

## 'Animal' as category: Bayle's "Rorarius"

**NB.** The published version of this paper is in: Justin Smith, ed., *The problem of animal generation in modern philosophy* (Cambridge University Press, 2006).

Sometime before 1539 in Velletri, after dinner, Cardinal Bernard of Cles, a "man of all hours", had a dog perform for his guests. Not only did it perform the usual tricks, jumping through hoops and so forth, but when its trainer brought out a book of music, the dog, "jumping up on his knee", began to sing, "now with a high voice, now with a low, sometimes drawn out with continuous breath, sometimes varied and modulated". Girolamo Rorario, better known by his Latin name Rorarius, was quite taken with the animal's uncanny performance. The Cardinal, for his part, reflecting on astrology and fate, asked his guest about the power of the stars to govern human acts. Rorarius answered that although the stars may incline us this way or that, still "by reason, which rules most powerfully, man may abstain from those things he knows will lead to unhappiness" (Rorarius 1647:18). "But why", the Cardinal answered, "have you said that reason rules most powerfully in man? Do you not believe that reason likewise occurs in animals?" Rorarius said that he had long been troubled by that very thought—that indeed "reason oftentimes is found to be better in brutes than in men" (19).

Out of that conversation came the manuscript of a work that was published only a century later. In 1648 Gabriel Naudé dedicated Rorarius's manuscript, with the slightly altered title *Quod Animalia bruta ratione utantur melius Homine*,<sup>1</sup> to the brothers Dupuy as an illustration of the *libertas philosophandi*.<sup>2</sup> A half-century later it drew the attention of Pierre Bayle, who devoted an article of the *Dictionnaire historique et critique* to Rorarius and his work. The ostensible subject of the article, almost vanishing at the top of a page nine-tenths of which is devoted to footnotes, serves mostly to provide an occasion for Bayle to engage in controversy. Descartes and those of his persuasion had argued that animals, being machines crafted by God, have no souls. Against them were aligned not only the Schools, but also many among the new philosophers, notably Leibniz. Bayle's argument issues in a dilemma. The Cartesian position is most favorable to religion. But it is incredible. What remains is to grant that animals have souls; it then appears that either animal souls are immortal or human souls are not. Neither position is entirely palatable. But the second is far more offensive to religion than the first. Hence

Bayle's evident sympathy for the Leibnizian view, a "third way", which nevertheless he rejects because he cannot stomach pre-established harmony.

The concept *animal* is charged not only with designating a class of creatures, real and imagined, but also with supplying a contrast to the human.<sup>3</sup> In Christian anthropology, the animal represents material nature in the most perfect condition it can attain without the intervention of spiritual nature. It designates that condition not only in nonhuman species, but in us, by virtue of what we share with those species, physically and morally. The complexity of the concept remains even when the theological implications fade into the background. Questions about "the animal" are not strictly natural-philosophical or biological questions. It is not surprising that Bayle, in his treatment of animal souls, should devote only a small portion of his argument to anatomy or physiology. Indeed it is characteristic of the controversy that its factual content should consist mostly in anecdotes. With no systematic relations between sensation and action to appeal to, what remained were *experientia*: illustrations of animal sagacity and foresight, on the one hand; debunkings or claims of explicability in principle, on the other.

For the Schools,<sup>4</sup> the human soul shares two of its three "parts" with animals. Only the intellectual soul is distinctively human, and only by virtue of that third and highest part does the human soul attain to immateriality. The distinction between human and animal rests upon demonstrating that the rational powers of the mind—discursive reasoning and free will—are distinct from the sensitive powers and absent from animals. The immateriality of the soul follows from that distinction. In Cartesianism, discursive reasoning remains the criterion; but the distinction is now between creatures in whom an immaterial soul is united with a body and creatures which are body alone. Sense and sensation become powers and acts of an immaterial substance which has no counterpart in the animal. It no longer senses or feels, strictly speaking, though its body undergoes changes similar to those we experience in our bodies. No longer is the animal, now a machine, a distinctive *kind* of thing in nature; it is distinguished from the machines we build only by the size, number, and intricacy of its parts. The notorious implication is that animals have no feelings—neither sensations nor passions. The soul is a unity, its every operation, active or passive, a thought: there can be no granting to animals of *some* but not *all* its powers, and thus there can be, if the human soul is immaterial, no "material", hence perishable, soul like that which the Schools attributed to animals.

Though he accepts neither, the School philosophy and Cartesianism set for Bayle the terms of the problem. Together with the ancient sources they draw

upon, they determine the field of force to which any philosophical solution must respond: the claims and methods of natural philosophy—in particular, the predominance of mechanism—; the theological necessity of preserving for humans their unique role in the destiny of the created world; and the moral position customarily assigned to animals, to whom no rights are granted nor duties imposed. **1**

## Against the Schools

After touching on Rorarius and his work, Bayle turns to the real topic: the animal souls controversy of his own day. The Schools<sup>5</sup> and Descartes: those are the alternatives, it would seem, both of them unsatisfactory.

