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Descartes' Bête Machine, the Leibnizian Correction and Religious Influence

by

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A thesis submitted in partial fulfillment
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ABSTRACT

René Descartes' 1637 "bête machine" characterization of nonhuman animals has assisted in the strengthening of the Genesis 1:26 and 1: 28 disparate categorization of nonhuman animals and human animals. That characterization appeared in Descartes' first important published writing, the *Discourse on the Method*, and can be summarized as including the ideas that nonhuman animals are like machines; do not have thoughts, reason or souls like human animals; and thus, cannot be categorized with humans; and, as a result, do not experience pain or certain other feelings. This characterization has impeded the primary objective of environmental ethics - the extension of ethical consideration beyond human animals - and has supported the argument that not only the nonhuman animal but also the rest of nature has only instrumental worth/value. As is universally recognized, Gottfried Wilhelm Leibniz, just a few decades after Descartes' death, took issue with Descartes' dualism by arguing that the Leibnizian monad, with its active power, was the foundation of, at least, all of life. This argument must result in the conclusion that nonhuman and human animals are necessarily categorized collectively, just as Charles Darwin later argued. In fact, when the writings of Descartes and Michel de Montaigne are reviewed, it becomes apparent that Descartes never believed his bête machine characterization but embraced it to achieve not only his philosophical objectives but also his anatomical and physiological objectives. Philosophically, Descartes was answering Montaigne's skepticism and his use of nonhuman animal examples to discredit human reason. Also, Descartes spent a major part of, at least, the last twenty-two years of his fifty-four year life dissecting nonhuman animals. Finally, the role that the politics and policies of the Christian institutions played in these matters is of primary importance. Similar politics and policies of the Christian institutions have since played, and still play, an important role in the continuing, unreasonable, disparate categorization of human animals and nonhuman animals. Philosophy seems to be the only discipline that can, if it will, take issue with that characterization.

I. Introduction:

This paper argues that an initial basis for the extension of ethical consideration to nonhuman animals, at least in modern philosophy, is first to be found in the philosophy of Gottfried Wilhelm Leibniz {1646-1716}. Leibniz answered the dualism that included the nonhuman animal position of René Descartes {1596-1650}. Descartes answered the nonhuman animal position and also the general skeptical position of Michel de Montaigne {1533-1592}. All of these positions were greatly influenced by the religious environment in which they were generated. This paper, therefore, initially strives to develop and evaluate the nonhuman animal positions of Montaigne, Descartes and Leibniz, and then the religious influence on each of those positions.

It is arguable that Immanuel Kant was the first to suggest, in 1785, that every human animal was entitled to equal ethical consideration and the accompanying respect because of the inherent worth that he attributed to human reason. However, Kant explicitly denied this consideration and respect to nonhuman animals but suggested that such animals should be treated with kindness because it would contribute to egalitarian ethical consideration between human animals. The extension of ethical consideration to all human animals has made progress but obviously has a long way to go. While slavery has been legally abolished throughout the world over the last three centuries, the enslaving of human animals is still being practiced. Nonetheless, few have seriously argued, at least in the last half of the twentieth century, that egalitarian ethical consideration should not be extended to all human animals.

Extension of ethical consideration beyond human animals has been directly argued over about the last 40 years in the field of philosophy that has come to be known as environmental ethics. That extension of ethical consideration has only been sparsely accepted and some have seriously argued that such extension should not occur. In addition, though a number of philosophers have argued the extension of ethical consideration, not only to nonhuman animals, but to all other life forms including plants, life-support systems, and the planet Earth and its resources, the vast majority of human animals still view all these entities, including nonhuman animals, as having instrumental value only.

Nonetheless, some inroads are being made. As an example of federal law, endangered species have been given some protection since 1973 under the federal Endangered Species Act

{16 USCA §1531 et seq.} but, as stated in the Act, because of their “value” to the United States and “its people.” As an example of Florida state law, a requirement now found in the Florida Constitution requires that all pregnant pigs be given enough space to “turn around freely.” {Fl. Const. Art. X, §21}. Over about the last 40 years, there has also been much debate about the manner of use of nonhuman animals in scientific research, and there seems to have been a general increase in public awareness of the interrelatedness of human animals with all those other entities mentioned above, again, including nonhuman animals.

In any event, it seems reasonable that ethical consideration should be extended beyond human animals, if only because all life forms including those animals originated from a common root and because all life forms depend on the resources of this planet. If ethical consideration can be extended beyond human animals, it seems that nonhuman animals are initially the best candidates for that extension, if only because of the similar construction of their bodily machinery. It has, within the last few years, been reported that the difference between the genome of the human animal and that of a chimpanzee is about 1.7%. Consequently, it seems important to understand the history of the philosophical argument for that extension. It has also been argued that a meaningful examination of human animals can be found, at least in part, in the history of the way they have related to nonhuman animals.

Montaigne was a Roman Catholic skeptic who used examples of nonhuman animals to attempt to convince his readers that human animals and their reasonability, even without faith, were of no greater value than most nonhuman animals. While both Descartes and Leibniz were rationalists and part of the seventeenth century philosophical “fringe” who were attacking skepticism, their positions concerning nonhuman animals are poles apart. I argue, with Martin Schönfeld, that the Leibnizian position was the first major position following Descartes and Montaigne that began the trend acknowledging that nonhuman animals: (1) have sentience similar to human animals, (2) must be categorized with human animals, and (3) therefore are entitled to ethical consideration. Finally, this paper reviews the importance of the positions of both Descartes and Leibniz in more recent philosophical and scientific developments.

Leibniz mentions Descartes in a number of his written works and openly disagrees with a number of positions taken by Descartes, some of which regard nonhuman animals. These statements of disagreement about nonhuman animals by Leibniz are reviewed along with further references by Leibniz to nonhuman animals.

Descartes' position concerning nonhuman animals was found to reference only two previous authors, Montaigne and Pierre Charron {1541-1603}. Descartes referenced both only in

his November 23, 1646, letter to the Marquis of Newcastle.¹ Charron was a colleague of Montaigne and continued to argue skepticism after Montaigne's death. Because Charron's position about nonhuman animals was similar, if not identical, to that of Montaigne, this paper does not address Charron's position separately.

For each of these three philosophers, Montaigne, Descartes and Leibniz, this paper includes five basic topics: first, a short history of his family, religious background, education, and the political and religious environment in which he lived; second, the background of the author concerning nonhuman nature; third, the author's written position about nature generally; fourth, the author's written position about nonhuman animals which will include the author's distinction between nonhuman animals and human animals; and, fifth, the stated and apparent influence of religious institutions on the author's position about nonhuman animals. A summary is provided for each author. Finally, the importance of these positions in more recent philosophical and scientific developments is reviewed. A conclusion ends the paper.

