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In Revue d'histoire des sciences 2011/2 Volume 64 , pages 349 to 376
Publisher Armand Colin

ISSN 0151-4105
DOI 10.3917/rhs.642.0349
Uploaded: 04/15/2012

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Abstract: Although descriptions of animal diseases have existed ever since antiquity, occasioning descriptions, comparisons, and hypotheses, it was only in the eighteenth century that veterinary medicine became a discipline in its own right. It was due to the leadership of pioneers such as Claude Bourgelat that a science of animal diseases was to develop, particularly those diseases connected with horses, as teaching methods became institutionalized in the first veterinary schools.
In veterinary medicine, there was a desire to develop a body of practices and skills that would relegate fear, imagination, and exaggeration to the annals of bygone history. This desire was shared with medical thinking as a whole, and even more with the general spirit prevailing in the arts and sciences of the second half of the eighteenth century. Animals, once they had been understood and mastered, would no longer inspire fear.
Did the emergence of a branch of medicine destined specifically for animals have a part to play in altering humankind's perception of them? If they were better cared for, would they not also take care of humans, as much from the point of view of food as of health?
In spite of this, animals, which were cared for in sickness as well as in health, did not become beings more worthy of consideration in the eyes of their human contemporaries than they had been before. They remained strictly within the confines of their medical, nutritional, aesthetic, and economic usefulness.

Keywords: Animal, Horse, Experience, Medicine, Veterinary

By the nineteenth century, medical disciplines and specialties had become firmly established. But it was in France during the second half of the eighteenth century that medicine underwent a process of specialization, during which period distinctions were made between the different branches and disciplines. Specific research on the endocrine and nervous systems, the increasing interest shown concerning children's health, and the detailed development of theories and studies on hygiene are examples of this process. Veterinary medicine was one of the specialist branches of

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medicine to emerge in the eighteenth century. This particular type of medicine, which was developed in order to preserve the health of domestic animals, gained a certain autonomy, particularly from the 1760s, when it enjoyed institutional recognition after the first veterinary schools were established. It was, however, a branch of medicine that was often discredited due to the tendency of the wider medical profession to see animals as inferior.[1]

This specialist branch was developed against a background of works in which there was a wealth of medical descriptions, comparisons, and hypotheses. It was characterized by an anatomical, physiological, surgical, and medical understanding all of its own. An important body of literature written by physicians and philosophers, who had been devoted to the study of nature since antiquity, contained numerous descriptions of animals both healthy and sick. Aristotle carried out a biological study of the different parts of an animal's body that opened up new horizons as to what constituted life, an area that other philosophers, such as Empedocles and Democritus, had already begun to elaborate. A fairly significant study of physiology had thus been in operation since at least the sixth century BCE. The *Hippocratic Corpus*—an inexhaustible number of medical writings that far exceeds the works recognized as having been written by Hippocrates himself—contains cases of epilepsy in goats and sheep. Cases of dislocation and accidents affecting the limbs and bones of animals are discussed and described.[2] These various works testify to the fact that a modicum of anatomical and surgical knowledge had been in place since the fifth century BCE. Similarly, the provision of (continually improving) medical care was extended to animals. We find evidence of this once again in documents sometimes dating to the very earliest period of antiquity.[3] Pelagonius' *Ars Ueterinaria*, a treatise on

1 - The authors of writings and treatises on medical anthropology, such as Louis de La Caze, Louis Vitet, Pierre-Jean-Georges Cabanis, Samuel-Auguste-André-David Tissot, and Étienne Tourtelle, all believed that humans should play a central and superior role as the primary object of medical research.

2 - See Clément Bressou, *Histoire de la médecine vétérinaire* (Paris: Presses Universitaires de France, 1970), 20.

3 - Once again it is Clément Bressou who, in his book, *Histoire de la médecine vétérinaire*, mentions "a papyrus discovered at Kaoun in 1895," testifying to the existence of veterinary medicine in Egypt more than 2,000 years BCE. In later periods, practitioners left evidence behind them, for example a certain Herocles in the fifth century ACE, who not only treated "disease in horses competently, but also everything pertaining to animal husbandry and hygiene, as well as to the choice and use of that animal" (Bressou, *Histoire*, 13, 29).

hippiatrics written in Latin, is evidence of knowledge concerning horses. Published toward the middle for the fourth century ACE, and uncovered during the fifteenth century, it included the rudimentary aspects of veterinary medicine addressed to the owners of horses.[4] These works show that knowledge concerning the treatment of diseases affecting domestic animals was already well-established. Collected medical works presenting a series of descriptions of the diseases affecting wild animals and, more commonly, domestic animals, prove the attention shown to animal health. These diseases were progressively distinguished, classified, and conceptualized under the titles of epidemics, epizootics, and zoonoses.[5] The works draw particular attention to the degree of fear that these different diseases continued to inspire in various populations. It had long been common knowledge in medicine (realized through trial and error) that human health and its future had to be positioned and evaluated in connection with other living creatures. This made animals a source of information concerning human health.

Long before they had awakened a demand for veterinary medicine in the true sense of the word,[6] sick animals raised the question of the need for a preliminary form of medicine—for humans. How would humanity be able to protect itself from diseases affecting the species closest to it, domestic animals (livestock and domestic pets), and wild animals living close to human habitation (foxes, wolves, wild dogs, and so on)? These were the concerns of

4 - A knowledge of horse medicine in the Middle Ages is demonstrated in a number of works, for example, the significant study concerning medieval hippiatrics by Guy Beaujouan, Yvonne Poulle-Drieux, and Jeanne-Marie Dureau-Lapeyssonnice, entitled *Médecine humaine et vétérinaire à la fin du Moyen Âge* (Geneva and Paris: Droz, 1966).

5 - Although the term "epidemic"—understood as infection and the spread of disease throughout a population or a country—goes back to antiquity, the term "epizootics" was only coined in the eighteenth century, with the phrase "epizootic diseases" appearing in a text entitled *Notes sur le mémoire qui a remporté le prix de la Société royale d'agriculture de Paris, année 1765*, attributed to Claude Bourgelat. This new term would fill in a lexical gap to refer to the often inadequate knowledge of the diseases affecting domestic animals as far as the author was concerned. Of the term "zoonoses," Lise Wilkinson notes that "the generic term 'zoonoses'" gradually came into use during the nineteenth century. The first attested occurrence appeared in the *Manuel de pathologie générale* by Ernest Wagner, dating to 1876 (*Dictionnaire de la pensée médicale*, ed. Dominique Lecourt (Paris: Presses Universitaires de France, 2004), s.v. "Zoonoses").

6 - Without examining it here, we can see the ambiguity of this "in the true sense of the word" inasmuch as works on medicine and veterinary medicine (like the "Que sais-je?" on the history of veterinary medicine by Bressou), take the view that the care of animals dating to antiquity should be classified as veterinary medicine. I would argue, however, that from an institutional point of view, the actual birth of veterinary medicine did not occur until the eighteenth century.

peasants and populations involved with the movement of flocks and the intrusion of wild animals suffering from deadly diseases like rabies into towns. These were also the concerns of doctors involved in investigative work to determine the causes of diseases. The reason for these preoccupations was medical as well as economic; namely, the protection of populations from disease and famine. Human health, in short, depended on animal health. The history of medical practice and expertise, to which a wealth of observations made by naturalists often contributed, resulted in the late development (in the eighteenth century) of a specific type of medicine for animals.