Bayle's article has the form, loosely, of a disputation, a disputation without a thesis. The opinions of the Schools and of the Cartesians are presented and rejected: "The facts concerning the abilities of animals are an embarrassment both to the sectaries of M. Descartes and to those of Aristotle" (Note B, *OD* Suppl. 2:970). The opinion of Leibniz is then taken up. The reader might expect that in Leibniz a resolution of the question is to be found. But it is not. Leibniz, too, is rejected, with regret. *If* the system of Leibniz were satisfactory, his account of animal souls, which solves a great many problems, would be welcome. But pre-established harmony, despite its benefits, is too much to swallow.

Two boundaries are at issue, one scientific, one moral. The scientific is between that which admits of a mechanical explanation and that which does not. The implicit finding of Bayle is that either sensation and reason *both* admit of such explanation, and so the Cartesians, though correct in their opinion about animals, would have gone too far; or else *neither* admits of mechanical explanation—an outcome that presents dangers of its own. The moral boundary is between those creatures whom we or God treat as subject to law and thus as punishable for their crimes, and those which have neither right nor obligation under the law, and to whom our only relations are relations of power. The customary basis upon which the boundary is fixed is the presence or absence of reason and free will, which though distinct (for all the philosophers discussed here except Spinoza) are inseparable. The argument of "Rorarius" implies that animals cannot be denied the use of reason; nor can the usual grounds be adduced to show that their souls are mortal; only free will remains to distinguish them, and even that is dubious. Bayle does not, all the same, draw the evident conclusion: the departure from custom would, it seems, be too extreme, and the moral consequences for us, if we

do not change our ways of acting toward animals, too dire.

Rorarius's work contains a mass of "singular facts on the industry of animals and the malice of men", facts which embarrass Schoolmen and Cartesians alike. It is not immediately clear, however, why Aristotelian philosophers *should* be embarrassed. Illustrations of animal sagacity—nest-building by birds, the dog's recognition of its master, the social ways of ants—were well known to them, and were happily put to use in demonstrating that nature acts toward ends.<sup>6</sup> Those feats, however marvelous, do not exceed what can be ascribed to instinct. Although, for example, "some animals are in a certain way teachable, this does not exceed the grade of the sensitive [powers], because it can occur by memory together with a natural instinct (Suárez, *De anima* 1c5no2, *Opera* 3:500). Even the recognition of benefit and harm is not beyond the capacities of a creature without reason. The sheep has a natural capacity, the *vis aestimativa*, by which it recognizes the wolf not only as wolf but as inimical to it; in exercising that capacity it does not subsume the wolf under a concept of badness, it simply *recognizes* the wolf as bad (Suárez, *Disp. meta.* 23§10no14, *Opera* 25:889).

In Aristotelian psychology the soul, defined as the form of living things, is regarded as having three functional "parts". To the vegetative or nutritive part belong the powers of generation, growth, and nutrition. Of these generation is the most natural in the sense of following most immediately from the essence of living things, whose forms are distinguished among material forms by their capacity to reproduce themselves in new matter. Growth and nutrition have as their end the preservation of the organism and its preparation for the task of generation. Among Aristotelians there was general agreement that even the vegetative powers of the soul, the least perfect of its powers, could not be found among the capacities of inanimate matter. But no-one doubted that the vegetative soul is material, "immersed in matter". It was thought, for example, to be divisible; more importantly, unlike the senses, its powers in no way rise above their material basis.

Little attention was paid to the vegetative powers in controversies on the mechanistic explanation of living things. It was instead the sensitive part of the soul that proved to be pivotal. In the Aristotelian science of the soul the sensitive part, common to humans and animals, distinguishes animals from plants; the rational part is found in humans alone. Thus the burden of explaining those operations of animals that are not due to their matter, nor merely vegetative, rests entirely on the sensitive soul, however ingenious they seem to be. Moreover, it is incumbent on the philosopher, if the distinction between humans and animals is to be maintained so that humans but not animals have immortal souls, to show

that having sensation (in all its aspects, including the internal senses of memory, imagination, and the *vis aestimativa* mentioned earlier) does not entail having reason.

That way of putting the issue is not the Aristotelians' own, but a way that arose only after Descartes had insisted that for a thing to have genuine sensations—or to stand in any *intentional* relation to other things, including teleological—entails having a Cartesian mind, which is an all-or-nothing affair. In Aristotelian texts the issue arises instead as it is being shown that the human soul is immaterial. The principal argument is that the human soul is capable of operations no merely material thing, even a living thing, can perform. Those operations are assigned to the rational part of the soul; and to the sensitive all those operations a material thing can perform. It then follows that having sensation does not entail having reason.

