain advantages over conventional speech. The motions of the hand, said Bulwer, "proceed from the meere instinct of Nature, and all these motions and habits of the *Hand* are purely naturall, not positive; nor in their senses remote from the true nature of the things that are implied." <sup>60</sup> Bulwer pointed out that human gestures amounted to a natural language which had survived the confusion of Babel. They were traces of a paradisaical past when man and beast comprehended each other's discourse. Following Montaigne, he asserted that animals still communicated with a natural language and "expresse their desire of honour, generositie, industrious sagacity, courage, magnanimity, and the love and feare; neither are they void of subtilty and wisdom." Animals, moreover, are "able to understand and expresse themselves in this language of gesture, teaching us by learning of us, that capable they be not onely of the inward discourse of Reason, but of the outward gift of utterance by gesture." <sup>61</sup>

While such comparisons of human and animal languages seem to us rather strained, there is a consistency in the theriophilists' position: both in their behaviors and in their "languages" animals are closer to nature than their human **[End Page 476]** cousins. By comparison human mores and languages appear as affected conventions. Indeed, it was this widespread recognition of the conventional nature of human language which underpinned seventeenth-century quests for a universal character and language.

In the latter half of the seventeenth century the position of the theriophilists became untenable for two reasons. First, it became increasingly clear that "nature," at least as it was construed by Montaigne and his followers, was a somewhat doubtful guide in matters of morality. Second, the world-view which underpinned the moral relations between man and the natural world began to collapse, a point which we shall consider below.

Specific reactions against Montaigne and his followers tended to focus upon the patent ambiguities in their various definitions of morality as "living in accordance with nature." In 1624 Père Garasse pointed out that such arguments rested upon an equivocations about the concepts "nature" and "natural."<sup>62</sup> For man to follow his natural inclinations in moral affairs, as the beasts apparently do, would turn him into a beast.<sup>63</sup> Pierre Chanet argued similarly that the notion of "law of nature" is at best unclear in the writings of those who would have us follow the example of the beasts. The biblical injunction to "go to the ant," he argues, was addressed only to the sluggard who had lost his natural reason and was on that account directed to an irrational beast.<sup>64</sup> If following nature is conceived of as something other than following the dictates of reason, then it is reason which must prevail.

Curiously enough, the *reductio ad absurdum* of the theriophilists' position on this issue had been unwittingly provided by Cureau de la Chambre himself, in his discussion of the peculiar "virtues" of women:

With this precaution, we may presume to affirm ... that the Woman is *cold* and *moist*, in order to the end, which Nature hath proposed to her self, and that from her being *cold*, it follows that she should be *Weak*, and consequently *Fearfull*, *Pusillanimous*, *Jealous*, *Distrustfull*, *Crafty*, apt to *Dissemble*, *Flatter*, *Lie*, easily *Offended*, *Revengefull*, *Cruel* in her revenge, *unjust*, *Covetous*, *Ungratefull*, *Superstitious*, And from her being *moist*, it follows, that she should be *Unconstant*, *Light*, *Unfaithfull*, *Impatient*, easily *Persuaded*, *Compassionate*, *Talkative*.<sup>65</sup>

Whereas a rationalist account would suggest that morality involves bringing these passions under the control of reason, advocates of the view that morality [End Page 477] consists in living in accordance with nature were drawn to opposite conclusion. On the qualities of the "cold and moist" sex, La Chambre concludes:

Moreover, those Inclinations, which go under the name of vices, are not, to speak exactly, so many defects, but rather, on the contrary, so many natural perfections, as being correspondent and comformable to the feminine Sex. For as it is no imperfection in a hare to be fearfull, nor in a tygre, to be cruel, for as much as their natures require those qualities in them; so can it not be said, that Timidity, Distrust, Inconstancy, &c., are defects or imperfections in a Woman, in regard that they are natural to her Sex, which would be defective, if it were depriv'd thereof.<sup>66</sup>

That such a determination is so counter-intuitive to the modern mind, not merely its specific details but also in its general form is testimony to the pervasive influence of Hume's subsequent distinction between "is" and "ought." The objections of Garasse and Chanet imply such a distinction, but it must be said that most seventeenth-century discussions of the passions occur in the context of moral discourse, and nowhere in these discussions do we encounter an adequate distinction between what we would now term "motivational psychology" (the "is" of human actions), and "ethics" (the "ought" of human actions). The theriophilists represent the extreme form of this confusion, while their critics, in their demands for clarification of the concepts "reason" and "nature" and their role in ethics, are slowly groping their way towards that division with which we are now familiar. As this distinction gradually, if tacitly, emerges in the seventeenth century, the conviction that the study of the natural world can provide moral insights becomes increasingly less plausible. Animals, accordingly, begin to lose their status as moral exemplars.