It was, in fact, during the course of the second half of the eighteenth century that veterinary medicine was to emerge as a discipline primarily concerned with the health of livestock and, in particular, the skills required for breeding horses. It was led by several rather isolated medical figures, one of whom was a pioneer in the field along with Claude Bourgelat. It was by royal edict, but owing to the influence of a few personalities of whom Bourgelat was one, that the first veterinary schools were established. Although veterinary practice existed much earlier, it was at this point that it became an institution. This emergence can be partly explained by a number of circumstances. Owing to increasing concerns regarding public health and its extension to significant populations, it was thought that individuals needed to be taught better skills for mastering the procreation of animals living in herds. Particular attention was given to practices and projects for improving animal breeds (which were to become important a century later)—an emphasis that had cultural as well as scientific implications.[7] Finally, we should also take into account the existence in this same period of arguments concerning the sensitivity not only *of* the animal, but also *toward* the animal. Thus, if living matter possesses sensitivity, and if the latter is not the only prerogative of the soul, how can we exempt animals from possessing this quality? And if, indeed, they are sensible beings, would they not be like us? And would this not bring the animal, in all its forms, closer to the human being?

7 - It was in the eighteenth century that a theoretical approach was first implemented, with its origins in breeding practices in which there was a tendency to arrange the mating of animals capable of producing more resistant and better proportioned offspring. A century later, these same tendencies would capture the attention and inspire the powers of observation in Charles Darwin. More generally speaking, it was also in the nineteenth century that we encounter a type of scientific and political systematization of the concept of race.

It was in a climate in which there was an extremely ambivalent conception of animals that veterinary medicine took its first tentative steps. It was a form of medicine devised by humans for humans, in which animals were usually the object.

First of all, seen from a human perspective, the animal constituted an object of study and science. In order to understand animals, humans would need to take care of them as they take care of themselves. Second, animal health was of importance economically and for health reasons, owing to the fact that sick animals represent a threat to humans. Third, the animal's new status required an appropriate type of medicine, thus explaining the emergence of veterinary medicine in its own right. Fourth, its emergence led to a change in the common perception of animals, in which they became beings worthy of greater attention.

A Knowledge of Animals to Treat Both Them and Us

The teaching of medicine involves the acquisition of a comprehensive understanding of the anatomy and physiology of living creatures. Although a number of physicians took exception to anatomical study even in the eighteenth century, they were regularly criticized by their colleagues.[8] In order to combat the diseases affecting humans, a physician must begin by acquiring an understanding of human anatomy.[9] The history of the development of

8 - The portrait of the physician painted by La Mettrie in his *Ouvrage de Pénélope ou Machiavel en Médecine* mentions a range of different disciplines that the aspiring physician should ignore, such as anatomy, botany, chemistry, physics, and surgery, and those that he should know, including literature, music, and geography, if he aspired to the upper reaches of his profession. Anatomy is at the forefront of useless disciplines. Why indeed should he waste his time learning anatomy, a useless science, and one that only contributed to spoiling the physician's medical flair? "Generally speaking," writes La Mettrie, "from all the instruments pertaining to the art, anatomists are able to wield only the scalpel. Some, such as Ferrein, are very much inconvenienced by it. They are to medicine precisely what all these blood-sucking leeches applied to the body are to surgery. Death is apparently what keeps our anatomists alive. They are physicians in the same way that the Isès and the La Graves, etc., are surgeons" (Julien Offray de la Mettrie, "Machiavelisme. Inutilité de toutes les parties de la médecine," in *Ouvrage de Pénélope ou Machiavel en Médecine* (1750), ed. Francine Markovits (Paris: Fayard, 2002), 38.

9 - There are a number of historiographical works on the importance of anatomy and pathological anatomy in the eighteenth century. We might venture to cite Morgagni, quoted by the medical historian, Mirko Grmek: "The usefulness of anatomy—attested to on a number of occasions during the eighteenth century—enabled the physician 'to establish whether the internal constitution of the body is in tune with nature or not' [the work is cited by Grmek in inverted commas: *De sedibus, et causis morborum per anatomen indagatis libri V, dissectiones et animadversions, nunc primum editas, complectuntur (…)*

human anatomical knowledge was linked with that of the animal from the very beginning. Democritus' anatomical investigations and the studies carried out by Aristotle in his *Parts of Animals* testify to this. In this respect, it is the comparison between the two that accounts for the fact that the animal has been an integral part of medical knowledge for a very long time.[10] This knowledge was developed through observation, experience, and experimentation.

Stating that the animal is an *object*, an object of knowledge in this case, implies that the animal is perceived as being useful from many angles. This leads to many projects involving the exploitation of its body and the natural resources connected with it. The animal is, thus, both an object and a means of exploiting the earth's riches. The same is true of examination and research into its body, into its innermost recesses in fact, when it is conducted to provide answers to the questions raised by humans in their scientific quest for the mechanisms of reproduction, absorption, and digestion. The objectification of the animal has been a recurrent theme throughout the ages. Objections to it were uncommon owing to the fact that it represented a valuable source of observation and experimentation, much of it going back to earliest antiquity. In this context, we should mention Galen (131–210? ACE), the physician from Pergamum, who not only made a defining element of the four humors in medicine in the centuries that followed, but also put forward a coherent anatomy of the human body, piecing it together in a learned comparative work based on animals. This provided his successors with a considerable body of anatomical and physiological studies of the body. His dissections were largely carried out on animals—on monkeys, pigs, and cattle. The fact that

innumeras (…) multiplex praefixus est index rerum et nominum, 1761] [in five books, containing a great variety of dissections, with remarks. To which are added (…) copious indexes (…)]. Giovanni Battista Morgagni speaks thus, pointing out that 'practical anatomy' in the hands of someone without a thorough knowledge of what constitutes a healthy body that is whole, a body 'as nature made it,' is of no use. Only the physician with prior knowledge of what constitutes a healthy body is able to grasp the differences and detect what is abnormal in the internal make-up of a corpse" (Mirko Grmek, *Histoire de la pensée medicale en Occident*, vol. 2 [Paris: Seuil, 1997], 114).

10 - That is to say, well before the emergence of comparative anatomy as a discipline, a process that took place in several stages: Antonie Van Leeuwenhoek, Jan Swammerdam in the seventeenth century, and Étienne Geoffroy Saint-Hilaire in the nineteenth century. The term that designates animal anatomy as well as comparative anatomy is "zootomy." Chevalier de Jaucourt, in his entry for "Zootomie" in Diderot and d'Alembert's *Encyclopédie* (Vol. XII, 744, col. 1), defines this term as: "The anatomy of animals or, if you prefer, comparative anatomy"; he concludes this short entry by noting that "it is sometimes curious, and at the same time, not particularly useful."

human corpses had not at this time been dissected may partly be explained by the constraints of Roman law. Galen used the human body only for what is referred to today as osteology. He put the liver as the center of blood circulation, and outlined a description of the nervous system that was less inaccurate than some more recent anatomico-physiological ideas. He saw the brain as the source of the path taken by nerve impulses along the nerves, and his studies on living animals enabled him to carry out work on the laryngeal nerves. Animals represented the basic experimental material in this context, from which a body of systematic doctrines was built up, leaving a permanent mark on physiological studies over the ensuing centuries. Indeed, Galen's influence persisted up until the formulation of the important systems of mechanistic physiology in the seventeenth century.

It was during the seventeenth century in fact that animals' and humans' bodies were both viewed as dynamic machines. We see, beyond the mechanistic physiological representations of the seventeenth century, the emergence of a comparative anatomy and physiology. This contributed in part to the elucidation of the map of the human body, thanks to knowledge acquired from animals, which was the result, of course, of numerous dissections. Fifteen centuries after Galen, the surgeon René-Jacques Croissant de Garngeot (1688–1759) became one of the definitive authorities on comparative anatomy.[11] He published a treatise entitled *Myotomie*[12] *humaine et canine, ou la manière de disséquer les muscles de l'homme et du chien* in Paris in 1724. This work represents a significant example of the scientific and experimental use of animals as an influence in medical and surgical development. The initial argument put forward by Croissant de Garengeot in defense of his dissection of canine corpses was rather pragmatic, given that he was a professor of surgical procedures. He realized that, as a number of students could not afford the sums of money necessary to obtain human corpses, they could use dogs as a starting point for learning about the anatomical similarities between some of the canine parts and those of humans:

> The dissection of the bodies of animals thus leads the student of surgical procedures as though by the hand, enabling them to form

11 - His name is only known to posterity in connection with an implement used to extract teeth, of which he was supposedly the inventor and which bears his name.