Bayle's first sally against the Schools consists in turning against them the very argument they use to show that animal souls are not reducible to the natural capacities or forms of the material constituents of their bodies. The Aristotelian points to instances of animal industry and demands of the opponent (here the Cartesian) that he should show how mere inanimate stuff could perform such operations.

Every Peripatetic who wants to say the animals are not just automata objects first of all the a dog when it is beaten for having thrown itself upon a plate of meat no longer touches it when it sees his Master menacing it with a staff. But to show that this phenomenon cannot be explained by the one who proposes it, it suffices to say that if the action of the dog is accompanied by knowledge, then necessarily the dog must reason: the dog must compare the present with the past and draw a conclusion; it must remember the blows given to it and why it received them; it must know that if it pounced upon the plate of meat that impresses itself upon its senses, then that action would be the same as the action it was beaten for; and it must conclude that to avoid new strokes of the staff it must abstain from the meat. Is this not a true reasoning? (Bayle, "Rorarius" Rem. B, *OD* Suppl. 2:970a)

There is, in short, no halfway house between the wholly inanimate—the automaton—and the fully rational.

That argument, however, is insufficient. Ignace Pardies sets forth very eloquently a version of it. If you grant, he says, that animals can act toward ends, foresee the future, remember the past, and so forth, then "why do you not say that

men are capable of exercising their functions without a spiritual soul?" (Pardies, *Discours* ¶49, 100; see also *Cureau de la Chambre, Traité* pt4c1, 222). That humans are capable, but animals not, of thinking of universals, the infinite, and spiritual things suffices to show, indeed, that we have a rational soul. But it does not suffice to show that animals don't. "Those operations you find so extraordinary differ only in degree from the operations you attribute to animals" (103). The singing dog, who acts to please his master, does all a thing must do to exhibit reason.<sup>7</sup>

To this Pardies has an answer. Animals have "sensible" but not "intelligible" knowledge. The difference between animal and human reason is not, therefore, merely one of degree. Spiritual knowledge is "a perception that carries with it essentially a species of reflection that it makes indivisibly on itself, so that we know full well that we know" (¶78, 150). Sensible knowledge is perception with reflection. To see that our knowledge is sometimes spiritual requires only that we "consider what goes on in us" when, for example, "after having considered the admirable arrangement of this world", we conclude that God exists. At the same time we know "intimately" that we are thinking that very thought—without any *further* act of understanding.

It may happen, on the other hand, that we perceive *without* perceiving that we perceive:

For example, it often happens that, when the mind is extremely occupied in the consideration of some object that pleases us greatly, we are so absorbed in this consideration that there remains to us no means, almost, to think of anything else. And so, having our eyes open, we do not perceive the objects that are before us, and one of our friends could have passed without our taking note of it (¶80, 154).

It cannot be denied that we have seen that person. After all, we didn't suddenly go blind. It is true that we did not *attend* to our friend. But seeing with attention is reflexive, while in the case at hand we saw but did not attend, which is to say, we had sensible but not spiritual knowledge of what we saw.

Bayle rejects that distinction. It is "chimerical" to suppose that animals can know all they know without having reason.

It is evident to anyone who knows how to judge, that every substance which has a sensation knows that it senses; and it would not be more absurd to maintain that the soul of man knows at this moment an object without knowing that it knows it, as it is to say that the soul of a dog sees a bird without seeing that it sees. This shows that all the acts of the sensitive

faculties are by nature and by essence reflexive upon themselves (Rem. E, 973a).

Since this is the *point fort* of Bayle's argument, it is worth asking where he takes it from. He cites here the *Philosophia naturæ* of Emmanuel Maignan, like Mersenne a Minim very much taken with the new science, but not a wholehearted Cartesian. Maignan, though he retains the Aristotelian doctrine on the souls of animals, nevertheless argues that "what we call sensing is not without a cognition of the act which occurs in us as we sense", precisely because to sense is to recognize [*agnoscere*] the action of some external thing upon the senses (Maignan, *Philosophia naturæ* c24no2, 527). Before Maignan, Suárez had already argued that in the sense as it senses there is always at least something akin to reflection:

Every sense perceives in a certain way its own action not by reflection, but imperfectly, and as in the actual exercise [...] This is proved by the fact that every cognition occurs by a vital attention and immutation of the power itself: and therefore when the power senses an extrinsic object, it is changed [*immutatur*] by that sensation, and in the actual exercise in some way experiences itself sensing (Suárez, *De anima* 3c12no5, *Opera* 3:654).

Suárez, of course, holds that the human soul differs essentially from that of animals, but on the more traditional grounds that it has the capacity to grasp universals and to consider immaterial things, and that it is capable of "formal" reflection on its own thoughts.