La Chambre's conclusions about the "naturalness" of women's inconstancy and timidity were in any case not universally well received in the seventeenth century either. If the proponents of continuity in the animal world had tended to locate women rather closer to their animal cousins than their male counterparts, Cartesian dualism implied that women and men stood

together on the same side of that great divide which separated them both from the animal realm. The Cartesian mind was a place where, to hark back to Augustine, "there is no sex"--a fact which explains not only that Father's enthusiasm for the mental realm, but also, for a different reason, the attraction of Descartes's philosophy for his female disciples, the *cartésiennes*.<sup>67</sup> [End Page 478]

As for the great deeds of the beasts, Chanet argued that those things which Montaigne and his followers had attributed to reason and morality could as easily be explained by instinct. (By instinct he seems to mean, at times, the direct activity of God. Boas has pointed out that this is a clear anticipation of Occasionalism.<sup>68</sup>) Conceding to his opponents the marvellous achievements of some of the beasts, he concludes that this only shows that they are not guided by reason. Human reason requires experience, is often slow, and often fails. The near perfection of many of the feats of the beasts merely shows that their behaviors are the effects of some perfect counsel--God.<sup>69</sup> Descartes's first recorded observation about animals conveys a similar message: "The high degree of perfection displayed in some of their actions makes us suspect that animals do not have free will."<sup>70</sup>

In sum, for the tradition of Christian Stoicism which emerged with renewed vigor in the sixteenth century, following the law of nature is nothing other than following the law of right reason. According to this view, the divine reason is the source both of regularities in the natural world (and the knowability of nature) and of human reason.<sup>71</sup> With the advent of the Baconian program for scientific advancement, however, the agenda increasingly became one of the mastery of nature rather than conformity to it. Human reason is now viewed as something apart from nature. Only through its independence from nature can human reason assert its dominance. Nowhere is this new dichotomy between human reason and the natural world more explicit than in the thought of Descartes, who posits a vast gulf between the immaterial mind, characterized by reason, and the corporeal world which is totally devoid of human-like purposes. Whereas human superiority was once perceived to lie in the fact that the human being, as a microcosm of nature, comprehended all natural things in itself and thus was more intimately connected with every single part of nature than any other creature, now human superiority lay in the possession of a mind which participated in a different order from the rest of material nature, and which was not subject to the base mechanical laws which governed the lower part of creation.

III. In the opening lines of the *Regulae* Descartes makes the following observation: "Whenever people notice some similarity between two things, [End Page 479] they are in the habit of ascribing to the one what they find true of the other, even when the two are not in that respect similar."<sup>72</sup> The scientific method which Descartes advocated could find no place for a knowledge based on similitude, or on reasoning by analogy. Aristotelian mechanics, which had been based largely on analogy from human movement, had been largely discredited. As Descartes was to explain with regard to the principle of inertia:

From our earliest years we have often judged that such motions, which are in fact stopped by causes unknown to us, come to an end of their own accord. And we tend to believe that what we have apparently experienced in many cases hold good in all cases--namely that it is in the very nature of motion to come to an end, or to tend towards a state of rest.<sup>73</sup>

The methods of the new science demanded that in the sphere of mechanics, at least, analogies from human experience be set aside. Descartes was the first to apply this insight to the realm of living things, insisting that if the motions of animals were to be accounted for by the same laws as other physical objects, then there could be no place in the life sciences for analogical explanations based upon superficial resemblances or similitudes.