12 - Myotomy is part of the study of the dissection of the muscles.

> the aptitude necessary for the future dissection of all the parts contributing to the singular and marvelous structure of the human body when the occasion arises.[13]

His second argument demonstrates an anthropological and philosophical interest in this respect, specifically with regard to the superiority of humans over animals (the "brutes" and "beasts") in terms of physical and moral perfection. This is representative of a type of reasoning inherent in research at that time, to which the majority of naturalists and philosophers adhered. Croissant de Garengeot was one in a line of learned men that included some better known figures. William Harvey was one of these; he sacrificed many does and other mammals on the altar of comparative anatomy, and the results were never quite satisfactory.[14] This lack of satisfaction is explained by the complexity of the questions relating to the mechanisms of reproduction, which was the subject of an infinite number of experiments, observations, and hypotheses carried out by European scientists at that time. Would the animal be able to enlighten humans as to the fabric of living creatures? This perpetual quest, which exhausted Harvey, is mentioned in a detailed narrative by Pierre-Louis Moreau de Maupertuis at the beginning of his *Vénus physique*.[15]

13 - René-Jacques Croissant de Garngeot, *Myotomie humaine et canine, ou la Manière de disséquer les muscles de l'homme et du chien* (Paris, 1724), preface, xx. We might note here that the 1750 edition, updated (a frequent occurrence at that time with various types of manuals), was dedicated to *sieur* de la Martinière, King's Equerry, and animal veterinarian of sorts.

14 - William Harvey (1578–1657) is generally better known for his works on the action of the heart and the circulation of the blood (*Exercitatio anatomica de motu cordis et sanguinis in animalibus* [Frankfurt, 1628]); he called into question the presuppositions resulting from a Galenic physiological heritage that was still very much alive. Less "fortunate" in terms of his other research, a part of his oeuvre was in fact dedicated to trying to understand the mechanisms of reproduction, notably in a book entitled *Exercitationes de generatione animalium* (Amsterdam, 1651).

15 - In order to help his anatomist in his search concerning the mysteries of reproduction, Charles I of England, inquisitive prince and amateur scientist that he was, put at his disposal all the bucks and does in the royal parks. Harvey carried out his massacre for the sake of knowledge, but did his experiences in fact do anything to enlighten us concerning reproduction? Did they not cast deeper shadows over this subject? Did Harvey not sacrifice some doe in season every day in honor of science? By dissecting their wombs and scrutinizing everything with the utmost attention, he found nothing close to what Graaf claims to have observed, and nothing with which the systems that we have just mentioned accord. Did he ever find seminal fluid belonging to the male? An egg in the fallopian tube? There was never any alteration to the supposed ovary, which he referred to, as have several other anatomists, as the female testicle. (Pierre-Louis Moreau de Maupertuis, *La Vénus physique* [Paris: Diderot ed., 1997], 41–42.) [Back-translated from the French.]

A more substantial examination of this sacrifice of animals might lead us to transcend the boundaries of the period of this article and, should we do so, to take up the thread of a history still in the making, namely, that of laboratory animals and the impassioned debates occasioned by these practices. This would be a subject for another article.

The Sick Animal: A Threat to Humans

During the eighteenth century, complex questions and contradictory theories were raised as a result of contagious disease epidemics. In general, the term epidemic referred to the transmission of "morbiferous matter" from human to human. However, every experience of new forms of epidemic over the centuries contributed to a change in the way this type of phenomenon was perceived as well as the definitions associated with it.[16] The transmission could assume a number of different forms to include pestilence, virus,[17] miasmas, and animals as carriers of contagious diseases. The plague represents a recurring example of this sort of description and the difficulties experienced in determining its causes. The problem associated with the transmission of disease was intensified when it was a matter of the passage of disease from animals to humans. What were the implications? There were numerous examples of this type of transmission. Rabies regularly terrified whole populations, and epizootics also sowed the seeds of fear, striking a chord in collective memories. Not only did epizootics constitute a reminder of epidemics, but also possibly heralded them. After all, what was really known about the transmission of contagious disease from animals to humans? The nature of the debate con-

16 - A substantial amount of literature has been devoted to the history of epidemics. Two works are cited here: Mirko Grmek, *Les Maladies de l'aube de la civilisation occidentale: Recherches sur la réalité pathologique dans le monde grec historique, archaïque et classique* (Paris: Payot, 1994), and William Hardy MacNeil, *Le Temps de la peste: Essai sur les épidémies dans l'histoire*, trans. Claude Yelnick (Paris: Hachette 1978). Originally published as *Plagues and Peoples* (New York: Anchor Books, 1976).

17 - In this context, the term "virus" should not be understood in the modern sense of the word given to it in contemporary medicine, as a biological entity, a perception of which calls for an understanding of cell theory. It is derived in fact from the Latin *virus* (poison, toxin) meaning an "unknown natural principle inaccessible to our senses," and this is how it was defined at the beginning of the nineteenth century in the *Encyclopédie méthodique*, in its 1830 edition (Paris: Vve Agasse), despite the fact that the term was already being used in the middle of the previous century to refer to a "venereal virus" or to describe the transmission of disease from person to person without being able to account for the causes or mechanisms.

cerning epizootics consistently reflects the fear of transmission in all its forms, especially the fear of what has, since the nineteenth century, been referred to as zoonosis. The diseases and dangers associated with Hungarian beef, brought by herds traveling across Europe, which were seemingly increasingly threatening, represent one example. The great cattle epidemics were the subject of important treatises written by the Italian physicians Giovanni Maria Lancisi[18] and Bernardino Ramazzini.[19] They were also studied by a physician from Montpellier, François Boissier de Sauvages.[20] This type of fear had a wider import rather than just whether meat was consumable or not. It occasioned vivid and often disturbing fantasies connected with the relationship between sick animals and humans. In fact, ever since antiquity, this relationship was capable of assuming terrifying proportions from the point of view of its consequences. Rabies was one example of, if not a prototype for, the relationship between the two. We are concerned here with a disease spoken of ever since Homer, taken up by Aristotle, Galen, and Girolamo Fracastor, and the subject of treatises written by Boissier de Sauvages (*Dissertation sur la nature et la cause de la rage*, Toulouse, 1749), Antoine Portal (*Observations sur la nature et sur le traitement de la rage*, Yverdon, 1779), and in Italian, by Franco Falese (*Trattato della idrofobia*, Lucca, 1739), and Vincenzo Malacarne,[21] and so on. Fiction was often mixed with fact in the accounts of cases of rabies. Boissier de Sauvages' description in his treatise *Dissertation sur la rage* provides one example:

> [Some] travelers, who were given meat from a pig with rabies by an innkeeper, straightaway became rabid and bit each other. This story was told by an anonymous author, and may not readily be

18 - Giovanni Maria Lancisi (1654–1720), *Dissertatio historica de bovilla peste ex Campaniae finibus anno 1713* (Rome: J. M. Salvioni, 1715).

19 - Bernardino Ramazzini (1633–1714), *De contagiosa epidemia, quae in Patavino Agro, et tota fere Veneta ditione in boves irrepsit / Description d'une cachexia varioleuse chez les boeufs, observe dans les territoires de Padoue et de Venise* (Lipsiae, 1713).

20 - François Boissier de Sauvages (1706–1767), *Mémoire sur la maladie des boeufs du Vivarais* (Montpellier: Impr. de Jean Martel, imprimeur du roi, 1746), and *Dissertation sur la nature et la cause de la rage* (Toulouse, France: 1749).