Descartes too held that sensing entails reasoning. In the Sixth *Replies*, he notes among the errors of his youth that of judging weight to be a *tendency* of heavy things to move toward the center of the world. But for those things to have that tendency would be for them somehow to know or to sense where the center of the world is. But that entails thought of a sort; and whatever has thoughts of any sort is in every essential respect a *mind*; and so the error of his youth amounted to the attribution of "little souls" to stones and other nonhuman things—including animals. If, as Pardies urges, there is "sensing" without awareness—sensing from which the *cogito* cannot be extracted—then that must be put entirely on the side of the body.

The Cartesian cast of Bayle's thought can be discerned already in his *Système*. The proof there of the immortality of the soul rests entirely on its indivisibility, not on the character of its operations. Bayle notes that "the Philosophers" ordinarily prove the immateriality of the soul by reference to its powers to "conceive being in general" and so forth—the usual list, including the power to perform "reflexive

acts" [*actes réfléchis*]. He adds that "every thought is essentially a reflexive act, that is, known to itself", so that to know a thing is to know that one knows it (Bayle, *Système Physica* pt2tr2c3, *OD* 4:457). From this alone it would follow, even if Pardies' distinction were granted (Bayle does acknowledge a difference between the reflection essential to every thought, and that by which "the soul examines its acts, in such a way that one thought is the object of another"), human thought and the supposed thought of animals have nothing in common—save if matter were capable of reflection.

At this point, Bayle's argument takes an odd turn. He takes it to be proved that animals think, and that thinking is essentially reflexive, from which it follows that if animal souls are material, then matter is capable of reflection; if not, then animal souls are immaterial (and so, by the usual arguments, immortal). Elsewhere Bayle observes that among the anti-Cartesians some have been reduced to bestowing an immortal soul on animals: "Vanquished by the purest ideas of Theology, and forced into all sorts of retrenchment, they whisper in one another's ears that the soul of animals does not perish" (Bayle, *Nouvelles* mars 1684, art. II, *OD* 1:10).

Rather than take up that unorthodox possibility, Bayle instead refutes a position which he does not attest by citation.<sup>8</sup> Since the soul of an animal is capable of judging, discerning, pursuing the beneficial, and so forth, one must conclude that if (as the Schoolmen say) "it produces no further acts as noble as those of our soul, or if it is of a nature less perfect than the soul of man, it can only be because the organs it animates do not resemble ours" (Bayle, "Rorarius" rem. E, *OD* Suppl. 2:973b). Now the cognitive capacities of people do differ, because of the condition of their organs. "The same soul, which makes us admire its reasoning and its wit in a great man would only dote in an old man, extravagate in a madman, sense in a child". Nevertheless there are no *essential* distinctions among human souls.

"The soul is [...] a thinking substance, it is therefore capable of thought in general". It cannot be that animal souls should differ *essentially* from the human simply by virtue of being in bodies not like ours. Interestingly enough, the Coimbrans acknowledge that if the body of an oyster were (miraculously) to be joined with a human soul, it would be capable, so far as external acts were concerned, only of oysterish acts. But they do not entertain the thought that it would cease to be human: for them too different bodies do not make for different souls except in the ordinary course of nature.

As against the Aristotelians, this part of Bayle's argument succeeds at best in pinpointing the real issue (supposing that the notion of 'reason' is not in dispute).



“It would be necessary first that you [the Aristotelian] should prove that the defect of reasoning in animals proceeds from a real and interior imperfection of their soul, and not from the organic dispositions on which it depends” (2:974a). The Peripatetic cannot hold (against the Cartesians) that animals have reason and cannot be automata, and at the same time (against Pythagoreans and the like) that animal reason differs essentially from ours, because the reasons offered for the difference—the capacity of humans to grasp general concepts and so forth—suffice to show only that a certain kind of *body* is needed to support those sorts of thought. The challenge is a skeptical challenge: show us, in the face of all the evidence your yourself have brought forward in defense of animals, that they do not have souls like ours—and conversely that if a corporeal soul can produce all the acts of an ape it could not also produce all the acts of *un gros lourdaud paisan*, a fat stupid peasant.

### Against the Cartesians

“It is too bad that the sentiments of M. Descartes are so difficult to uphold, and so far from verisimilitude; for they are otherwise very advantageous to the true faith”(Bayle, “Rorarius” main text, *OD* Suppl. 2:970; compare *Nouvelles* mars 1684, art. II, *OD* 1:8b). Chief among those advantages is that animals, having no soul, certainly cannot have an immortal soul, and that, having not even sensation, let alone thought, they cannot suffer. If, as Augustine holds, where there is no sin there can be no suffering, then the Aristotelian doctrine would entail that animals must be capable of sin. Proofs, moreover of original sin that depend on the principle of Augustine would “fall to the ground”: but the maladies of infants, otherwise sinless, can be explained only on that principle.