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 the truth must distrust opinions rashly acquired in childhood. <sup>74</sup>

Previously, certain areas of the life sciences had been off-limits to mechanistic explanation because it was accepted that living things were animated by souls, the principles of whose operations lay beyond the physical realm. Life, or "animation," was thought to mean simply the presence of soul. Descartes denied that it was the soul which conferred life on living entities. Creatures die, he insisted, not because the soul leaves the body, but "because one of the principal parts of the body decays." A live animal is analogous to a watch which [End Page 480] has been wound up, a dead animal to one which has run down. <sup>75</sup> If analogies were to be made, they must now be made between animal and machine, not the animal and human mind. The Cartesian hypothesis about animal movements thus entailed a rejection not only of knowledge by analogy but also of the Peripatetic view according to which animals were animated by souls. In the words of the Cartesian Géraud de Cordemoy: "Forasmuch as most of the Motions, that are observ'd in Animals, are accompanied in us with some knowledge, it hath been believed, that there was in Animals a principle of knowledge, which is called a *Sensitive Soul*." The sensitive soul, however, becomes obsolete ontological baggage once it is recognized that God "hath contriv'd the Bodies of Animals after a certain way, and that he hath establish'd certain Rules of Motion." <sup>76</sup> Only in the human animal, concludes Cordemoy, is "the motion of the Organ ... accompanied with a thought or Perception of the Soul." <sup>77</sup>

For the Cartesians, then, beasts have no soul. They do not think, they do not feel. They are not, in any sense, autonomous agents. Animals have sensations but not *conscious* sensations; they have passions but not conscious passions. These latter distinctions have understandably been the source of some confusion. At least one influential commentator has argued that Descartes must allow brutes to be conscious in some sense, for he allows that they are subject to passions. <sup>78</sup> This view, however, fails to take into consideration the significance of Descartes's distinction, stated in the opening lines of *The Passions of the Soul*, between a passion "with regard to the subject" and a passion "with regard to that which makes it happen." <sup>79</sup> Descartes does ascribe passions to animals but only in a limited sense:

And the same may be observed in animals. For although they lack reason, and perhaps even thought, all the movements of the spirits and of the gland which produce passions in us are nevertheless present in them too, though in them they serve to maintain and strengthen only the movements of the levers and the muscles which usually accompany the passions, and not, as in us, the passions themselves. <sup>80</sup> [End Page 481]

In short, animals share with us the physiology of the passions, the movement of the animal spirits, but they have no conscious states. In humans "what is a passion in the soul, is usually an action in the body." <sup>81</sup> In animals, which lack a soul, the passions are merely bodily dispositions. The "meagre" and "implausible" writings of the ancients on this topic, Descartes suggests, owe their deficiencies to the failure to observe this distinction. Animals then, as Descartes's disciple Malebranche expressed it, are not "susceptible of all the Motions of the Passions, Fear, Desire, Envy, Hatred, Joy, Sorrow." Rather, "they eat without pleasure, cry without pain." <sup>82</sup>

The Cartesian approach, while admittedly rather counter-intuitive, solved a number of seventeenth-century quandaries about animals. Thus, for example, if animals had spiritual souls, were they immortal? And if they were immortal, were even the imperfect animals (like flies and beetles) to be recipients of eternal life? If animals did not have spiritual souls, how could they be conscious? If matter were capable of thought and sensation, might not human beings too, be purely material? Finally, why, if animals were not moral agents, were they created such that they were subject to pain and suffering? God would seem to have created animals such that they suffered, despite their never having committed wrongs. This would impugn the justice of God. To deny both that animals had souls and states of consciousness was an elegant way of negotiating all of these difficulties, and one that was more in keeping with the prevailing science than any of the alternatives.

The Cartesian approach also spelled an end to the marriage between natural history and ethics. The new attitude to natural history was clearly spelt out later in the century by English naturalist John Ray. In the *Ornithology* of 1678 Ray professes to have gathered a natural history which is totally devoid of "*Hieroglyphics, Emblems, Morals, Fables, Presages* or ought else appertaining to *Divinity, Ethics, Grammar*, or any sort of Humane Learning."<sup>83</sup> Science now concentrated on tracing causes from physical effects, rather than seeing effects as signs. The natural world had come to be regarded as a complex web of cause and effect rather than book of signs which had moral or transcendental meanings.