21 - Vincenzo Malacarne was a physician who devoted a lot of his time to research connected with the structure of the brain. It is a question, here, of an unpublished text which was the subject of a seminar entitled, "Les Querelles du cerveau au XVIII[e] siècle," held in Paris at the REHSEIS (Recherches Épistémologiques et Historiques sur les Sciences Exactes et les Institutions Scientifiques), on Friday, May 7, 2004, and an oral presentation given by Giorgio Zanchini (University of Padua) entitled, "L'Encéphalite due à la rage dans un texte inédit de Vincenzo Malacarne (1744–1816)."

> believed, but with respect to this disease, "*Le vrai peut quelquefois n'être pas vraisemblable*" [At times the truth may not seem probable].[22]

Less impressive, but as alarming from the point of view of the consequences relating to feeding populations (e.g. fear of being poisoned, food shortages, and transmission to humans), were the numerous epizootics which followed in the wake of the herds of livestock crossing Europe. These fears were expressed in practices which entailed monitoring animals in order to separate the healthy from the unhealthy. As Georges Vigarello points out in his book on the healthy and unhealthy throughout the ages,[23] as far as meat and any other type of food were concerned, this vigilance did not prevent the poor from eating contaminated meat (among numerous other types of waste) and dying as a result. Drafts of early sanitation policies, which were empirical and sometimes conflicting from one region to the next, began to be put into practice. The numerous topographies in which towns tended to be divided into sections separating what was healthy from what was unhealthy are evidence of this.[24] It was against this background—in which an increasing concern for hygiene, disease prevention, and the rationalization of urban space was being shown—that veterinary medicine was gradually to acquire its scientific and institutional status.

22 - François Boissier de Sauvages, "Dissertation sur la nature et la cause de la rage dans laquelle on recherche quels en peuvent être les préservatifs et les remèdes," in *Les Chefs-d'oeuvre de Monsieur de Sauvages, ou Recueil de dissertations qui ont remporté le prix dans différentes académies*…, vol. I (Lyon, France: 1770), 1st ed. (1748), "Infection de la salive," 10.

23 - Georges Vigarello, *Le Sain et le malsain: Histoire des pratiques de santé* (Paris: Le Seuil, 1999), "Points, série Histoire."

24 - We see a proliferation of topographies and mortality tables, particularly during the second half of the eighteenth century. The English seemed to set a precedent from the first half of the same century by carrying out an increasing number of statistical studies and drawing certain conclusions from them relative to the urban configurations already in existence. A certain number of police measures were called for, insofar as education alone seemed to be insufficient. Measures were instituted to monitor the quality of the meat for sale in butcher shops (there were many cases of food poisoning among the poor, who picked up meat that was extremely doubtful); there was a demand for the prohibition of slaughtering animals just anywhere (the street or the area in front of butcher shops); tanneries, abattoirs, and other contaminating factories were relocated to the outskirts of towns; it was forbidden to bury the dead inside the churches themselves (something that was still being practiced at that time); and there was a demand for cleaner working conditions, related to a number of occupations.

Medical Treatment for Animals and the Emergence of Veterinary Medicine

The first stage in the emergence of veterinary medicine is thus based on a history—essentially that of man's concerns relating to diseases affecting livestock and their implications as far as human beings were concerned. These preoccupations run through medical literature throughout the eighteenth century. Boissier de Sauvages, who was anxious lest the signs of this deadly epizootic appear on the bodies and faces of humans, researched the causes of disease in the Vivarais cattle.[25] He also wrote on the causes of rabies, a scourge that could not only affect people, but also decimate whole flocks, which meant considerable losses for livestock owners.[26] Determined to establish the causes and origins of a devastating and universally feared disease, in 1763, the surgeon Claude Pouteau also wrote an *Essai sur la rage*.[27] In 1770, Bourgelat, in his *École royale vétérinaire*, recommended treatment for the epizootic disease affecting livestock in order to preserve the flocks and herds from certain epizootic factors connected with the air, the quality of the pasture and of the water, and so forth.[28]

Not all animals were considered as equal among themselves, either medically or culturally. A rising star emerged from among "beasts" and livestock, namely, the horse. Immortalized by Buffon's

25 - I quote here from a text by Claude Bourgelat, a physician from Montpelier, in a section justifying his essay: "As the fatal disease affecting Vivarais herds that has ravaged a number of European countries for over thirty-four years has spread through Forès and Dauphiné to Velay and Vivarais, my Lords the Archbishop of Narbonne and the Intendant of Languedoc, always solicitous for the welfare of the Province, have taken all the necessary precautions to stop the progression of this contagion and, fearing, after ravaging the cattle, lest it should pass to small livestock as well as to men, they suggested that all the symptoms should be examined with the utmost care, in order to discover, if at all possible, the remedies capable of fighting the disease or of preventing it" (Claude Bourgelat, *Mémoire sur la maladie des boeufs du Vivarais, Par M. De Sauvages, Conseiller-Médecin du Roi, Professeur en Médecine, Membre des Societez-Royales des Sciences de Montpellier et de Suède, 2nde. éd.* [Montpellier, France: Impr. de Jean Martel, imprimeur du Roi…, 1746]).

26 - François Boissier de Sauvages, *Dissertation sur la nature et la cause de la rage, dans laquelle on recherche quels en peuvent être les préservatifs et le remèdes, pièce qui a remporté le prix de l'Académie royale des sciences, inscriptions et belles-lettres, proposé pour l'année 1748* (Toulouse, France: 1749).

27 - Claude Pouteau, *Essai sur la rage, lu dans la séance de l'Académie des sciences, belles-lettres et arts de Lyon le 24 mai 1763* (Lyon, France: G. Regnault, 1763).

28 - Claude Bourgelat, *École royale vétérinaire* (Paris: Impr. royale, 1770).

celebrated text,[29] the horse was certainly considered to be superior to all other animals, requiring appropriate treatment in consequence. Diderot and d'Alembert's *Encyclopédie*, noting that the term "veterinarian" is a translation of the art of farriery (it comes from the Latin *veterinarius* meaning "farrier"), testifies to the fact that medical treatment for animals was largely limited to horses. Beyond this reference, it is indeed the horse that dominates literature on animal medicine, with a significant number of published texts focusing on the care of this particular animal. Some of these works deal primarily with aspects connected with regulation,[30] while others are more concerned with the development of veterinary matters[31] or, indeed, a combination of aesthetic, sporting, and veterinary considerations.[32] There are other books that prioritize breeding and the veterinary skills needed for its success.[33] Finally, training should not be forgotten since the horse is an animal that requires training.[34]

In the eighteenth century, the art of veterinary medicine, among other aims,[35] focused on encouraging and implementing a policy to improve breeds in order to combine elegance with robustness, revealing through the bodies of animals a genuine ability to preserve human agricultural and nutritional resources. While the article entitled "Vétérinaire" in the *Dictionnaire raisonné* mentions the term merely as being almost synonymous with farriery, the

29 - "The most noble conquest of man is that of this proud and spirited animal that shares with him the fatigues of war and the glory of victory (…)" (Georges-Louis Leclerc, Comte de Buffon, *Histoire naturelle, générale et particulière, avec la description du cabinet du Roy* [by Buffon and Daubenton], vol. 4 [Paris: Imp. royale, 1749–1767], 174).

30 - *Ordonnance du Roy pour réduire sa compagnie des grenadiers à cheval* (Paris: Impr. royale, 1749); François Robichon de La Guérinière, *Élémens de cavalerie. Contenant la connoissance du cheval, l'embouchure, la ferrure, la selle, etc. avec un traité du haras* (Paris: 1754); Charles-Louis d'Authville des Amourettes, *Essai sur la cavalerie tant ancienne que moderne. Auquel on a joint les instructions et les ordonnances nouvelles qui y ont rapport, avec l'état actuel des troupes à cheval, leur paye, etc.* (Paris: 1756).

31 - Philippe Étienne De Lafosse, *Guide du maréchal, ouvrage contenant une connaissance exacte du cheval et la manière de distinguer et de guérir ses maladies* (Paris: Lacombe, 1766).