The basis of the Cartesian view is familiar enough. In the *Treatise on man*, written in the 1630s but published only thirty years later, Descartes attempts to demonstrate that, in a world consisting only of extended things in motion, and therefore lacking the forms and qualities of Aristotelian natural philosophy, including animal souls, there could be machines that exactly imitate those actions of the human body that do not require thought (and thus *all* the actions of thoughtless brutes). It follows that, if animal souls were introduced simply to explain those actions—the vital operations of animal bodies—, then in the world of the *Treatise* they are superfluous. Descartes’ systematic proscription against forms and qualities in natural philosophy generally is thus reinforced by showing that even in the study of animals and plants they are not required, provided that

we agree that the only ground for introducing them was to explain how animals respond to things around them, pursue what will benefit them (i.e., conserve their machines), and so forth. We attribute souls to them only because the similarity of some of their acts to ours has misled us from our first years into thinking that the cause of those acts must resemble the cause of our own,, which we know to be a soul.

The one major lacuna in the theory of the *Treatise* was generation. This Descartes attempted to make good when, in the 1640s, he returned to the study of living things. In the *Description of the human body*, he attempted to show how from the seed of the parents the body of their offspring can be formed in purely mechanical fashion. With that the last reason for attributing souls to animals was refuted, and with that refutation a host of problems surrounding generation, which in the Schools were discussed under the heading of the “education of forms”, and which had been solved only by appealing to the acts of celestial intelligences or God himself, could be dismissed.

Nevertheless, the Cartesian opinion must be abandoned. Bayle argues at length, mostly by abundant citations, in both the article “Rorarius” and the article “Pereira”, that animals have not only sense but reason. On this point he agrees with the anti-Cartesians. Descartes and his sectaries had not solved this problem. Indeed they had not even solved the problem of generation. In the article on Daniel Sennert, Bayle, considering that problem, rejects both the Aristotelian appeal to substantial forms, the hypothesis of Sennert and More that the cause of fetal organization is a soul within the seed, and—not surprisingly—the appeal of some philosophers to celestial intelligences (Bayle, “Sennert” rem. G, *OD* Suppl. 2:1040b).

I know able men who vaunt themselves for understanding that the general laws of the communication of movements, however simple, however few in number they are, suffice to make a fetus grow, supposing it to be organized. But I admit to weakness in this respect: I cannot understand it. It seems to me that in order for a little organized atom to become a chicken, a dog, a calf, etc. it is necessary that an intelligent Cause should direct the movement of the matter that makes it grow [...] I find it therefore rather closer to the truth that the growth of the fetus, organized if you will since the beginning of the World [an allusion to the views of Leibniz and other preformationists], is directed by a particular cause that has an idea of the work [i.e. the already-organized seed] and the means of making it larger, as an Architect has the idea of a building and of the means for making it larger [...] (ib.).

The argument against the Cartesians is developed furthest here. Its conclusion is not quite that animals have souls (for that it would seem that the innumerable examples drawn from the ancients, and cited above, already suffice) but that mechanism is *in general* incompetent to explain the operations of life. A conclusion from which it would follow that not only are animal souls to be retained, but something like the Aristotelian notion of a soul in general—a nonmechanical principle by which the operations of living things are explained.

More problematically: mechanism is either insufficient, as it seems to be in generation, or else it explains *too much*. The Peripatetic takes his revenge by turning the tables: you, the Cartesian, argue that on my principles not only humans but animals must have immortal souls; I argue in return that on your principles the human being has no soul at all—or at least no other than yourself.

The Cartesian has no sooner overturned, ruined, and annihilated the opinion of the Scholastics on the soul of animals, than he realizes that one can defeat him with his own arms, and show that he proves too much, and that if he reasons consequently, he will renounce his opinions, which he cannot hold on to without exposing himself to ridicule and admitting obvious absurdities: where is the man who would dare to say that only he thinks, and that all others are machines? (Bayle, “Sennert” rem. G, *OD* Suppl. 2:1040b).

Bayle's argument is taken from the *Voyage du monde de Descartes* of Father Gabriel Daniel, who elaborates his version of it with no small relish. Even the very certain criterion for distinguishing people from automate put forward by Descartes in the Discourse—the use of language—will hardly do:

But to consider things well and without preconceptions, as you eternally advise Philosophers to do, is there, in your opinion, much more mystery in the coherent discourse of men than in an infinity of very coherent actions of animals? What, after all, is a “coherent discourse”? Let us see what is comprised in it.