For all this, animals were to retain something of a moral role, but now their exploits were relocated to the literary realm, where they could still exert a powerful influence over the moral lives of their rational cousins. The passions, virtues, and vices of animals became literary devices for moral edification. **[End Page 482]** Such a shift had been foreshadowed as early as the end of the sixteenth century, when Sir Philip Sidney inquired "whether the feigned image of Poesy or the regular instruction of Philosophy hath more force in teaching?"<sup>84</sup> Increasingly, as the seventeenth century progressed, the question was resolved in favor of Poesy.<sup>85</sup> While naturalists like John Johnston had attributed love, fidelity, chastity, and courage to horses, these equine virtues were transferred, for example, in Jonathan Swift's *Gulliver's Travels*, to the fictional "houyhnhnms" a race of rational horses.<sup>86</sup> Here horses are imbued with "temperance, industry, exercise and cleanliness" and comprise a society "well united, naturally disposed to every virtue, wholly governed by Reason."<sup>87</sup> Cyrano De Bergerac's *Story of the Birds* (1650), the numerous editions of Aesop's fables which begin to appear at this time, La Fontaine's *Fables* (1668-94), Bunyan's *Book for Boys and Girls* (1686)--all are in some way compensations for the increasing tendency of the seventeenth century to exclude real animals from the moral universe.

IV. Over the course of the seventeenth century the behaviors of brutes ceased to be "signs" which bore specific meanings for human observers. Increasingly they came to be considered solely as effects of particular internal operations. Discourse about the passions of animals becomes discourse about the mechanical effects of animal spirits. This change is more or less what we would expect to take place in the seventeenth century, when the scientific preoccupation with causal relations displaces the medieval tendency to interpret nature in terms of symbols and similitudes. The moral role previously played by the creatures is taken over into fictional depictions of animals as rational and moral agents; their theological role is narrowed to a single focus--physico-theology. Beast-machines no longer posture as moral exemplars, but as remarkable machines which give mute testimony to the power of the creator who fashioned them.<sup>88</sup>

The new field for discussion is how the various effects (Descartes's "actions") are produced by the interior operations of animals. Are mechanical explanations alone sufficient to account for animal behaviors, or do the conscious volitions of creatures play some causal role in modifying their behaviors, as they do in humans? Perhaps no seventeenth-century thinker answered this question as elegantly as Descartes, who saw clearly that if we deny that animals are rational and moral agents, as did most of his contemporaries, then to endow **[End Page 483]** them with consciousness is an unwarranted extravagance. That such a counter-intuitive view could attract any adherents at all--and there were many in the seventeenth century who supported the Cartesian view--is testament to the problematic character of the alternatives. Somewhat ironically, the Cartesian doctrine of the beast-machine was eventually to lead to the postulation of the man-machine--an entity in which mechanical operations were deemed sufficient to explain the phenomena of consciousness.<sup>89</sup> And if humans could be conscious machines, there would seem to be little justification for denying awareness to animal machines. Added to this over the next two centuries, new evolutionary conceptions of the inter-relatedness of living things were gradually to assume the role once played by the idea of a hierarchy of being. These developments, culminating in the appearance of Darwin's theory of natural selection, were to make the basis of the Cartesian distinction between human and animal almost impossible to sustain.