¹ Cottingham et al. attribute one additional letter by Descartes to the Marquis of Newcastle, dated October 1645, which references Descartes' promised treatise on animals. The attribution is shown as "conjectural or based on indirect evidence" probably because of the reference to "animals." René Descartes, *Letter to the [Marquis of Newcastle]*, in *The Philosophical Writings of Descartes*, trans. John Cottingham, Robert Stoothoff, Dugald Murdoch, Anthony Kenny, vol. 3 (Cambridge: Cambridge U. Press, 1991), 274.

II. Chapter One: Montaigne: An Explanation for Descartes' Bête Machine

Just as Kant credits Hume with his "awakening," Descartes must have, at least in substantial part, been awakened by Montaigne's *Essays*. Montaigne {1533-1592} is only known to have been mentioned by Descartes in the 1646 letter to the Marquis of Newcastle which dealt with Descartes' answers to the Marquis' questions about nonhuman animals. While Descartes does not mention any specific written work of Montaigne, it is obvious that the reference regards Montaigne's *An Apology for Raymond Sebond* {"Apology"} which is found in Book II of Montaigne's one known published work, his *Essays*.² Montaigne wrote Books I and II of the *Essays* between 1570 and 1580. They were first published in 1580. Between 1580 and about 1585, there were five additional printings of the *Essays* because of their popularity. Apparently King Henry III of France specifically complemented Montaigne for the *Essays*. Desmond M. Clarke, a biographer of Descartes, reports that: "it was impossible for any educated Frenchman not to have perused some pages of {Montaigne's} voluminous *Essays*."³ Because numerous copies of the *Essays* had been printed during and after 1580, it is safe to assume that Descartes had read some of Montaigne during Descartes' student years between 1610 and 1620. Clarke states positively that Descartes "had been given a copy of Charron's *Three Books of Wisdom* in 1619."⁴

Both Montaigne and his friend, Pierre Charron, "had extolled the ingenuity and even the superiority of animals over man and claimed that animals have their own languages that we fail to understand in the same way that they fail to understand us."⁵ As is discussed in the Descartes section of this paper, Descartes argued publically until his death that the primary basis for denying an immaterial soul and, consequently, reason, thought, and even pain to nonhuman animals was their lack of communication through speech. In summary, Montaigne was a much published and well-regarded French author who Descartes found, at least, problematic scientifically concerning Descartes' anatomical and physiological objectives and also philosophically concerning his rationality objectives.

² Michel de Montaigne, *Michel de Montaigne: The Complete Works*, trans. D. M. Frame (New York: Everyman's Library/Random House, 2003), 386-556.

³ Desmond M. Clarke, *Descartes A Biography* (Cambridge: Cambridge University Press, 2006), 334.

⁴ *Ibid.*, 334.

⁵ *Ibid.*, 334.

Montaigne was a skeptic, an anti-rationalist and a Pyrrhonist. The *Essays* are replete with those sentiments. For example, in his *Apology*,⁶ written in about 1576, he states that:

This idea {of the declarations of "I do not know" or "I doubt"} is more firmly grasped in the form of interrogation: "What do I know?" - the words I bear as a motto, inscribed over a pair of scales.⁷

In the footnote that follows this quote, Donald Frame, translator and biographer of Montaigne, comments that: "{This is} {t}he famous "*Que Sçay-je?*" which many consider Montaigne's central idea." Another of Montaigne's many skeptical statements is the following:

Reason does nothing but go astray in everything, and especially when it meddles with divine things. ... {W}hen it strays however little from the beaten path and deviates or wanders from the way traced and trodden by the Church, immediately it is lost, it grows embarrassed and entangled, twirling round and floating in that vast, troubled, and undulating sea of human opinions, unbridled and aimless.⁸

In support of his skepticism, Montaigne, in a number of statements, falls into the false dichotomy fallacy. For example, of judgment, Montaigne says "Either we can judge absolutely, or we absolutely cannot."⁹

While Montaigne maintains his skepticism through Book III of his *Essays*, Frame argues that he also endorses a practical use of reason. However, it is still skepticism that controls Montaigne's thoughts. Consequently, Montaigne was also directly problematic for Descartes because of Descartes' philosophical objective of the support of rationalism.

A. Historical environment:

Montaigne was born in 1533 about 30 miles from Bordeaux, France and just 16 years after Martin Luther had published his theses. Frame suggests that the 1530s apparently were "a bright moment for French humanists {such as Erasmus} and for the peaceful religious reform they sought."¹⁰ While these French humanists were attacked by many, they apparently were originally protected by then King Francis I. Calvinism was spreading through France and was demanding freedom of worship. After the death of Francis II in 1560, his widow, Catherine de Medici, became Regent and granted the Protestants freedom of worship which incensed Catholic opinion. An attempt was made in 1561 to reconcile the two sides, but that attempt only served to

⁶ Donald M. Frame, *Montaigne A Biography* (San Francisco: North Point Press, 1984), 108. Sebond's *Natural Theology* was put on the 1558-59 Index of Prohibited Books. However, with the exception of the Prologue, the remaining text of the book was removed from the Index. It seems certain that Montaigne knew this.

⁷ Montaigne, *The Complete Works*, 477.

⁸ *Ibid.*, 469-470.

⁹ *Ibid.*, 513.

¹⁰ Donald M. Frame, *Montaigne's Discovery of Man* (New York: Columbia University Press, 1955), 11.

emphasize their differences, and most Protestant worship was outlawed. In 1562 and because of illegal Protestant worshiping, François de Guise, a Catholic leader, and his men took up arms against the Protestants and initially killed about 20 people while wounding another 100. The Protestant leaders then began to organize troops of their own and the French "wars of religion" began in that year, 1562, and continued through Montaigne's adult life and at least through 1629.

Montaigne comments in his *Essay*, "Of practice," about the civil wars: "During our third civil war, or the second (I do not quite remember which), I went riding one day about a league from my house, which is situated at the very hub of all the turmoil of the civil wars of France."¹¹ Obviously, Montaigne was well aware of these conflicts.

After three wars, each covering a year or two, the Protestants gained considerable influence, enough that a Protestant leader, Coligny, in 1570, participated in the court of King Charles IX. Coligny was wounded in an attempted assassination and, because of growing tension, Charles ordered "the massacre of St. Bartholomew's Day" {August 24, 1572} in which Coligny and thousands of other Protestants died.¹² About this same time, Henry of Navarre, who was also a Protestant and a member of the King's court, apparently chose to renounce Protestantism in favor of Catholicism to save his own neck. The wars continued in and around Catholic Bordeaux. While Montaigne always seemed to remain a loyal Catholic, he apparently was never directly involved as a combatant.

By 1576, Henry of Navarre had fled Paris and resumed his association with Protestantism. In that year, the Protestants controlled enough power to force the king, Henry III, to enter into a peace treaty that again allowed the Protestants freedom of worship. Guise immediately rallied Catholics throughout France into the "League" that backed the monarchy and Catholicism. In 1576, as well, the government announced and undertook the direct suppression of Protestantism. Apparently, sometime between 1572 and 1576, Montaigne attempted to reconcile Guise and Navarre without success. Frame reports that, in attempting this reconciliation, Montaigne "learned that neither man really cared a bit for his professed religion" and that "an enmity {existed between the two men that was} so violent that it could end only in the death of one or the other."^{13 14}

¹¹ Montaigne, *The Complete Works*, 326.