In coherent discourse there is movement; the lips move, the tongue, the jaws, and by this movement the air is pressed, fragmented, reflected in various ways. Clearly a thinking principle is not need for that. The diverse modifications of all those movements that make certain sounds rather than others, [sounds] which form the words ‘French’, ‘Latin’, ‘Spanish’; all this is as yet nothing—parakeets, crows, and magpies form those sounds; and yet they do not think. And so when one disputes with a Cartesian one has only to bring in proofs of similar things. If, therefore,

coherent discourses require us to suppose a principle that thinks in the machine that pronounces them, it is because they are coherent. Let us examine now what 'coherent' means (Daniel, *Voyage* 476–477)

Father Daniel goes on to show that the marks of coherence, whether they be responding in sounds similar to those one hears, or the use of sounds to coordinate action, or whatever, can be found also in the actions of soulless animals, and that the Cartesian is therefore committed to holding that other people are automata. He adds that “wherever there is order, subordination, and a constant and regular usage, it is a necessity that there should be a knowing Principle, fully rational”. But the “immediate principle” of the movements of things so ordered can be either a rational soul or the “disposition of a machine”. In particular the production of coherent discourse by a thing does not entail that the principle of its actions is an *internal* principle (485–486).

The debate between the Cartesians and their Peripatetic opponents ends in stalemate, each vanquishing the other with its own weapons. The argument of Bayle to this point can be put in the form of a complex dilemma:

- (i) if animals have no souls, then humans do not have souls (Daniel's argument; or parity of reasoning, given that animals perform acts indicative of the possession of reason);
- (ii) if animals have souls, then
  - (ii.1) if their souls are mortal, and if animal reason is indistinguishable in kind from human reason, then human souls are mortal;
  - (ii.2) if human souls are immortal, then (because there is no essential difference between human and animal reason), animal souls are immortal, and if (what seems plausible) they also have free will, they must enjoy equal title with us to the status of moral agents.

None of these outcomes is acceptable. The consequences of the last are taken by Bayle from Darmanson's *La bête transformée en machine*.

There is no Casuist who believes that anyone sins in making bulls fight dogs, etc. or in making use of a thousand ruses and violences in hunting and fishing in order to destroy animals, or in diverting himself by killing flies as did Domitian. But is there not cruelty and injustice in subjecting an innocent soul to so many misfortunes?

It is not clear from the immediate context how Bayle would answer that question. It is clear that a great revision in our practices and moral judgments would be

entailed in attributing rational souls, endowed with free will, to animals; that in itself may suffice to make the proposition doubtful.

## Against Leibniz

It is with Leibniz's system (taken from the *Système nouveau de la communication des substances*, published in 1695) as with Descartes. Leibniz's system solves nicely a host of problems, notably that of the generation of animals and the origin of souls. But it cannot be adopted without reservations, because pre-established harmony "presents impossibilities" whose resolution Bayle cannot conceive Bayle, "Rorarius" rem. L, viii, *OD* Suppl. 2:981b). In particular, Bayle finds it difficult to understand how a simple substance, such as the souls of animals are supposed to be, can spontaneously give rise to a variety of phenomena, if (as Leibniz holds) it is never acted upon by any other substance.

The *Système nouveau* is a précis of Leibniz's principles in metaphysics and physics, principles arrived at, he says, some ten years earlier (the period of the *Discours de la métaphysique* and the beginning of his correspondence with Arnauld). Leibniz's nature is mechanist, he says; indeed it is not only mechanist but hypermechanist: an infinity of machines is contained in every visible portion of matter. But although he rules out the *archai* or plastic natures of Cudworth, his mechanism is, by Cartesian standards, heterodox. The motions of bodies and the laws that govern them are not the fundamental laws of creation; above them are the laws that govern what Leibniz calls "force" or "potency" [*puissance*]. Force is a "medium between power [*pouvoir*] and action, that envelops an effort, an act, an entelechy" (*Philos. Schriften* 4:472), and is constitutive of substance, resembling in that respect the *conatus* of Spinoza. The laws that govern substances so conceived are not the laws of motion appealed to in physics, but the laws of the order and perfection of nature by which God created the world.

The principle of unity of substances is not to be found in matter as the Cartesians understand it. "We will never be able to find a corporeal mass or portion of matter which would be a true substance. It will always be a collection, since matter is actually infinitely divided so that the least particle envelops a truly infinite world of creates, and perhaps of animals" (*Philos. Schriften* 4:473, cf. 482). In the "true unities" of which bodies are composed is found "something that answers to what is called *me* in us", indivisible and without parts. In animals that something is what we call the soul, or what the Schools call a substantial form. Leibniz cites here with approval the opinion of St. Thomas according to which

the souls of *bruta* are not divisible (479).<sup>9</sup>

Animal souls, being substances, cannot be generated or corrupted by natural forces: “true unity is absolutely indissoluble” (474). They can only be created or annihilated—acts reserved to God. The vexed question of the origin of animal souls is thus not so much answered as mooted. In a passage quoted by Bayle, Leibniz writes,

[...] the duration that must be attributed [to animal souls], in place of that which had been attributed to atoms, might make one doubt whether they do not go from body to body, which would be Metempsychosis [...] But this imagining is very far from the nature of things. There is no such passage, and it is here that the *transformations* of Messieurs Swammerdam, Malpighi and Leeuwenhoek, the most excellent observers of our times, came to my aid, and led me to admit more easily that the animal, and every other organized substance, has no beginning, in the way we believe, and that its apparent generation is only a development, a species of augmentation” (480; “Rorarius”, rem. H, 976b).