# Notes

- [1.](#) See George Boas, *The Happy Beast in the French Thought of the Seventeenth Century* (New York, 1966); Leonora Rosenfield, *From Beast-Machine to Man-Machine* (New York, 1968); Hester Hastings, *Man and Beast in French Thought of the Eighteenth Century* (Baltimore, 1936); and Pierre Bayle, *Dictionnaire historique et critique* (2 vols.; Rotterdam, 1697-1702), s.v. "Pereira," "Rorarius."
- [2.](#) This view was typical of both Greek and Christian writings. See Plutarch, *De sollertia animalium*, *Bruta animalia ratione uti*, and *De esu carnum*; Porphyry, *De abstinentia*.
- [3.](#) Augustine, *City of God*, tr. Marcus Dodds (New York, 1950), XI.22 (365); cf. *De Genesi ad litteram* 3.16 (*Corpus scriptorum ecclesiasticorum latinorum*, 28.3.2).
- [4.](#) Godfrey Goodman, *The Fall of Man or the Corruption of Nature* (London, 1616), 280; Cf. George Walker, *History of the Creation* (London, 1641), 193, 229; John Edwards, *A Demonstration of the Existence and Providence of God, From the Contemplation of the Visible Structure of the Greater and the Lesser World* (London, 1696), pt. 1, 241; R. Franck, *A Philosophical Treatise of the Original and Production of Things* (London, 1687), 161.
- [5.](#) Lactantius, *On the Workmanship of God*, V, in *Ante-Nicene Fathers* (Edinburgh, 1989), VII, 286. Cf. Augustine, *City of God*, XI.22; *Reply to Faustus*, XXI, 5.
- [6.](#) Thomas Robinson, *New Observations of the Natural History of this World of Matter, and of this World of Life* (London, 1696), 139f, cf. 12; John Cockburn, *An Enquiry into the Nature, Necessity and Evidence of the Christian Faith* (London, 1696), 42; Edwards, *A Demonstration*, 233; Jean d'Espagnet, *Enchyridion physicae restitutae* (London, 1651), 30.
- [7.](#) Thus Aquinas: "We infer the presence of inner emotions [*passiones*] in the animals from their outward behaviour." *Summa theologiae*, 1a2ae. 40, 3 (London, 1964-76, XXI, 9).
- [8.](#) Ambrose, *Hexaemeron*, V.x.29, V.xv.50 (*Fathers of the Church* [Washington, 1947-], XLII, 184, 200).
- [9.](#) Basil, *Homilies*, XIII.6 (*Fathers of the Church*, XLVI, 207).
- [10.](#) *Physiologus*, tr. M. Curley (Austin, 1979), XVIII (27), VII (11), IX (14).
- [11.](#) See P. Allers, "Microcosmos from Anaximandros to Paracelsus," *Traditio*, 2 (1944), 318-407; G. P. Conger, *Theories of Macrocosmos and Microcosmos in the History of Philosophy* (New York, 1922); M.-D. Chenu, *Nature, Man, and Society in the Twelfth Century* (Chicago, 1968), 23. On "similitude" see Michel Foucault, *The Order of Things* (London, 1970), ch. 2.
- [12.](#) Philo, *On the Creation* LI.146, LIII. 151, in *Works*, tr. C. D. Yonge (Peabody, 1993), 21; Cf. *The Laws of Allegory*, II.22 (*Works*, 40): "man is every kind of animal"; "he resembled ... both the world and God; and he represented in his soul the characteristics of the nature of each."
- [13.](#) *Homilies in Genesis*, I.xi, xii (*Fathers of the Church*, LXXI, 61ff). Cf. Philo, *On the Life of Moses II*, XII.65 (496).
- [14.](#) Gregory, *Homiliae in Evangelium*, 29 (*Patrologia latina*, ed. Migne, LXXVI, 1212); Nemesius, *The Nature of Man*, I.i-ii.
- [15.](#) Ambrose, *Hexaemeron*, VI.ix.55 (368); VI.x.75 (282)
- [16.](#) *Ibid.*, VI.ii.3 (229).