32 - Samuel Fouquet Beaurepère Delcampe, *Art de monter à cheval pour élever la noblesse dans les beaux airs du manège, avec les figures nécessaires et les remèdes pour guérir les maladies des chevaux* (Paris: Nicholas Le Gras, 1691).

33 - Claude Bourgelat, *Essai sur les haras, ou examen méthodique des moyens propres pour établir, diriger et faire prospérer les haras* (1769).

34 - Préseau de Dompierre, *Traité de l'éducation du cheval en Europe* (Paris: 1788)

35 - We should remember that the other aims include the preservation of animals from epizootics, the protection of human populations from diseased animals, and the creation of powerful and elegant animal breeds.

Dictionnaire de l'Académie française (4th edition, 1762) makes no mention of it at all. At the end of the eighteenth century, the *Encycopédie méthodique de médecine* offers a definition closer to a more contemporary notion. After having described the antiquity of medicine in ten lines or so, the author notes:

> It is only really towards the middle of the last century, in our country, that we have become seriously committed to the creation of a veterinary art, that is to say, a science, the aim of which is to reproduce, preserve, and improve domestic animals.[36]

However, it was not until the second half of the eighteenth century that veterinary medicine took hold, owing to a royal edict issued in 1761. This edict was cemented by the creation of the first two royal veterinary schools, one founded in 1762 at Lyon, and the other in 1765–1766 at Maisons-Alfort.

This event should be placed within the historical context of the professionalization of medical bodies. A number of specifications were drawn up for surgeons and pharmacists concerning their occupations in a process that was apparently intended to clarify their relationship with doctors. With the emergence of medical schools, followed by hospital reforms and the foundation of medical examinations right at the beginning of the nineteenth century (1802), specialties gradually began to emerge. There was, therefore, a general climate which made the emergence of a formalized and institutionalized veterinary specialty completely understandable. It was an area of expertise that would be greatly exploited in a systematic way at the end of the following century. However, the art of veterinary medicine can also be understood as a scientific recognition of a body of breeding practices. This branch of medicine nevertheless had to overcome the prejudices that accompanied its emergence. An example of such prejudice was recorded by the author of *L'Art vétérinaire ou médecine des animaux* in 1767, in the text for the curriculum of the first veterinary school at Lyon:

> The art of veterinary medicine today is in an abject state. Everything that was respected by the philosophers and physicians of antiquity, everything with which they deigned to occupy themselves, and

36 - *Encycopédie méthodique, médecine, par une societé de médecins*, mise en ordre et publiée par Vicqu d'Azyr (Paris: Panckoucke, 1787), s.v. *vétérinaire*, vol. SEM-Z, 440, col.1.

> the knowledge relating to this subject handed down to us by them, is more or less forgotten. We no longer read Varro, Columella, Dioscorides, Democritus, Rasis, and Avicenna etc., not even in compilations such as those by Gesner and Aldrovand and, even if Aristotle and Pliny are still sometimes consulted, this is apparently only in order to substantiate the errors of the one and the fables of the other.[37]

The isolation of these veterinary pioneers has been emphasized by modern medical historians, in their descriptions of the prejudices encountered by the emerging discipline in their presentations and articles, as well as by the doctors who worked hard to develop it:

> Coarse practitioners of vulgar medicine—this is a ready-made image that would stick to veterinarians for a long time, tempered only be another prejudice, derisory also, that of the animal's inability to speak, the opposite of the supposedly useful discourse of patients with their doctors.[38]

We should draw attention to three principal issues connected with the emergence of veterinary medicine. The first involves the statutory issue, in which veterinary medicine would become an institution in legal, educational, and administrative terms, a discipline concerned not only with animals, but also with patients.[39] The second concerns the scientific issue, in which veterinary medicine, with its optimal knowledge of the animal and the economic aspects associated with it, would be granted scientific status in its own right. The third was the cultural issue, since, at this time, a more refined social perception of animals was beginning to emerge. A form of recognition concerning animal rights was starting to appear, as long as the animal was considered useful, elegant, and amenable, which was the case for horses.

The institutionalization of veterinary medicine was confirmed through the creation of the veterinary schools in Lyon and Alfort, then Limoges… The official documents available for consultation,

37 - Claude Bourgelat, *L'Art vétérinaire ou médecine des animaux* (Paris: Vallat-La-Chapelle, 1767), 6.

38 - Article by François Vallat, and Jean-Jacques Benet, in *Dictionnaire de la pensée médicale*, ed. Dominique Lecourt (Paris: Presses Universitaires de France, 2004).

39 - The animal is a "patient" in the sense that it is a living creature undergoing treatment under the particular supervision of a physician or surgeon. However, it remains an animal, leading to a different medical conclusion and treatment from that destined for humans.

such as the *Règlement de l'École royale vétérinaire d'Alfort* of 1766, show, as indicated by the written instructions given to the medical students of that period, that the institutions advocated precision and austerity; essentially military qualities. Article 6 of these regulations is proof of this:

> When a supervisor notices that any of his pupils are, and remain, weak in one of the parts being demonstrated, he should send them to a lesson with the supervisor in charge of demonstrating the part in question. All pupils are required to obey the aforesaid supervisor, on pain of expulsion.[40]

The key person behind the creation of the schools was Bourgelat.[41] He contributed to the construction and consolidation of a bridge uniting clinical medicine and hospital practice. He also united the medical institution with medical science, which gave a status to students as future veterinarians, and to animals as objects not only of knowledge but also deserving of the special care intended for them. Bourgelat was made a Corresponding Member of the Academy of Sciences in Paris in 1752. He was then approached by Diderot and d'Alembert, who suggested that he should collaborate with them on the *Encyclopédie* as an editor for articles concerning equestrian schooling, farriery, and related arts. When he had corrected the contributions submitted by previous authors, he signed the first of about 250 articles in 1755. At first, he was passionately interested in horses, but then, focused on this most noble of animals, Bourgelat collaborated with Henri-Léonard Bertin (1719–1792), an *intendant de la généralité lyonnaise* and Controller General of Finance, and threw himself heart and soul

40 - Claude Bourgelat, *Règlemens pour les Écoles royales vétérinaires de France* (Paris: Impr. royale, 1777).

41 - Claude Bourgelat (1712–1779) seems to have been to veterinary medicine what Philippe Pinel was to the emergence of psychiatry—a pioneer: "We are merely paving the way. After us, others will push back the boundaries where we have stopped. This vast, uncultivated field from which we are taking so much trouble to extract the brambles and thorns will become fertile in their hands. They will perhaps uproot prejudice by their work, as well as their successes, and will, in all likelihood, teach that the enlightenment required for the treatment of animals has never been, and will never be, granted indifferently to anyone who is open to it" (Claude Bourgelat, *Précis anatomique du corps du cheval* [Paris: chez Vallat-La-Chapelle, 1766] nouvelle éd. corrigée et augmentée, avertissement de l'auteur, vij-viij.). Another eulogy to Bourgelat is to be found in the *Dictionnaire encyclopédique des science médicales*, vol. X (Paris: 1869 edition), 360: "[He] made his voice heard for the benefit of domestic animals that have been stripped of their primitive habits and instincts at the tyrannical hands of man. He imposed reforms, the effects of which will be felt as they evolve, over many centuries."

into the creation of a veterinary school. Reputable surgeons and physicians, such as Claude Flurant, Claude Pouteau, Jean-Baptiste Charmetton, and a number of similarly reputable anatomists, like Honoré Fragonard and other medical school graduates, were the first to officiate at these schools (Lyon, Alfort, and so on). As history demonstrates, there has never been any process involving the institutionalization of a discipline in society without a guiding force. As far as Bourgelat was concerned, veterinary medicine was no exception.