¹² Frame, *Montaigne A Biography*, 151. Frame characterizes this massacre as "almost as bad in Bordeaux as in Paris."

¹³ Frame, *Montaigne's Discovery of Man*, 50.

¹⁴ Frame reports that Henry of Navarre spent the night at Château Montaigne once in 1584 and once in 1587. Montaigne, *The Complete Works*, fn 918.

Between 1576 and 1584 further civil wars occurred. In 1584, because of the death of the heir to the throne of France, the now Protestant Henry of Navarre became heir to the throne which began a further civil war and, in 1585, Henry was excommunicated by Pope Sixtus V. In 1588, the Catholics and Guise incited "the Day of the Barricades" in Paris in their effort to force the moderate, Henry III to leave Paris. Henry III then caused the assassination of Guise later that year. The following year, Henry III was assassinated, and Henry of Navarre became King Henry IV and was, of course, opposed vehemently by the League, which now controlled Paris. A "reign of terror" took over Paris, during which even moderate League members were executed. In 1590, Henry IV and his army began a siege of Paris. A number of the leaders of the League requested and received assistance from Spain, which brought an army from the Netherlands and forced Henry to withdraw his forces, and the siege was lifted. However, those controlling Paris became yet more radical, and, in 1591, a moderate League member entered Paris and ended the "reign of terror." In 1590, with the death of a Catholic relative of Henry III {who the League had recognized as surrogate king}, the League began losing strength. In 1591 and 1592, Henry IV and his army continued military action in other parts of France.

While Montaigne lived through all of the above, he died peacefully in 1592 and would not experience Henry IV once again embracing Catholicism in 1593 in order to bring peace to France. In 1594, the coronation of Henry IV was conducted at Chartres and, in 1595, Henry IV received papal absolution from Pope Clement VIII.¹⁵

Mack Holt, in his book, *The French Wars of Religion, 1562- 1629*,¹⁶ characterizes these conflicts as follows:

I should point out ... that by underscoring the religious nature of the Wars of Religion, ... I am not implying that political, economic, intellectual or even other social factors ought to be de-emphasized. Not only did politics significantly matter in the sixteenth century, but as will become clear ..., it was high politics that largely shaped the beginning and the end of the wars, not to mention how they were fought in between In short, while civil war, popular revolt, and social violence were endemic to ... society {at that time}, it was the dynamic of religion that distinguished the sixteenth-century civil wars and resulted in the most serious crisis of French state and society before the Revolution.¹⁷

Montaigne was well aware of this characterization of the wars. In his *Essay* "Our desire is increased by difficulty," Montaigne acknowledges his frustration with the French wars: "{My

¹⁵ It is rumored that Henry explained his three conversions as follows: "those who follow their consciences are of my religion, and I am of the religion of those who are brave and good."

¹⁶ Mack Holt, *The French Wars of Religion, 1562-1629* (Cambridge: Cambridge U. Press, 1995).

¹⁷ *Ibid.*, 3.

house} is my retreat to rest myself from the wars. I try to withdraw this corner from the public tempest, as I do another corner in my soul. Our war may change forms all it will, and multiply and diversify itself into new factions; as for me, I do not budge."¹⁸ Though he did not “budge,” those continuing conflicts must have had an enormous impact on Montaigne. In addition, those conflicts represented recent history for Descartes.

B. Background concerning nonhuman nature:

Frame begins his biography of Montaigne with the following paragraph:

Michel de Montaigne spent most of his life in his château and in Bordeaux, thirty miles to the west. Bordeaux was the city, the place where he worked, as student, councillor, and mayor, even as his bourgeois ancestors had worked before him to amass the wealth with which his great-grandfather had bought the noble land of Montaigne. The Château de Montaigne, his birthplace, was the emblem of his status and the retreat of the country gentleman.¹⁹

The family château must have been a country estate of some acreage. The estate apparently consisted of two houses and the "accompanying vineyards, woods, fields, other lands, and mills"²⁰ and was “greatly enlarged” during the life of Michel's father, Pierre. Frame describes the Château environment as follows:

From prehistoric times nature here has been hospitable to man, and man has been responsive; here he and his dwellings and his animals fit into the landscape in unusually civilized fashion. Through woods, grasslands, and above all the ever-present grapevines, the road rises steadily up one of the chain of gentle hills that overlooks the serene Dordogne, then levels off on top of the plateau to pass through the village of Saint-Michel de Montaigne on its way to the {Château}.²¹

The estate must have been pastoral for those times and probably is even now.

About his upbringing, Montaigne writes that his father "had me held over the baptismal font by people of the lowest class, to bind and attach me to them." He further reports that his father sent him to a nearby village almost immediately after his birth “to ally me with the people and that class of men that needs our help” and as a result “I am prone to devote myself to the little people, whether because there is more vainglory in it, or through natural compassion, which has infinite power over me.”²² Frame reports that while Montaigne was yet nursing and, before he had spoken his first word, his father hired a German doctor to care for him who spoke very

¹⁸ Montaigne, *The Complete Works*, 568.

¹⁹ Frame, *Montaigne A Biography*, 3.

²⁰ *Ibid.*, 8.

²¹ *Ibid.*, 37.

²² Montaigne, *The Complete Works*, 1028-1029.

good Latin but no French. His father had decreed that no one in the household should use any language but Latin in Montaigne's presence and to communicate with him.

Michel first attended school in Bordeaux and completed that 12-year course in seven years, apparently due to his fluency in Latin.²³ From about the age of 13 to about 24, when Montaigne progressed from school boy to magistrate, there seems to be little known about his life. Because he became a magistrate, he would have had to have a license in law. Montaigne apparently practiced law from about 1554 through about 1570. During this period, he also served in a legislative capacity both in Bordeaux and Paris. Frame states "Montaigne was less dismayed ... by the magistrates than by the inadequacy of justice. Well aware of the limitations of the law, he was annoyed that legislators were not."²⁴ He in fact stated:

We have in France more laws than all the rest of the world together And yet we have left so much room for opinion and decision to our judges, that there never was such a powerful and licentious freedom. ... The most desirable laws are those that are rarest, simplest and most general; and I even think it would be better to have none at all than to have them in such numbers as we have."²⁵

Frame continues "for Montaigne, the horrible thing about justice was its injustice." "It did not take Sextus Empiricus or Cornelius Agrippa to teach {Montaigne} his skeptical temper; it had ripened for thirteen long years in the halls of the Bordeaux Parliament."²⁶

He married in 1565 and his father died in 1568. He "retired" in or about 1570 and spent his time reading the apparently many books in his library and writing the *Essays*, which were first published in 1580. He then undertook some travel, which included Rome.