- [17.](#) Qu. in Allers, "Microcosmos from Animaxandros to Paracelsus," 346. See also the exhaustive list of animals along with their moral and symbolic characteristics in Alanus de Insulis, *De planctu naturae* 11-17 (*Patrologia latina*, ed. Migne, CCX).
- [18.](#) *Fairie Queen*, 1.4.17-36; and see Diane McColley, *A Gust for Paradise: Milton's Eden and the Visual Arts* (Urbana, 1993), 82f.
- [19.](#) Jacob Behm, *Mysterium Magnum. Or an Exposition of the first Book of Moses* (London, 1654), 93. Cf. Edward Taylor, *Jacob Behmen's Theosophick Philosophy Unfolded* (London, 1692), 75; John Pettus, *Volatiles from the History of Adam and Eve* (London, 1674), 188.
- [20.](#) William Ayloffe, *The Government of the Passions, according to the Rules of Reason and Religion* (London, 1700), 31. See also, e.g., Jean François Senault, *De L'Usage des Passions* (1641): "he uniteth in his person the guile of Serpents, the fury of Tygers, Choler of Lions; teaching ... That man alone hath as may Passions as have all Beasts put together." Qu. from the translation by Henry, Earl of Monmouth, *The Use of Passions* (London, 1671), 85. Cf. also G. Havers (tr.), *A General Collection of Discourses of the Virtuosi of France* (London, 1664), 141; Taylor, *Jacob Behmen's Theosophick Philosophy Unfolded*, 75.
- [21.](#) Ayloffe, *Government of the Passions*, 22f.
- [22.](#) John Donne, Sermon on Genesis 1.26, in G. Potter and E. Simpson (eds.), *The Sermons of John Donne* (10 vols.; Berkeley, 1953-62), IX, 58; "To Sr. Edward Herbert. at Julyers," *Complete English Poems*, ed. C.A. Patrides (London, 1994), 200. Donne relies explicitly on the idea that man is a microcosm: "Man is a lumpe, where all beasts kneaded bee, /Wisdome makes him an Arke where all agree; / our businesse is, to rectifie Nature to what she was." *Ibid.*, 200. Donne's source is probably Philo, who writes that the ark "is an emblem of the body, which of necessity therefore contained all the most tameable and ferocious evils of the passions and vices." *De plantatione* XI.43 in *Works*, 194b; or Augustine: "Then the wild animals are quiet and the beasts are tamed and the serpents rendered harmless: in allegory they signify the affections of the soul.... So in the "living soul" there will be beasts that have become good by the gentleness of their behaviour.... For these animals serve reason when they are restrained from their deathly ways." *Confessions* XIII.xxi, tr. Henry Chadwick (Oxford, 1991), 291. Cf. John Chrysostom, *Homilies on Genesis* VIII.14 (*Fathers of the Church* LXXIV, 113); Jerome, *Commentariorum in Hiezechielem* 1.1.6/8 (*Corpus christianorum series latina*, LXXV, 11f).
- [23.](#) Foucault, *The Order of Things*, 17-44.
- [24.](#) Jacob Boehme, *Signatura Rerum: Or the Signature of all Things* (London, 1651), 77, 3.
- [25.](#) Physiological discussions generally rely on Aristotle and Galen. See Aquinas, *Summa theologiae*, 1a2ae. 44, 1 (XXI, 61-5), and editor's appendix 6, 172-77; Duns Scotus, *Quaest in Lib. Arist. de Anima, Disput.* II, sec. 7, in *Opera omnia* (Paris, 1891), III, 698.
- [26.](#) Wolfgang Franzius, *The History of the Brutes* (London, 1670), 12.
- [27.](#) *Ibid.*, 13.
- [28.](#) *Ibid.*, 9. See also Edward Topsell, *The History of Four-Footed Beasts and Serpents* (London, 1658), Epistle Dedicatory; Aldrovandi, *De animalibus insectis* (Bologna, 1602), 505-12; Jeremiah Wilde, *De formica* (Amberge, 1615), 70 and passim; Thomas Moufet, *Insectorum sive minimorum animalium theatrum* (Londini, 1634), ch. XVI; Noël Pluche, *Spectacle de la Nature* (7 vols.; London, 1770<sup>5</sup>), I, dialogues 7, 8 (106ff); René Antoine Ferchault de Réamur, *The Natural History of Bees* (London, 1744), 297.
- [29.](#) *Ibid.*, 39.

[30.](#) *Ibid.*, 41. Cf. Samuel Clarke, *A Mirrour or Looking Glass* (London, 1671): A lion's tail "is his Sceptre, by which he expresses his passion." The angry lion was also commonly depicted in emblem books. Andreas Alciati's *Emblemata* (Padua, 1621) includes an emblem of a lion being attacked by four dogs. The motto is anger, and the epigram reads: "The Ancients said the tail of the lion is powerful; because of its stimulus the lion conceives great anger. As the yellow bile rises, and the resentment begins to mount with the black gall, it arouses uncontrollable fury (Emblem LXII). The Spanish translation, *Los Emblemas de Alciato Traducidos in Rhimas Españolas* (Lyon, 1549), adds, "just like the man who stimulates and incites himself to unbridled fury." See Peter Daly et al. (eds.), *Andreas Alciatus* (2 vols.; Toronto, 1985).

[31.](#) Havers, *Discourses of the Virtuosi*, 139f.

[32.](#) Franzius, *History of the Brutes*, 52.

[33.](#) *Ibid.*, 53.

[34.](#) *Ibid.*, 54.

[35.](#) See Aquinas, *Summa theologiae*, 1a.2ae. (Blackfriars edn., XIII, 22).

[36.](#) Or, more correctly, that their souls are nothing but their blood. Descartes, Letter to Plempius, 3 October 1637, in *Philosophical Letters*, ed. and tr. A. Kenny (Oxford, 1970), 36.

[37.](#) Montaigne is most heavily indebted to Plutarch for his examples (Plutarch, *De sollertia animalium*, 968F-969C; 971B-972F).

[38.](#) Montaigne, *The Essayes of Michael Lord of Montaigne*, tr. John Florio (3 vols.; Oxford, 1951), III, 316, 305.

[39.](#) *Ibid.*, II, 169.

[40.](#) *Ibid.*

[41.](#) *Ibid.*, II, 162, 184-97.

[42.](#) Pierre Charron, *Of Wisdom* (London, 1697), 263. Tr. of *De la sagesse* (Bordeaux, 1601).