While the regulations were modelled on those formulated for the attention of future physicians, the theoretical and practical knowledge intended for the students was based on eighteenth century medical science. The text entitled *L'Art vétérinaire ou médecine des animaux*, cited above, is once again testimony to this:

> We are concerned with healthy and unhealthy animals alike. Our aim must be, on the one hand, to keep the body's mechanisms whole and, on the other hand, to put right any disorder or alterations. Indeed, in order to keep the constituent parts in the condition and working order that constitute what we call *health*, and to correct the disturbances that might have affected them, constituting what we call *disease*, it is essential to have knowledge of these parts and their actions, as well as the physical implications of these actions. This is because once we recognize these actions, causes, and implications, we are close to the science that enables us to maintain these functions and restore the ones that defects (which are not beyond the power of our art to correct) might have disrupted.[42]

This sort of document is proof of a move towards specialization in terms of the subjects taught. Bourgelat had based his notion of teaching on a fixed and systematic order, more in keeping with a methodical undertaking, by working on anatomy from the model of a horse, on clinical medicine with livestock, and on pharmacopoeia by adopting human medicine. In contrast, Philippe Chabert (1737–1814), one of Bourgelat's first pupils and then a professor at the veterinary school at Alfort, laid the foundations for a rational animal pathology by dividing it up and systematizing it. Animal pathology was thus connected to human pathology—it was destined to become refined, isolated, organized, recognized, and perhaps

42 - Claude Bourgelat, *L'Art vétérinaire*, 7.

even mastered. Chabert published books on such diverse subjects as the digestion of ruminants, sickness caused by venom, peripneumonia, and the deterioration of milk. This type of versatility can partly be explained by Chabert's career: he was a professor of farriery, diseases, and operations; inspector of studies; director of the royal veterinary school at Alfort; and, finally, inspector general of the royal veterinary schools.

Did the Emergence of Veterinary Medicine Change the Common Perception of Animals?

Did the proposal of scientific means and techniques for maintaining the health of certain animals within a specific discipline—that of veterinary medicine—contribute to a palpable change in the portrayal and perception of animals? Did they, for example, obtain any rights? Did medical discourse and practices in this century lead, even minimally, to a type of rehabilitation of animals, causing them to emerge from their state as mere beasts, livestock, or brutes? Animals had long been pawns in the scientific game for naturalists and philosophers, as well as for doctors. They were pawns in terms of health practices, with the improvement of animals seen as a means of improving humans.

Two approaches to animals were partly changed through the emergence of veterinary medicine. Firstly, the domestic animal became object and stake in a process of improvement, thus confirming increasing scientific control over nature by humans as well as asserting their economic power. Secondly, the animal became an object of attention, demonstrated by an increasingly overcautious examination of its health, something which, for all that, did not cause it to be a subject in its own right. These two approaches to animals will be developed in this final section.

At its inception, veterinary medicine needed to prove itself both in terms of its usefulness and its scientific content. However, as far as many doctors were concerned, it would evolve within the confines of "abjection."[43] Does the idea of a veterinary art that had been developed in a state of abjection, that is to say as the object of profound disrespect, as a valueless vulgar utility, mean

43 - As Bourgelat writes at the beginning of his work, *L'Art vétérinaire ou médecine des animaux*: "The art of veterinary medicine today is in an abject state."

that it was considered abject because of the fact that it involved the care and treatment of animals? The origins of this extreme lack of respect for veterinary medicine lay in the contemporary notion of animals—a bestiary composed of a few dignified creatures with the majority of beasts seen as inherently harmful. The horse was, according to Buffon's emblematic phrase, "the most noble conquest of man," the animal that was more powerful, better, and nobler than humans themselves. Buffon dedicated an entire text to horses, one that could be considered a veritable anthropology of the horse, an animal that is a being in its own right, with its society and demands—a truly astounding universe in every sense of the word. The horse stands head and shoulders above a throng of other beasts, although Buffon presents a portrait of each species, describing their individual characteristics. According to popular opinion, the horse had little competition. The dog sometimes accompanied it, but only on the sidelines, and the cat was not taken seriously at all during this period (though that would change marginally after the French Revolution). Livestock received some attention, but for other reasons already noted above (economic, dietary considerations, and so forth), as did "beasts," animals that were more or less exotic, dangerous, harmful, but frequently fascinating, the objects of descriptions made to pander to the inquisitive at that time.

This increased attention paid to animals and their way of life came from an economic need that was not purely motivated by the fear of epizootics and their consequences for humans. It was a matter of broader economic concerns, in which a more decisive influence was attributed to nature. What we see here is, in fact, a philosophical movement that, far from being naïve, was concerned with a return to nature. On this subject, we might note the arguments put forward by the Physiocrats, who were relatively influential during the second half of the eighteenth century: if the only source of wealth is the earth, it is by seeking to improve it in every way that we will succeed in enriching our nation, with implications for animal health. Apparently a veritable source of income to maintain and develop, animals must receive individual attention in the same way as crops. This cultural movement is palpable throughout this period, as much in the medical texts as in the philosophical discourse of one Jean-Jacques Rousseau, or, rather, in the often cursory perusal of it made by a number of his contemporaries. We frequently encounter a contrast between the healthy air of the

countryside and the polluted air of the towns. This contrast encapsulates in an extreme way the great importance attached to theories pertaining to air and climate throughout the eighteenth century. Both in Europe and on the other side of the Atlantic, people used medicines that exploited in a particularly exaggerated manner the study of all the factors behind air pollution. It was as a result of this that topographies gained importance in Europe, which condemned the narrowness of small passageways, the houses built in too close proximity to one another, constricted living quarters, and other factors causing pollution. Nature had become, in this regard, a paradigm of harmony, good health, and beauty…

It was, therefore, as part of the confirmed evolutionary process of knowledge that animals captured people's attention. Animals were a source of interest not only with regard to the different domains of medical, zoological, and botanical science, but also in terms of techniques connected with husbandry and agriculture. However, this position did not imply a change in the general perception of animals in the eyes of breeders or doctors, or indeed in scientific circles, with the exception of some zoologists and naturalists. On the other hand, the continued and more detailed observation of animals, as much from the point of view of their physiological make-up as their habits, caused a change in the perception of humans based on that of animals. Thus, as the lines of descent in animals are perfectly capable of improvement through the intervention of breeders, by cross-breeding successively—a phenomenon to which Charles Darwin drew attention—why would it not be the same for humans? And what if the horse became, beyond a companion for humans, a paradigm for the betterment of the human race? This question, far from being raised by a few quacks, was publicized orally and in writing by a man of some standing—the physician Pierre-Jean-Georges Cabanis.[44]

44 - "After having, rather bizarrely, concerned ourselves with the means of beautifying and improving animal breeds and creating useful and attractive plants; after having reshaped horses and dogs a hundred times; after having transplanted, grafted, and worked on fruits and flowers in a number of ways, is it not shameful to have neglected the human species so completely? It is as though it were less pertinent! As though it were more essential for us to breed big, strong cattle than vigorous, healthy men; flavorsome peaches or tulips in multiple tones rather than wise, good citizens! It is time in this respect, as in many others, to adopt an outlook that is more worthy of an era of regeneration—it is time to deign to do to ourselves what we have accomplished so successfully on several of life's companions. It is time to deign to accept and correct nature's work" (Pierre-Jean-Georges Cabanis, "De l'influence des tempéraments sur la formation des idées et des affections morales" in *Rapports du physique et du moral de l'homme* (Paris: 1802), essay no. 6, 479–81.