The immortality of souls entails the immortality for each soul of a kind of body. Bayle recalls here the opinions of certain Scholastic who, according to the anonymous author of a *Philosophia vulgaris refutata*, hold that the soul is composed of two substance, “one of which, immaterial, is created by God the other of which, material, is born *ex traduce*” (977a, note 87; *ex traduce* is a Scholastic phrase used to explain why parental characteristics are transmitted to their offspring). Bayle adds to this the recent opinion of Poiret, according to whom the body of Moses, which will appear on the day of transfiguration, included a “portion of internal matter, more spiritual, more subtle, and purer” than the gross matter of the cadaver that was destroyed, a portion that remained united with the soul of Moses after his death.

It is worth stepping back a moment to understand how such a view, some version of which Leibniz credits to Malebranche, Régis, and Hartsoecker, could come to be resurrected. The late Aristotelians who for the seventeenth century represented the opinions of the Schools hold that animals do have souls, but that because the operations of their souls require the assistance of a suitably disposed matter, their souls cannot exist naturally apart from matter. In generation a soul must be made (since it cannot pre-exist) and in the corruption of the body the soul perishes (since there is no transmission of souls from matter to matter). Human souls, on the other hand, have operations that require no material organ, chief among which is reason. They can therefore exist apart from all matter.

Descartes makes an analogous distinction (but more radically, denying to animals even the sensitive powers). It is by virtue of possessing reason and free will (but above all reason, since for that we have the evidence of the use of language) that the human is not a machine, not an arrangement of parts of matter whose existence even as a collection ends when those parts are separated. Like the Aristotelians Descartes holds that death, in humans and in animals, is the destruction of the body (even if its matter is concerned in other configurations), and therefore entails the entire separation of soul from matter.

In Bayle's "Rorarius" the distinction upon which the separability of the soul relies is rejected. Either animals have reason of the same sort we have, and so, by the usual arguments, immortal souls, or else human reason is not superior to that credited to animals, and so, if animal souls are mortal the human soul is too, or if animals are perishable machines than humans are too.

What cannot be maintained, then, is the *separability* of souls from matter. it follows that if the soul is indestructible, the body or some portion of it is indestructible too. Bayle exhibits no hostility to that consequence of Leibniz's view. What remains problematic is the doctrine of pre-established harmony. Bayle does not reject it outright—he does not go so far as to assert that the "impossibilities" entailed by it cannot be removed—, but he cannot see that it has any advantage over the doctrine of occasional causes. To examine the bulk of his criticisms of Leibniz, and the responses of Leibniz to which Bayle in turn replies, would take us into matters only distantly relevant to animal souls. But one aspect of their exchange is worth noting: that which pertains to the notions of *automaton* and *machine*.

Bayle's objection consists in doubts, variously expressed, that a Leibnizian soul could exhibit the phenomena we normally associate with living things and humans—notably, responsiveness to things around it—if, as Leibniz says, it is neither acted upon nor acts upon anything else. It would be like a miraculous ship that somehow, through storms and diverse currents, magically reached its destination without its captain at any point observing the winds or even the current location of the ship. Leibniz has little difficulty turning answering the queries of Bayle: the greater part of his effort consists in trying to get Bayle to understand his view. That is the point of interest.

The view that animals are automata—that is, self-movers *of a sort*—is the basis of Aristotle's definition of living things, and so also of the soul as the form proper to living things. As Bayle notes, Aristotle even makes use of analogies between animals and the artificial "automata" of his time—puppets and wind-up toys. The

Cartesian animal-*machine* is also an automaton *of a sort*. It carries within it the heat by which its movements are caused: that heat, or the blood that transports it, is what in animals Descartes calls their principle of life or their soul. But the machine is not *autonomous*; it is, rather than, automatic in the sense that its actions have their remote, but not always their proximate, causes within. The Leibnizian “machine”, the animal soul, is not only automatic, it is autonomous. The *law* of its transformations is within, it has as it were its own law (hence Leibniz’s recollection of the Thomistic doctrine that each angel is its own species, a doctrine referred to by Bayle at the end of “Rorarius”). Bayle’s difficulty seems to lie in making the transition from the automaton-of-a-sort proposed in Cartesian physiology, to what might be called the metaphysical automata of Leibniz, metaphysical because the basis of their automatism is their individual essence, and not a contingent mediation of external causes by internal causal mechanisms.