Having been born and raised in the French countryside and even though experiencing a bourgeois situation during those times, Montaigne probably had a fair appreciation of the natural world and nature including, but not limited to, human and nonhuman animals. Further, because of the religious and political turmoil that he experienced throughout his adult life, it is not difficult to understand his skepticism.

Montaigne does write about a few personal experiences with nonhuman animals. He, of course, famously states "when I play with my cat, who knows if I am not a pastime to her more than she is to me?"²⁷ In addition, Montaigne had a particular love of horses. In fact, he stated, in his Essay entitled "Of war horses," "I do not like to dismount when I am on horseback, for that is

²³ Ibid., xxxii.

²⁴ Frame, *Montaigne A Biography*, 59.

²⁵ Ibid., 59.

²⁶ Ibid., 60, 62.

²⁷ Montaigne, *The Complete Works*, 401.

the position in which I feel best, healthy or sick."²⁸ Concerning horses, Montaigne also observes in his Essay "Of vanity" that "I would rather be a good horseman than a good logician: 'Why not make something that will meet a need, by plaiting wicker and the pliant reed?' VIRGIL."²⁹ In the same Essay, Montaigne states "travel seems to me a profitable exercise I stay on horseback, though I have the colic, without dismounting and without pain, for eight or ten hours Never has a horse failed me that could make the first day's trip with me. I water them everywhere, and only see to it that they have enough road left to settle their water."³⁰

The following statements seem to describe Montaigne's general character as a humanist with some wit. In the Essay "Of vanity," Montaigne explains himself: "It is pitiful to be in a place where everything you see involves and concerns you. And I seem to enjoy more gaily the pleasures of someone else's house, and to approach them with a purer relish. Diogenes answered in my vein the man who asked him what sort of wine he liked best. 'Other peoples,' he said."³¹ Also, in that same Essay, Montaigne states: "I love order and cleanliness ... as much as abundance; and in my house I give careful attention to what is needful, little to ostentation."³² Further yet: "not because Socrates said it, but because it is really my feeling, and perhaps excessively so, I consider all men my compatriots, and embrace a Pole as I do a Frenchman, setting this national bond after the universal and common one."³³

Frame provides a valid summary of Montaigne's relationship with nature and especially nonhuman animals as follows:

All around Montaigne's château are birds and animals. He has a strong sense of kinship with them, placing us neither above them nor below, and recognizing some difference, but "under the aspect of one and the same nature." His distaste for cruelty to them is rare in an age of hunting: {Montaigne states} "I have not even been able without distress to see pursued and killed an innocent animal which is defenseless and which does us no harm. ... I hardly take any animal alive that I do not give it back the freedom of the fields." We owe them kindness as fellow creatures, virtual equals with feelings like our own; Montaigne cannot refuse to play with his dog if he asks for it even outside the proper time,"³⁴

While "virtual equals with feelings like our own" are Frame's words, the whole quote is consistent with the content of the *Essays*.

²⁸ Ibid., 255.

²⁹ Ibid., 882.

³⁰ Ibid., 904-905.

³¹ Ibid., 882.

³² Ibid., 885.

³³ Ibid., 903.

³⁴ Frame, *Montaigne A Biography*, 123.

C. Position about nature generally:

Again, a Frame quotation properly characterizes Montaigne's position about nature:

Montaigne's version of Nature, of a type usually associated with Heraclitus, was not only a vision of constant flux and change, but also of the irreducible individualities of distinct but similar things. ... He could not envisage the later conception of Nature ... as the domain of universal laws of motion and of the type of causality which is explained by such laws. For {Montaigne}, human souls and bodies (and animals and plants too), being individuals, have to be understood through their individual natures, sometimes minutely differentiated, ...³⁵

To further characterize Montaigne's ideas of nature, his own words deserve quotation. In an early Essay, he states a sort of reverence of nature:

{W}hoever considers as in the painting the great picture of our mother Nature in her full majesty; whoever reads such universal and constant variety in her face; whoever finds himself there, and not merely himself, but a whole kingdom, as a dot made with a very fine brush; that man alone estimates things according to their true proportions.³⁶

As an additional early example and that of a skeptic, he states: "we must judge with more reverence the infinite power of nature, and with more consciousness of our ignorance and weakness."³⁷

Montaigne accuses humanity of attempting to reduce natural things to "machines" when he compares human things to natural things:

Is it not a ridiculous undertaking, in those things which by our own confession our knowledge cannot reach, to go and forge another body for them and lend them a false shape of our invention; as is seen in the movement of the planets, wherein, since our mind cannot reach it nor imagine its natural course, we lend them, on our own part, material, gross, physical springs You would think we had had coach makers, carpenters, and painters that went up there and set up machines with various movements³⁸

Could this have been the beginnings of Descartes' "bête machine?" Descartes must have read some Montaigne!

In Book III in his Essay "Of physiognomy," written after 1580, Montaigne gives his further thoughts about the simplicity of nature, about the way human animals imitate nature's nonhuman animals, and about how those nonhuman animals yet hold their reason out as something transcendent of nature:

³⁵ Montaigne, *The Complete Works*, xxiii-iv.

³⁶ *Ibid.*, 141.

³⁷ *Ibid.*, 162.

³⁸ *Ibid.*, 486.

We have abandoned Nature and we want to teach her her lesson, she who used to guide us so happily and so surely. ... It is fine to see these disciples {of learning}, full of so much beautiful knowledge, obliged to imitate {her} ... simplicity, and imitate it in the primary actions of virtue; and a fine thing our sapience learns from the very animals the most useful teachings for the greatest and most necessary parts of our life: how we should live and die, husband our possessions, love and bring up our children, maintain justice - a singular testimony of human infirmity; and that this reason of ours that we handle as we will, always finding some diversity and novelty, leaves in us no apparent trace of Nature.

Montaigne continues:

And men have done with Nature as perfumers do with oil: they have sophisticated her with so many arguments and farfetched reasonings that she has become variable and particular for each man, and has lost her own constant and universal countenance; and **we must seek in the animals evidence of her that is not subject to favor, corruption, or diversity of opinion.** {emphasis added}.³⁹

Montaigne states his basic characterization of human animals as beings "subject to favor, corruption, or diversity of opinion" which he believes we can only escape through observation of nonhuman animals. He further recommends that "The more simply we trust to Nature, the more wisely we trust to her."⁴⁰

In summary and as suggested by Frame and the above quotations, Montaigne saw nature as a majestic "mother" and not as a set of laws that govern the universe. He also recognized human animals as part of the natural world but a part that had abused nature with their "far-fetched reasonings" and who "must seek in the {nonhuman animals} evidence of {nature} that is not subject to favor, corruption or diversity of opinion." Finally, and possibly supplying Descartes with some of his material, Montaigne chides the human animal as having the audacity to conceive of the heavens as machines made with springs and such and, in addition, even the "poor little human body" as something fabricated.⁴¹ Montaigne clearly appreciated nonhuman animals.