Beyond the realms of his own thought, Cabanis expressed a cultural turn in favor of the emergence of a new human being, putting into tangible form the ideals of perfection dreamed of by Condorcet and others. However, the idea of intervention in human reproduction as part of a coherent policy of regeneration has at its roots very ancient practices applied to domestic animals. In fact, the domestication of certain species (e.g. pigs and horses), which is characterized largely by the voluntary coupling of males and females, wherein the candidates are allowed to select their mate, goes back to a period between the eighth and fourth centuries BCE. Of note here is that one of the consequences of Neolithic domestication is a reduction in the size of animals, a point Buffon develops.[45] This idea of improving animal breeds took on an increasingly anthropological character in the eighteenth century. Charles-Augustin Vandermonde had tried his hand at improving the human race even earlier than Cabanis, with the publication, in 1756, of his *Essai sur la manière de perfectioner l'espèce humaine*. He based his argument on the means used to perfect horses in order to promote an identical policy for human beings.[46] The idea of improvement, which reverberated throughout the second half of the eighteenth century, was partly connected to another idea—that of natural, rather than artificially engendered beauty. Men were strong and handsome, and women natural (without make-up), expressing the unspoiled beauty of nature, and animals dotted all over the countryside were equally attractive. We must return to Bourgelat, however, and the doctors involved with animal health; the care lavished on animals also had as its aim the creation of attractive lines of descent that corresponded to ideals of proportion and color. The anatomy of the horse, patiently developed by Bourgelat, was used to improve its physique, although the aesthetic dimension did not constitute an end in itself. In was in this sense that, according to Kant's well-known distinction, the horse belonged to the type of beauty referred to as "adherent," which expresses something more than the mere appearance of the animal.[47]

45 - Notably in volume XIV of his *Histoire naturelle générale et particulière, avec la description du cabinet du Roi, consacré à la dégénération des animaux*.

46 - Charles-Augustin Vandermonde, *Essai sur la manière de perfectionner l'espèce humaine* (Paris: Vincent, 1756), 2 vol.

47 - This reference comes from the sixteenth section of book I of the *Critique of the Power of Judgment*, the "Analytic of the Beautiful," where Kant distinguishes between "free beauty (*pulchritudo vaga*) or merely adherent beauty (*pulchritudo adhaerens*)." The character of this second sort of beauty was described by the author as follows: "…the beauty of a horse, of a building (…) presuppose a concept of the end that determines what the thing should be, hence a concept of its perfection, and is thus merely adherent" (Immanuel

Proclaiming the desire that nature and the beings within it should constitute an aesthetic investment requiring the attention and care of humans—the guardians of nature—does not necessarily imply a palpable change in the general perception of animals. In fact, none of the enterprises involving the improvement in the health of animals at this time conceived of them as equal to humans and, even less, as a group of beings whose integrity was worthy of recognition.

It is, however, in the day-to-day routines of a veterinary practice still in its infancy that we should look for the beginnings of a change in the status of animals. They were no longer entirely scientific, medical, or aesthetic objects, but closer to being subjects, in the sense in which medicine tends to individualize a sick animal, to listen to it in a state of isolation away from the rest of the herd.

It seems, however, that animals only represent subjects within a tradition of literary personification that has, as its purpose, an analysis of humans. Nevertheless, there is a certain lingering tension between a form of personification in which animals are legendary and mythical, and the cold, calculating, and objectifying use of animals in economic contexts.[48] Even if it is no longer a question of thinking of the animal as being reducible to a type of machine,[49] which is in line with an important tendency in the philosophy of the period, the sensitivity of the animal remains fundamentally bound up with the question of the sensitivity of matter, an issue very much in the philosophical limelight. At the same time, the fixed hierarchical representation distinguishing between humans and animals in an absolute manner is called into question.[50] Indeed, the

Kant, *Critique of the Power of Judgment*, ed. Paul Guyer, trans. Paul Guyer and Eric Matthews [Cambridge and New York: Cambridge University Press, 2000).

48 - These tensions have been examined in an important body of contemporary literature. We are referring here to a contribution that has raised questions, debates, and polemics concerning this subject, namely, a book by Élisabeth de Fontenay, *Le Silence des bêtes: La Philosophie à l'épreuve de l'animalité* (Paris: Fayard, 1998).

49 - Of note here, as an addendum to this discussion, is that the idea of sensitivity emerged, the sensitivity of matter and the reactivity of bodies, as a reaction to Descartes, who perceived all beings as watches, wheels, cogs, and springs. The notion of the machine is not exclusive to mechanical philosophy. The proclamation that animals should be considered as machines does not necessarily imply that they are devoid of any form of feeling, not to mention the question of the soul.

50 - On this point, it is interesting to bear in mind a succession of writings from Montaigne to Condillac. In addition, we should emphasize a problem that cannot be developed within the confines of this article, namely, that we should be wary of interpretations with a tendency to reduce the mechanistic notions of the animal to machines per se, and to make of their authors cold, unfeeling monsters.

moment had not yet arrived when the animal would be considered as a being in its own right. What then of its status as a sick creature? And, to go even further, with the advent of veterinary medicine does it become a patient?

We recognize the anthropological intensity in the stories and descriptions provided by men and women as testimony of their pain and suffering at the hands of doctors, and the replies of the latter, thanks to a considerable epistolary literature. This literature lends substance to the medical history not only of doctors and their practices, but also of the sick. In a collection of medical observations, for instance, we are interested in a woman who always suffers from the same fever at the same time, in the episodes of gout related by a sufferer, or indeed, in the changes in a soldier's wounds… It is true, however, that we are not interested, in terms of a detailed, individualized narrative, in a wounded, suffering animal, or in the relationship between vets, not in the same way we would be in the sometimes troubled relations between doctors when their diagnoses conflict.

An interesting example is found in a book by Ronald Hubscher,[51] *Les Maîtres des bêtes: Les vétérinaires dans la société française (XVIII*e*–XX*e *siècle)*. It concerns the story of a sick cow and is set at the beginning of the nineteenth century. The cow is no longer eating and is moving with difficulty. Its owner, not recognizing the prodromes (early symptoms) of the disease, opens the jugular vein and orders an infusion of flowers, sulfur, and nitrate of potash. When the animal's condition deteriorates, the decision is made to apply hellebore to the fetlock, and all further treatment is postponed until the next day. A little while later, the cow is affected by shivering and colic. The vet diagnoses the start of paralysis in the hindquarters and recommends treatment as a result. When he sees the parlous condition of the animal, the farrier recommends that it should be thrown out on the rubbish heap and sends for the knacker. The owner's son nevertheless decides to call back the vet and, after a week of treatment, the animal's feeling begins to return so that in the end, it is saved. This story, without endowing the cow with the status of patient worthy of all possible medical attention, summarizes in a very

51 - Ronald Hubscher, *Les Maîtres des bêtes: Les Vétérinaires dans la société française (XVIII*e*–XX*e *siècle)* (Paris: Odile Jacob, 1999), part 3: "Entre savoir et pouvoir," Chap. VIII: "Missionnaires du progrès, incompétence et malfaisance," 170–71.

significant manner the play of relationships—the owners, father and son, the vet, and the farrier—concentrated in the episode endured by the animal. This narrative shows the vet as a learned man of science, confronted by the empirical practices of the peasantry. A parallel might be made between the daily round of doctors faced with popular lore and the lack of mutual understanding. We might do well to remember that the struggle against empiricism is almost an integral part of the very history of medicine. This story reveals conflicts of interest between owner, farrier, and vet. The latter bases his relationship with the sick animal on time, the best medium of success in terms of treatment. The owner bases his approach on the fear of losing an asset, and the farrier bases his on profitability and utility without necessarily looking much further.

Leaving aside the logical argument of Hubscher's book, which deals mainly with the thorny question of empiricism in medical and veterinary practice, we may want to focus our attention on the sick animal, also in a certain sense the patient in this episode. We know nothing about the animal, a cow, which narrowly escapes a gruesome conclusion to its illness, namely, slaughter and quartering as meat for humans or dogs. It remains enclosed within its total otherness: an animal doomed to remain outside man's sphere.