Cartesian mechanism met with whole-hearted approval among only a minority of seventeenth-century philosophers. Mechanism was, almost from the start, thought to be insufficient. Animal souls were perhaps the most glaring example of that insufficiency. In Leibniz we see the dissolution of the temporary bond between two ways of conceiving the animal: as a machine, and as a self-mover, an automaton. A radical move, but all the same one that confers many advantages on the philosopher willing to make it. The Cartesian view, on the other hand,—the view that the insufficiencies of mechanism are a matter of feasibility, not of principle, proved to be the more fruitful for science.

## Notes

- <sup>1</sup> It is likely that Naudé omitted the qualifier *sæpe*, ‘often’, from the original title.
- <sup>2</sup> *Quod animalia utantur* was published again, without alteration, in 1654 and 1666. Naudé’s 1648 edition has been recently reprinted in facsimile in the series *Aurofodina Philosophica*, with a preface by Maria Teresa Marcialis; that reprint is the edition used here. On the life and works of Rorarius, see Aidée Scala, *Girolamo Rorario. Un umanista diplomatico del Cinquecento e i suoi “Dialoghi”* (Florence: Olschki, 2004). Rorarius’s work was one of a number of works from the Italian cinquecento brought to light by Naudé during his travels to Italy on behalf of his employer Mazarin and published in the 1640s; among the others were works by Bruni, Campanella, Cardano, and Nifo. As Marcialis notes, in this group Rorarius stands out as distinctly second-rate, and Naudé’s motives in publishing *Quod animalia utantur* are unclear; but in the preface Naudé writes of Rorarius as resembling himself in conversation, and it may well have been that he found the “naturalism” of the Italian congenial (7; see Marcialis’s introduction, p. x–xi).



<sup>3</sup> The *animal*, in philosophical usage, almost always denotes “whatever is neither plant nor human among living things” generally, and is opposed to an equally general *human*. The animal-machine, is *any* animal, the human contrasted with it *any* human. In general discourse upon the animal-machine has as its subject not only the animal which is said to be a machine but the human which is said to be other or more than a machine. “All discourse on the animal is a discourse on man, resting on conscious or unconscious choices: the choice of the ‘fact’ that constitutes animal action, the choice of a ‘cipher’ permitting one to interpret this action at the level of a psychic faculty, and to generalize from what is affirmed of an individual or a species to a discourse on *animal nature* generally—defined in terms of its proximity or otherness in relation to *human nature*. [...] The human is therefore not only the *key* to the interpretation of the actions of animals: it is also the *real object* of discourse on the animal” (Gontier 1998:14).

<sup>4</sup> I use this term, customary in the period, without pejorative connotation, to denote briefly the late Aristotelian philosophers whose textbooks were, until the second half of the seventeenth century, the basis of university teaching.

<sup>5</sup> Bayle taught philosophy at the Protestant university in Sedan from 1675 to 1677. The *Système* is “a conscientious mosaic” assembled from notes by colleagues (among them Pierre Maignan); only a few “isolated doctrines” of the new philosophers could be included in what was otherwise a traditional four-part *cursus*. As Élisabeth Labrousse notes, the *Système* is “interesting especially because it is so typical and, in a sense, so banal”, even though Bayle, like many other professors at the time, sought to introduce bits of the new philosophy into his courses (Labrousse in Bayle *Œuvres diverses* 4:xiv–xvi; Labrousse *Pierre Bayle* 1, c. 6). But the framework and the mode of argument remain as before. The Aristotelian *cursus*, built on the model of the disputation, and based on arguments ideally syllogistic in form, aims not at certainty but at probability, “confronting one thesis with another, and deciding in favor of one or the other by means of argumentation purely logical in form” (Labrousse, “Introduction”, in Bayle *Œuvres diverses* 4:xv). The eclecticism of the late Aristotelian manner persisted in Bayle’s work, even when, exiled, he had no university curriculum to conform to, nor institutional inertia to contend with.

<sup>6</sup> See, for example, Coimbra *In phys.* 2c9q1a1, 1:323 (educating the young, building, seeking food, fighting enemies, and so forth).

<sup>7</sup> The singing dog is the dog in Rorarius’s story. Pardies cites (incorrectly, as Bayle notes) “Horarium oratione peculiari de ratione brutor[um]”—which is either a printer’s misreading or a secondhand citation (Pardies, *Discours* no. 57, p. 113). Rorarius’s oration *is* peculiar, but that’s not what it’s called.

<sup>8</sup> In the article “Pereira”, Diogenes (*apud* Pliny) is said to hold the view.

<sup>9</sup> On the divisibility of souls in the late Aristotelian science of the soul, see Des Chene, *Life’s form* (Ithaca, NY: Cornell, 2000).