D. Position about nonhuman animals:

In the present printing of the translation by Frame, the *Essays* cover 1045 pages with Montaigne's Travel Journal covering an additional 220 pages. Within those pages, Montaigne devoted only 34 pages to the topic that Frame labels "Man is no better than the animals."⁴² While Montaigne does mention nonhuman animals in a number of other individual Essays, these 34 pages represent his concentrated effort to belittle human animals and their reasoning abilities by

³⁹ Ibid., 977-978.

⁴⁰ Ibid., 1001.

⁴¹ Ibid., 487.

⁴² Ibid., 401.

comparing them to nonhuman animals. These 34 pages appear in the *Apology*, the longest of his essays. Montaigne wrote the *Apology* in or about 1576 as a result of his father's request, in or about 1567, that Montaigne translate the written work, *Natural Theology*, by the fifteenth century Catalan writer, Raymond Sebond. Montaigne's translation was published in 1569. Sebond's argument suggested that the interpretation of God's revelation by the Roman Church was, at best, of secondary importance and, at worst, unnecessary.

Montaigne reports two criticisms of Sebond's work; first, that Christians cannot support their belief by human reasoning, but need faith and divine grace, and second, that in any event, Sebond's arguments are weak. Montaigne spends all of about 15 pages in his "defense" of Sebond against these criticisms and then launches into his comparison of human and nonhuman animals, the result being that the *Apology* spends its real effort in disparaging human reason and, thus, arguing skepticism and Pyrrhonism.

He begins this comparison by stating that human animals are both arrogant and unhappy:

Presumption is {man's} natural and original malady. The most vulnerable and frail of all creatures is man, and at the same time the most arrogant. He feels and sees himself lodged here, amid the mire and dung of the world, nailed and riveted to the worst, the deadest, and the most stagnant part of the universe, on the lowest story of the house and the farthest from the vault of heaven, with the animals of the worst condition of the three; and in his imagination he goes planting himself above the circle of the moon, and bringing the sky down beneath his feet.

He then scolds human animals for having the vanity to declare their equality with God and to infer the stupidity of nonhuman animals:

It is by the vanity of this same imagination that he equals himself to God, attributes to himself divine characteristics, picks himself out and separates himself from the horde of other creatures, carves out their shares to his fellows and companions the animals, and distributes among them such portions of faculties and powers as he sees fit. How does he know, by the force of his intelligence, the secret internal stirrings of animals? By what comparison between them and us does he infer the stupidity that he attributes to them?⁴³

This paragraph sets the tone for the rest of the *Apology*. Montaigne had an extensive library and throughout the *Essays* uses quotes from, among many others, Horace, Cicero, Seneca, Plato, Aristotle, St. Augustine, Virgil, Juvenal, Lucretius, Ovid and Plutarch. In his comparison of human animals with nonhuman animals, Montaigne relies heavily on Lucretius and Plutarch and their comments about nonhuman animals.

Montaigne uses various nonhuman animals to exhibit virtues, capacities and abilities similar to, or exceeding, those of human animals and in so doing obviously places human animals

⁴³ Ibid., 401.

and nonhuman animals in the same category. He compares the following nonhuman animals with humans where he attributes to those nonhuman animals some equal or greater capacity: honeybees for a society regulated by such order that can only be conducted with "reason and foresight;" elephants for consciousness and mathematical abilities where he states "{an elephant} in so many ... actions approaches human capacity that ... I should easily win the argument that I ordinarily maintain, that there is more difference between a given man and a given man than between a given animal and a given man;" boars for weaponry skills by whetting their tusks; foxes for recognition of running water beneath ice through reason and hearing; tigers and lions for independence in hunting skills; swallows for discrimination through judgment; falcons for sharing; wolves for comprehension and retribution; cuttlefish for the use of snares and "hook and line;" whales for strength; goats for recognizing medical cures; oxen for the ability to count; ants for their use of communication and negotiation and for their "domestic management;" hedgehogs for meteorological prediction; cranes for prediction of the seasons and thus "their faculty of divination;" flies for the "power" and "courage to disperse an army;" tunnies or tuna for their mathematical and scientific abilities; and many more comparisons.⁴⁴

He attributes, through examples, the following characteristics to nonhuman animals: weeping, gratitude, magnanimity, repentance and acknowledgment of faults, clemency, friendship where "theirs is without comparison more alive and more constant than that of men;" choice where "Animals, like us, exercise choice in their amours and make a certain selection among their females;" jealousy and envy; trickery as shown by Thales' mule; and fidelity where "there is no animal in the world as treacherous as man."⁴⁵

As discussed below, Descartes initially and finally relied upon the apparent inability of nonhuman animals to communicate through a spoken language of words and punctuation as used by human animals. He may have been answering Montaigne's position which, in the sixteenth century, attributed such a language to nonhuman animals. Montaigne placed considerable stock in the fact that blackbirds, ravens, magpies, and parrots could be taught to use certain words and phrases of such a language.⁴⁶ Descartes, as we shall see, used language in his attribution of mechanical qualities to nonhuman animals.

Montaigne commented on speech as follows: "{W}hat is it but speech, this faculty we see in them of complaining, rejoicing, calling to each other for help, inviting each other to love, as they do by their use of their voice?" He relies on Aristotle for the "various calls of partridges

⁴⁴ Ibid., 403-428.

⁴⁵ Ibid., 406-429.

⁴⁶ Ibid., 413.

according to the place they are situated in” and Lucretius for “various birds ... {who} utter at different times far different cries ... {where} some change with the changing of the skies {t}heir raucous songs.”⁴⁷ He also references Plato, “in {Plato’s} picture of the golden age under Saturn,” as counting “among the principal advantages of the man of that time the communication he had with the beasts; inquiring of them and learning from them ...” Montaigne then asks whether “this defect that hinders communication between them and us, why is it not just as much ours as theirs?”⁴⁸

Regarding voice-recognition of “horses, dogs, oxen, sheep, birds, and most of the animals that live with us,” Montaigne argues that these animals “recognize our voice and let themselves be guided by it.”⁴⁹ Montaigne also argues that nonhuman animals communicate within species and between species: “Furthermore, we discover very evidently that there is full and complete communication between them and that they understand each other, not only those of the same species, but also those of different species,” and he then again cites Lucretius for the statement that “{e}ven dumb cattle and the savage beasts{,} {v}aried and different noises do employ {w}hen they feel fear or pain, or thrill with joy.”⁵⁰

Of all of the qualities, capabilities, characteristics and virtues that Montaigne attempts to bestow upon nonhuman animals, the capability of speech in the manner then used by human animals might have been the most inapposite. Consequently, Montaigne may have assisted Descartes in Descartes’ need to characterize human animals and nonhuman animals as categorically different through the use of a language using words and punctuation.