[43.](#) *Ibid.*, 241f.

[44.](#) (Paris, 1645). See the response by Pierre Chanet, *De l'instinct et de la connoissance des animaux avec l'examen de ce que Monsieur de la Chambre a escrit sur cette matiere* (La Rochelle, 1646), and La Chambre, *Traité de la connoissance des animaux, où tout ce qui a esté dit pour, & contre le raisonnement des bestes* (Paris, 1648); English tr. (by "a person of quality"), *A Discourse of the Knowledg of Beasts* (London, 1657).

[45.](#) La Chambre, *Discourse*, 21. Cf. 28f.

[46.](#) *Ibid.*, 21f.

[47.](#) See Plato, *Timaeus*, 69c-70c, *Laws*, 644d, Protagoras, 358c-d. Cf. *Summa theologiae*, 1a2ae (Blackfriars edn., XLIV, 2).

[48.](#) La Chambre, *Discourse*, Advertisement to the Reader. A similar argument is used by Ulysses against the Lion and the Dog in the G.-B. Geli's *Circe*. See Boas, *The Happy Beast*, 33f. The argument that the passions require reason might, of course, yield the opposite

conclusion that beasts have neither reason nor passions. This was the view of Justus Lipsius. See his discussion of the passions in *Manductio ad stoicam philosophiam* (Lyon, 1644), Bk. III, diss. 7 (277-95).

[49.](#) La Chambre, *Discourse*, Pt. II, 234, cf. 256. Cf. Senault, *Use of the Passions*, 80f.

[50.](#) Cureau de la Chambre, *Les caractères des passions*, I and II (Amsterdam, 1658), *Advis nécessaire au lecteur*, iiif.

[51.](#) See Michel Lescot, *Physionomie* (Paris, 1540); Jean d'Indagine, *Chiromance* (Lyon, 1549); Giovambattista della Porta, *De humana physiognomia* (Hanover, 1593); Robert Fludd, *Utriusque cosmi historia* (Oppenheim, 1619); Jerome Cardan, *Metoscopia* (Paris, 1658); La Chambre's own *Discourse on the Principles of Chiromancy* (London, 1658); Charles Le Brun, *Conférence de M. Le Brun sur l'Expression Générale et Particulière* (1698); and Barthélemy Coclès, *Physiognomonica* (Strasbourg, 1533), which includes a series of woodcuts which depict the physical characters of various passions: e.g., the foreheads of irascible, cruel, and covetous men; the eyes of lazy, reckless, and voracious men; the noses of vain, untruthful, luxurious, and fickle persons, etc.

[52.](#) La Chambre, *The Art How to Know Men*, 191f, 195, 204.

[53.](#) *Ibid.*, 205. The resemblances which obtain across species boundaries were first suggested by Aristotle, *Historia animalium*, 486b.

[54.](#) *Ibid.*, 206.

[55.](#) *Ibid.*, 210.

[56.](#) *Ibid.*, 214. Cf. discussion in Havers (tr.) *Discourses of the Virtuosi*, 139-42. These principles were subsequently employed in Charles Le Brun's *Conférence de M. Le Brun sur l'Expression Générale et Particulière* (1698).

[57.](#) La Chambre, *The Art How to Know Men*, 184: "by the cause which is known to it, of an obscure cause by a manifest effect, and an unknown effect by another which is evident. And these means are called *Signs*, because they denote, signifie, and design the things that are obscure."

[58.](#) Montaigne, *Essayes*, II, 159-61, 167, 181; Charron, *Of Wisdom*, 244. Cf. William Holder, *Elements of Speech* (London, 1669), 5f; Plutarch, *De sollertia animalium*, 973A; Porphyry, *De abstinentia* III.

[59.](#) See Richard Kroll, *The Material World* (Baltimore, 1991), 201-25.

[60.](#) John Bulwer, *Chirologia: or the Natvrall Language of the Hand* (London, 1644), 2, 3.

[61.](#) *Ibid.*, 6. Cf. Montaigne, *Essayes*, II, 160.

[62.](#) Père Garasse, *La Doctrine Curieuse des Beaux Esprits de ce Temps, ou pretendus tels* (Paris, 1624); cf. Scipion Dupleix, *La Physique*, I.iv, cited by Boas, *The Happy Beast*, 72f.

[63.](#) *Ibid.*, 693.