Is a more general knowledge of animals necessary in order to form an understanding of a sick animal, taken in the sense that we are then drawing up a sort of "anthropology" of that animal? And what sort of knowledge might that entail? It is as part of this uneasy interplay of understanding and misunderstanding that an impressive array of questions, hypotheses, and speculations are intertwined in order to gain an understanding of animals. Moreover, a desire to understand animals has long been part of the desire for a fuller knowledge of humans. This brings with it a number of prejudices preventing an understanding of the animal for itself, leading to prejudices as far as humans are concerned. Are we able to build a fitting anthropology based on ignorance of the otherness that is the animal in all its forms? Étienne Bounot de Condillac hopes, in part, to awaken our sensitivity (rather than our affectivity), and thence to conduct our investigations into the subject in a new light.[52]

52 - The beginning of the famous *Traité des animaux* sets the tone: "A knowledge of what animals really are is interesting only in that it enables us to know what we are. It is from this point of view that we should make conjectures on this particular subject. *If animals did not exist,* continues Monsieur Bouffon, *the nature of man would be more*

Condillac's precious contribution to the subject is, however, part of a philosophical debate on the nature and place of humans. The animal intervenes merely as a catalyst within the relativist dimension of a new type of anthropology. Seen in this context, the animal is, at best, a prism.

This otherness, which is too involved a subject to broach here, is usually expressed by the animal's muteness: that of the animal subjected to humans from time immemorial. However, this age-old reduction of domestic animals—those involved in physical work and those whose flesh is edible—to the economic considerations of humans is the subject of a vociferous body of literature that is not merely contemporary, in which there are attempts to give these same animals a "voice." Plutarch, for instance, expresses the universal protest of animals prematurely destined for the pot:

> The animals which you devour are not those which devour others; you do not eat carnivorous animals, but imitate their savage nature. You have no appetite but for meek and innocent brutes that hurt nobody, but, on the contrary, fondly attach themselves to your persons, who faithfully serve you and whom you devour in return for their services. Unnatural murderers![53]

Plutarch's angry indignation came to the rescue when, at the end of the eighteenth century and the beginning of the nineteenth, doctors were warning against the excessive consumption of meat, arguing that it was contrary to a good diet.

In this respect, two discourses on the subject of sensitivity oppose the essentially unilateral belief that humans are superior to all other creatures. On the one hand, the discourse concerning physical sensitivity put forward by Condillac, in the wake of a whole host

incomprehensible. We should not imagine, however, that by comparing ourselves with them, we would ever understand the intrinsic nature of our being. We are only able to surmise our aptitudes, and this means of comparison may be a ruse in order to subject them to our observations" (Étienne Bonnot de Condillac, *Traité des animaux*, ed. Michel Malherbe [Paris: Vrin, 2004], 111).

53 - Cited by Étienne Tourtelle, *Élements d'hygiène ou De l'influence des choses physiques et morales sur l'homme, et des moyens de conserver la santé* (1786), 3rd ed. (Paris: 1815), chap. 2, "Des substances alimentaires," 466, translated by George Williamson as *The Principles of Health Elements of Hygiene, or, A Treatise on the Influence of Physical and Moral Causes on Man, and on the Means of Preserving Health* (Baltimore: 1819). See also Plutarch, *Manger la chair: Traité sur les animaux*, trans. Jacques Amyot (Paris: Rivages poche, 2002).

of physiologists, doctors, and philosophers,[54] tended to dismiss the dualist representation, in which inert matter was distinguished from the spiritual soul, as anachronistic. On the other hand, the moral discourse dating back at least as far as Plutarch and espoused in particular by Rousseau,[55] constituted a warning as far as those who consumed the flesh of their familiar companions without any qualms were concerned. These two discourses were centered on humans, although they contributed to the partial rehabilitation of animals.

It is against the background of these ideas and their development that a branch of medicine focusing on the care of animals has been laboriously built up—care that takes into account what they are and in which the appropriate tools are utilized. It remains to be said that, even while its functions have varied according to the changes affecting the relationship between humans and animals in different parts of the world, from its first tentative steps up until the present day, veterinary medicine has overseen the health of animals so as to guarantee that the function for which they exist is carried out under the most appropriate conditions. The veterinarian also takes care that the animal's meat should be edible, and, as far as possible, at least in the past, that it is a working tool in optimum condition.

Various events, schemes, and points of view, on the whole fairly recent, have led to the development of a more humanized approach to animals, in which they are perceived to be possible "subjects,"[56] living creatures in their own right. In accordance with a growing

54 - An elaboration of the idea of sensitivity goes back to the seventeenth century, notably with Francis Gilsson (1597–1677) and Georg Ernst Stahl (1660–1734), followed by the vitalist physicians from the Montpellier school, Paul-Joseph Barthez (1734–1806), and Théophile Bordeu (1722–1776), for instance. The schools were undoubtedly different, but they all contributed to the reconsideration of concepts in which the body, the material substance of organs even, constituted inert entities. It became a matter of identifying the very origins of life within every being. An animate physiology was in fact necessary for life.

55 - Notably: "Those people who are great eaters of meat, are in general more ferocious and cruel than other men" (Jean-Jacques Rousseau, *Emilius or a Treatise of Education* [Edinburgh: 1768], 237. Originally published as *Émile, ou De l'éducation*, vol. 2 (Paris: Garnier-Flammarion, 1966), 197–99.

56 - Attempts were made to formulate an ethical and legal framework in order to protect animals from a number of practices that emerged during the second half of the twentieth century. Notably, the Universal Declaration of Animal Rights was proclaimed on October 15, 1978 at UNESCO (United Nations Educational, Scientific and Cultural Organization) headquarters.

concern for the health of animals, particularly livestock, veterinary medicine is partly included within this process. The emergence of an argument defending and demanding an honest approach to living creatures of whatever type comes after a long period of industrialization of animals. Indeed, ever since the nineteenth century, the food industry has palpably contributed to reducing the occupants of farmyards and fields to the status of objects, consumable material, in fact. Horses, previously raised to the level of useful and valuable companions to humans, have joined the throng on the road to the abattoir.[57]

The emergence of veterinary medicine contributed to a change in perception regarding animals as far as many professions were concerned. This changed perception also affected eighteenth century society as a whole, including doctors, peasants, and occupations connected with the food trade. When animals were better cared for, they in turn took better care of humans, both in terms of food and the preservation of their health. Animals remained within the confines of utility, however. At the same time, this utilitarian notion did not preclude aesthetic concerns—in fact, quite the opposite. The more well-proportioned animals appeared—the horse was the principal model—the more they expressed the balance, power, and subjugation of nature, economy, and, for the owner, a certain social standing.

In veterinary medicine, there was a desire to develop a body of practices and skills that would relegate fear, imagination, and exaggeration to the annals of bygone history, a desire that was shared with medical thinking as a whole, and even more with the general spirit prevailing in the arts and sciences of the second half of the eighteenth century. Animals, once they had been understood and mastered, would no longer inspire fear. The final word had not yet

57 - There were many works—dictionaries and encyclopedias—published in the nineteenth century recommending horsemeat. Nonetheless, in its entry for the horse, which borrows extensively from Bourgelat's writings, the *Encyclopédie méthodique* does not mention any nutritional use of its flesh. The Littré, in its 1873 edition, is testimony to this fact, however, when it notes: "Healthy food, nourishing, the use of which will not constitute a health hazard." It takes as an example the "northern countries" that consume it regularly. On another note, horsemeat can be used as food for pigs: "The characters of pigs fed with horsemeat do not change; they do not, as has been claimed, become fierce and a danger to children" (Émile Littré and Charles Robin, *Dictionnaire de medecine, de chirurgie, de pharmacie, de l'art veterinaire et des sciences qui s'y rapportent*, 13th ed. [Paris: J. B. Baillière, 1873], s.v. "Cheval," http://www.biusante.parisdescartes.fr/histmed/medica/cote?37020d).

been spoken as far as the fear of epizootics was concerned, however. The possibility of the transmission of numerous infections to humans by animals—redrawn by the tools of contemporary science—still had many surprises in store. The complexity of the relationship between humans and animals includes some unknown elements, making the work of redefining all the parameters through which the normal can be distinguished from the diseased all the more difficult.