Montaigne also specifically argues that the differences between human and nonhuman animals are differences of degree and not of kind: “There is some difference {between humans and nonhuman animals}, there are orders and degrees; but it is under the aspect of one and the same nature Man must be constrained and forced into line inside the barriers of this order.” Montaigne then argues that “the freedom of imagination and this unruliness in thought” that human animals claim for themselves are the very things that cause their own problems. He quickly returns to degrees and not kinds: “{T}here is no apparent reason to judge that the beasts do by natural and obligatory instinct the same things that we do by our choice and cleverness. We must infer from like results like faculties, and consequently confess that this same reason ... is

⁴⁷ Ibid., 407.

⁴⁸ Ibid., 401-402.

⁴⁹ Ibid., 416.

⁵⁰ Ibid., 402.

also that of the animals."⁵¹ Here, Montaigne was well ahead of his time. He correctly finds "differences" and "orders and degrees" between human animals and nonhuman animals but "under the aspect of one and the same nature" or category. Descartes, as will be noted, unreasonably attempted to attribute few or no orders and degrees within his two categories of human animals and nonhuman animals.

Montaigne concludes this portion of the *Apology* as follows:

Even if the beasts, then, had all the virtue, knowledge, wisdom, and capability of the Stoics, they would still be beasts; nor would they for all that be comparable to a wretched, wicked, senseless man. In short, whatever is not as we are is worth nothing. And God himself, to make himself appreciated, must resemble us, as we shall presently declare. Whereby it is apparent that it is not by a true judgment, but by foolish pride and stubbornness, that we set ourselves before the other animals and sequester ourselves from their condition and society.⁵²

Bruce Silver summarizes this section of Montaigne's *Apology* as follows:

{Man} thinks he is superior to the animals, but his evidence is inconclusive. ... If we try to say what sets human beings apart from animals, we are pressed to answer. We communicate; so do animals. We are social and skillful beings, but birds and insects manifest society and craftsmanship that equal ours. We raise to the skies our own rational capacities even as we ignore the "reasoning" of an unremarkable dog that disjoins, conjoins, and enumerates propositions to determine which of three paths will take him home. Whether the decision of the dog arises from reasoning or from another principle, we are not able to make a firm distinction between human rationality and the natural capacities of animals.⁵³

While Montaigne concentrates on nonhuman animals in the *Apology*, he does provide similar comments elsewhere in the *Essays*. For example, in his Essay, "That the taste of good and evil ...," Montaigne comments on his idea of the relative degree of pain experienced by human and nonhuman animals. He argues that it is "the sharpness" of the mind of the human animal that makes "pain and pleasure keen in us." He then seems to say that nonhuman animals may not feel as much pain as do humans animals, because "{t}he animals, who keep the mind on a leash, leave to their bodies their own feelings" He follows that thought by suggesting that human animals "not disturb within our members the jurisdiction which belongs to them," because "it is probable that we should be better off" to remember "that nature has given them a just and measured

⁵¹ Ibid., 408. Frame, in a footnote following this quotation, states: "The 1595 edition reads, instead of "is also that of the animals, 'the animals have it also, or some better one.'"

⁵² Ibid., 434-435.

⁵³ Bruce Silver, "Montaigne, *An Apology for Raymond Sebond*: Happiness and the Poverty of Reason," in *Midwest Studies in Philosophy: Renaissance and Early Modern Philosophy*, Vol. XXVI, ed. Peter French, Howard Wettstein and Bruce Silver (Malden, MA: Blackwell Publishing, 2002), 96.

temperance toward pleasure and toward pain."⁵⁴ Here, Montaigne may have contributed to Descartes' position that nonhuman animals do not experience pain, at least in the same way human animals do.

As a confirmed Roman Catholic, Montaigne was obviously very familiar with Scripture. However, no explicit reference to Genesis and its dominion concept could be found in the *Essays* and undoubtedly with good reason. While Montaigne took direct issue with some of the practices of the Roman Church such as torture, he was not found to have taken direct issue with any Scripture. He could not have been unaware of the dominion provision of Genesis. However, again in the first paragraph of his nonhuman animal comparison section of the *Apology*, he refers to those animals as the "fellows and companions" of human animals. In addition, taken as a whole, this comparison section is far from suggesting a mere instrumental relationship of human animals to nonhuman animals.

A concise summary of Montaigne's position about nonhuman animals might be that the evidence of the supremacy of human animals is at best inconclusive. Nonhuman animals are social and communicate and feel pain. No firm distinction can be made between the rationality of human animals and the capacities of nonhuman animals. There may be degrees of difference between nonhuman animals and human animals but they both are categorically the same. They are indeed "fellows and companions."

E. Influence of religious institutions:

To understand the influence of religious institutions on Montaigne and his *Essays*, it is important to keep in mind the following typical facts about the period of his life. Just after Montaigne's birth and between 1534 and 1535, 23 people were burned for heresy by the Roman Church, and Sir Thomas More was executed in England when Henry VIII became the supreme head of the Church of England. In 1542, the Inquisition was established in Rome. Further, in 1544, one of Calvin's books was burned by order of the Paris Parliament. In 1547, La Chambre Ardente, a criminal court for heretical trials, was established by the Paris Parliament and condemned at least 100 people to death in the following two years. In 1553, the Spanish physician and theologian, Servetus, who had escaped the execution ordered by the Catholic Inquisitor-General in Lyons, was instead burned as a heretic by Calvin in Geneva. The first Papal Index of Prohibited Books appeared in 1557. In 1559, Anne du Bourg, a renowned French teacher with whom Montaigne's good friend, Etienne de La Boetie, had studied, was executed for opposing, in the Paris Parliament, the persecution of the Huguenots. In 1574, the Huguenots

⁵⁴ Montaigne, *The Complete Works*, 46.

created an independent state in the south of France which had its own army, courts and taxation system. In 1576, the nationwide Catholic League was formed in opposition to open worship by the Huguenots.⁵⁵ Moreover, since 1562, France was embroiled in its religious wars. Montaigne could not have been other than acutely aware of all of this as he wrote.

While Montaigne apparently remained a Roman Catholic throughout his life, he nonetheless attempted to act, on occasion, as a liaison between the Huguenots (especially Henry of Navarre) and the Catholics in order to promote peace, which was not to occur during his lifetime. Frame states correctly: although "written and published at a time when there was savage fighting in France, and throughout Europe, about theological issues, the *Essays* will be found to include not a word of theological speculation."⁵⁶ Montaigne's own acknowledged role in life is as a proponent of faith over reason – an avowed skeptic rather than a radical supporter of the Roman Church. He really had no axe to grind theologically and wanted and needed no more than time to study himself and write about that self. He apparently was just not interested in the acquisition of money or physical property because he thought that he had enough of both.