[64.](#) Chanet, *Considérations sur la sagesse de Charon* (Paris, 1643), 142, 378.

[65.](#) La Chambre, *The Art How to Know Men*, 26.

[66.](#) *Ibid.*, 27.

[67.](#) On these implications of the Cartesian doctrine, see Erica Harth, *Cartesian Women* (Ithaca, 1992), 1-3. Harth observes that Descartes's disembodied soul enabled women "to overcome their perceived sexual inferiority" and that the Cartesian active will "offered the possibility of dominating disabling passions" (93). Also see Ruth Perry, "Radical Doubt and the Liberation of Women," *Eighteenth-Century Studies*, 18 (1985), 472-93. For a discussion of Augustine on this question, see Genevieve Lloyd, *The Man of Reason* (Minneapolis, 1984), 28ff.

[68.](#) Boas, *The Happy Beast*, 75f.

[69.](#) Pierre Chanet, *Considerations*, 104-9. Cf. Aquinas, *Summa theologiae*, 1a 2ae. 13, 2 (Blackfriars edn. XL, 3).

[70.](#) Descartes, *Cogitationes Privatae*, in *The Philosophical Writings of Descartes*, tr. J. Cottingham, R. Stoothoff, and Dugald Murdoch (3 vols.; Cambridge, 1984-), I, 5.

[71.](#) Robert Hoopes, *Right Reason in the English Renaissance* (Cambridge, Mass., 1962), 163.

[72.](#) *Philosophical Writings*, I, 9.

[73.](#) *Principles of Philosophy*, 2.37, in *Philosophical Writings*, I, 241.

[74.](#) Descartes, Letter to Reneri, April 1638, in *Philosophical Letters*, 53.

[75.](#) Descartes, *The Passions of the Soul*, I.vi, in *Philosophical Writings* I, 329.

[76.](#) Géraud de Cordemoy, *A Discourse written to a Learned Frier* (London, 1670), 121f. Cf. Kenelm Digby, *Two Treatises in the one of which, The Nature of Bodies, in the other, The Nature of Mans Soule, is looked into* (London, 1645), 399; Antoine Le Grand, *An Entire Body of Philosophy* (London, 1694), 254; John Norris, *Essay towards the Theory of the Ideal or Intelligible World* (London, 1704), pt. II, 58-100.

[77.](#) *Ibid.*, 130.

[78.](#) John Cottingham, "A Brute to the Brutes: Descartes' Treatment of Animals," *Philosophy*, 53 (1978), 551-61. Also Boas, *The Happy Beast*, 90, n. 201. Cf. Peter Harrison, "Descartes on Animals," *Philosophical Quarterly*, 42 (1992), 219-27.

[79.](#) Descartes, *The Passions of the Soul*, I.i, in *Philosophical Writings*, I, 328.

[80.](#) *Ibid.*, I.50, (I, 348).

[81.](#) *Ibid.*, I.1, (I, 328).

[82.](#) Nicolas Malebranche, *Father Malebranche, his Treatise concerning the Search after Truth*, tr. T. Taylor (London, 1700<sup>2</sup>), 185; *Oeuvres complètes*, ed. G. Rodis Lewis, (Paris, 1958-70), II, 394.

[83.](#) John Ray and Francis Willughby, *The Ornithology of Francis Willughby* (London, 1678), Preface.

[84.](#) Philip Sidney, *An Apology for Poetry*, in E. Jones (ed.), *English Critical Essays* (Oxford, 1963), 16.

[85](#). Cf. Sidney, *An Apology*, 17.

[86](#). Johnston, *Nature of Four-Footed Beasts* (Amsterdam, 1678), 4. It is not clear how these virtues stand given Johnston's earlier statement that horses are the most lustful of beasts.

[87](#). Jonathan Swift, *Gullivers Travels*, pt. IV (chs. 8, 9).

[88](#). See, e.g., Walter Charleton, *Natural History of the Passions* (London, 1674), 33-7; Kenelm Digby, *Two Treatises*, 343; John Norris, *Essay*, pt. II, 92; Pluche, *Spectacle de la Nature*, I, 315.

[89](#). See, e.g., Ignace-Gaston Pardies, *Discours de la connoissance des bestes* (Paris, 1672); Julian de La Mettrie, *L'homme-machine* (Leyde, 1748). Also see Rosenfield, *From Beast-Machine to Man-Machine*, 141-153