However, Montaigne was concerned about censorship and was willing, within the *Essays*, to criticize the Roman Church. Montaigne, in his Essay, "Of the education of children," mentions the Inquisition and the concerns associated with it. He reports that he had talked with a "good man" but one who held that anything outside the teachings of Aristotle was "nothing but chimeras and inanity." Montaigne continues: "This proposition, having been interpreted a little too broadly and unfairly, put him once, and kept him long, in great danger of the Inquisition at Rome."⁵⁷ Malcolm Smith characterizes Montaigne's concern about censorship of the Roman Church as follows: "Montaigne, for his part, had mixed feelings about the censorship ... but it is likely he was keen to have the censors' verdict on his book. Quite apart from whatever specific authority he acknowledged them to have ... , he was in a general way very open to criticism, of himself or of his book."⁵⁸

In the *Apology*, as an example of his criticism of religion generally and Christianity specifically, he writes:

{W}e willingly accord to piety only the services that flatter our passions. There is no hostility that excels Christian hostility. Our zeal does wonders when it is seconding our leaning toward hatred, cruelty, ambition, avarice, detraction, rebellion. Against the grain, toward goodness, benignity, moderation, unless by a

⁵⁵ Ibid., xxxiii –xxxix.

⁵⁶ Ibid, xviii.

⁵⁷ Ibid., 134-135.

⁵⁸ Malcolm Smith, *Montaigne and the Roman Censors* (Geneva: Librairie Dros S.A., 1981), 11.

miracle some rare nature bears it, it will neither walk nor fly. Our religion is made to extirpate vices; {instead} it covers them, fosters them, incites them.⁵⁹

Nonetheless, Montaigne in an early Essay, "It is folly" states his position about the Roman Church as follows: "We must either submit completely to the authority of our ecclesiastical government, or do without it completely. It is not for us to decide what portion of obedience we owe it."⁶⁰ Yet another of the examples of Montaigne's problem with the false dichotomy fallacy.

In Book III, published in 1588, in his Essay "Of vanity," Montaigne seems to express a bit more confidence when he writes: "The favor of the public has given me a little more boldness than I expected; but what I fear most is to surfeit my readers: I would rather irritate them than weary them."⁶¹ While evidence of this additional boldness may be found in his Book III comments, for example, about lust, love and avarice, Montaigne does not specifically exhibit any more "boldness" in his criticism of religion generally or Catholicism specifically.

Montaigne did have his own adventure with the Roman censors. In 1580, he travelled to Italy and had his copy of the first two books of the *Essays* taken from him as he entered Rome. These two books were examined by the papal censors for about four months and, when returned to him, the criticism of the papal censor was mild and centered on such items as his use of the word "fortune," his mention of a named heretic poet, his position that cruelty is whatever goes beyond plain death, and a few other items. His treatment of animals was apparently not in any way criticized.

Frame tells us that Montaigne "never did make the changes that the papal censors suggested, but added two notes in his own defense and enlarged his introductory disclaimer in 'Prayers' ... {to welcome} official condemnation or approval."⁶² Montaigne's addition once again stated his obedience to the Roman Church: "I hold it as execrable if anything is found which was said by me, ignorantly or inadvertently, against the holy prescriptions of the Catholic, Apostolic, and Roman Church, in which I die and in which I was born." He introduced this addition just before his original statement that: "And therefore, always submitting to the authority of their censure, which has absolute power over me, I meddle rashly with every sort of subject"⁶³ His addition, though, smacks a bit of tongue in cheek.

⁵⁹ Montaigne, *The Complete Works*, 392-393.

⁶⁰ *Ibid.*, 163.

⁶¹ *Ibid.*, 895.

⁶² Frame, *Montaigne A Biography*, 294.

⁶³ Montaigne, *The Complete Works*, 278.

About one hundred years after Montaigne's death and in 1676, the *Essays* were placed on the Index.⁶⁴ Frame attributes the reason to their "unorthodoxy."⁶⁵ While Smith states that the grounds for condemnation "are not known,"⁶⁶ he speculates that "it seems likely to me that the grounds for the condemnation of the *Essays* ... may have to do with features of the intellectual, cultural or religious climate prevailing in the seventeenth century rather than with the intrinsic content of the book."⁶⁷ ⁶⁸ I could find no other commentator that suggested that the reason or reasons for the placement of the *Essays* on the Index were known.

Hugo Friedrich summarizes the impact of religious institutions on Montaigne as follows:

Montaigne's involvement with theological questions was triggered by the French religious battles that experienced their most acute phase between 1570 and 1590. He experienced them firsthand in his home in southwest France. His conservative orientation rejected the Reformation as a whole without delving into individual dogmatic debates, in fact, without even differentiating between Luther and Calvin. ... The fact that he simultaneously turned against natural philosophy and against the Reformation can be explained in that he saw in both of these a common danger: a claim to the autonomy of human reason. ... {T}he skeptic Montaigne was simply concerned with opposing the self-certainty of human reason in any form, without considering the particular denominational camp in which he found or suspected it.⁶⁹

Montaigne's comparison of nonhuman animals to human animals was a central means of his opposing "the self-certainty of human reason." That opposition is what undoubtedly disturbed Descartes and probably at least in part, energized him in his offensive against skepticism.

F. Summary of Montaigne's perspective:

Friedrich summarizes Montaigne's *Essays* as follows:

Finally, the *Essais* lack any innuendo regarding man's position of technical mastery. ... Descartes will want to elevate the autonomous subject who trusts in his progressive knowledge to the position of "master and proprietor of nature" (*Discours de la Méthod*). Montaigne's wisdom does not recognize any such imperialism.

⁶⁴ The Index was not abolished until 1965.

⁶⁵ Frame, *Montaigne A Biography*, 170.

⁶⁶ Smith, *Montaigne and the Roman Censors*, 114.

⁶⁷ *Ibid.*, 114. Smith also observes that: "This indeed seems to have been the view of pope Pius XII who, when he was canonizing Montaigne's niece - who, it appears, might not even have been a Roman Catholic at all but for her love for her uncle - reportedly said the time had come to remove Montaigne's *Essays* from the *Index* It is too late for the Roman Catholic Church to do this, as the *Index* was abolished in 1965"

⁶⁸ *Ibid.*, 114. Smith also characterizes the inclusion of the *Essays* on the Index as a " 'gift' to anticlericals."

⁶⁹ Hugo Friedrich, *Montaigne* (Berkeley, CA: U. of California Press, 1991), 96.

Montaigne was a writer who showed no interest in biology, zoology and any other scientific study. He certainly had an intense interest in nature, not in its physical structure but in its mystical character. Friedrich continues:

Along with the claims to knowledge of nature, his wisdom also withdraws the claims to will which would like to intervene in it triumphantly, planning, building, making changes. And with this, he completes his renunciation of the idea of the *dignitas hominis*, while the science of his time, making its transition to technology and rational organization, is still calling upon the biblical core of this idea: "Fill the Earth and subdue it, and have dominion..." (*Genesis I, 28*).

Recall that this was written in 1949, well before Lynn White's article in *Science*, written in 1967.

Friedrich again continues:

Montaigne's man - who never aspires to be more than he, Montaigne, himself is - does not feel himself to be the lord of nature, but rather its protégé. To state it pointedly: he does not want the will to power, but rather the will to powerlessness. We see a meaningful event in that just before the rational subjectivity of the modern scientific approach steps into technical mastery of the world, here in Montaigne that subjectivity of quite a different order speaks once again: indeed it is also secular, but it is closer to a subjectivity related to piety, that of human, individual well-being which, the more "subjective" it becomes, the more carefully it limits itself to listening and obeying.⁷⁰

Frame characterizes the *Apology* as "the fullest expression of Montaigne's doubt summed up in the famous formula 'What do I know?'... For Bacon, Descartes, and Pascal this was a starting point, a demonstrated position that must be faced and overcome: by the experimental method, by reason, by faith."⁷¹

In his Essay, "Of glory," Montaigne comments as follows on the topic:

It is chance that attaches glory to us according to its caprice. I have very often seen it go ahead of merit, and often surpass merit by a long distance All the glory that I aspire to in my life is to have lived it tranquilly - tranquilly not according to Metrodorus or Arcesilaus or Aristippus, but according to me. Since philosophy has not been able to find a way to tranquility that is suitable to all, let everyone seek it individually.⁷²

This may well have been a statement of Montaigne's true religion. In fact, in its recommendation of individual inquiry, it sounds a little like Luther's message but, unlike Luther, humanistic.

Montaigne enlarged the qualities of nonhuman animals in order to diminish those of human animals and, in that effort, characterized all animals in a single category. His efforts to

⁷⁰ Ibid., 141-142.

⁷¹ Frame, *Montaigne A Biography*, 162.

⁷² Montaigne, *The Complete Works*, 572.

diminish the qualities of human animals are evident even in the penultimate paragraph of Book III of the *Essays* where he states: “on the loftiest throne in the world {human animals} are still sitting only on our own rump.”⁷³

Michael Paulson, in his book *The Possible Influence of Montaigne's Essays on Descartes' Treatise on the Passions*,⁷⁴ concludes that there is considerable evidence that Descartes relied on Montaigne's *Essays* not only in this treatise but elsewhere as well. Paulson goes to great lengths in his attempts at comparison, and he, of course, relies heavily on the reference to Montaigne in the Newcastle letter. While the extent of Descartes' general concern with Montaigne is subject to argument, Descartes' disagreement with Montaigne's position on nonhuman animals is specific, and the two are diametrically opposed. Consequently, Descartes' position on nonhuman animals is now investigated.

⁷³ Ibid., 1044.

⁷⁴ Michael Paulson, *The Possible Influence of Montaigne's Essais on Descartes' Treatise on the Passions* (Lanham, MD: University Press of America, 1988).

III. Chapter Two: Descartes' Bête Machine:

A. Historical environment:

Four years after Montaigne's death, Descartes was born in La Haye, France, which is about 12 miles from Châtellerauld, France where his family lived at the time. Châtellerauld is on the main road between Bordeaux and Paris and about 150 miles from each. In 1596, Descartes' father was a counselor in the parliament of Brittany and thus spent about three to six months of the year away from Châtellerauld in Rennes over 100 miles away. Because Descartes was born during one of his father's absences, Descartes' mother was staying with her mother, who lived in La Haye, and there Descartes was born. Descartes' mother died in 1597 and, after that, Desmond Clarke calls Descartes "effectively an orphan."⁷⁵ He then lived with his maternal grandmother in La Haye until he left for college. Because his paternal grandfather was a medical doctor and because his father was a lawyer, his family had prospered to the extent that Descartes was never without financial means. Cottingham reports that his "family was an ancient and well-connected one, and throughout his life Descartes (whose tastes were in any case very modest) was to be free of the necessity to earn a living."⁷⁶ At least in this respect, he and Montaigne shared somewhat of a similar lifestyle.

Descartes was baptized Catholic in 1596 but must have had more than a passing knowledge of Protestantism, because Châtellerauld was known for having its own Huguenot representative body. Descartes attended the Jesuit La Flèche College from about 1607 until 1615, when he was about 19. The Jesuits had been expelled from France in 1595 but were readmitted in about 1598 by King Henry IV. In 1603, Henry invited the Jesuits to open the College at La Flèche, which was about 100 miles north of La Haye and to the southwest of Paris. Clarke refers to the Jesuits as "dedicated officers of the Counter-Reformation."⁷⁷

As related previously, Henry's religious history was checkered. He had been raised a Protestant, had fought with the Huguenots, had converted to Catholicism when defeated during the early French religious wars, escaped and returned to Protestantism and immediately continued his affiliation with the Huguenot military. As heir to the French throne, Henry then returned to

⁷⁵ Desmond Clarke, *Descartes A Biography* (Cambridge: Cambridge U. Press, 2006), 9.

⁷⁶ John Cottingham, *Descartes* (Oxford: Basil Blackwell, 1986), 8.

⁷⁷ Clarke, *Descartes A Biography*, 28.

Catholicism apparently in an effort to bring peace to France and, as King, declared the state religion of France to be Catholic. Apparently, because he had invited the Jesuits to open the college at La Flèche, he thereafter took a personal interest in the school and, as a result, was much more than just the founder. Descartes, as a student at the school, must have been very familiar with Henry's history in general and, particularly, his religious history. In 1610, Henry, who had returned France to some semblance of peace, was assassinated by a Roman Catholic fanatic.

Descartes needed a university degree to work as a lawyer like his father and, from 1615 to 1616, he attended the University of Poitiers, from which he received a bachelor's degree and a "licentiate in civil and canon law."⁷⁸ With this education, Descartes could easily have followed his father in a career in law or could have found a career in the military, which at that time was a recognized profession throughout Europe. After about one year in Paris, he began to travel, initially to the United Provinces in 1619 and then in 1620 to Germany. In both countries, he joined an army, first a Protestant army in the United Provinces and then, in Germany, an army supporting the Emperor of the Holy Roman Empire and, therefore, the Roman Church. Again, Descartes had to have been thoroughly aware of the historical and ongoing French wars of religion and of the religious intolerance that continued in France and elsewhere before his birth and during both the early and mature years of his life.

The Thirty Years War began in 1618 in Germany. While his military experience in the United Provinces did not involve him in any actual conflict, his military experience in Germany could possibly have involved him in or near actual combat. In Germany, he joined the army of Maximilian, which in the early months of the year was in quarters in Bavaria. During these months, Descartes was able to spend his time, not in barracks, but in a room outside Ulm at Neuburg on the Danube which was situated between Frankfurt and Vienna. Here, in November 1619 and in his stove-heated room, he experienced the three dreams that are believed to have changed his life. By the fall of 1620, Maximilian's troops crossed into Austria and, on November 8, 1620, outside Prague, they defeated the mercenary Protestant army in one of the first major battles of the Thirty Years War, the battle of the White Hill. In the next few days, Prague surrendered to Maximilian's troops.

While Descartes does not mention any combat involvement in Germany, it is probable that, if he did not observe this battle, he certainly had very good secondhand knowledge of it as a member of Maximilian's army. However, apparently on November 10, 1620, he made a written

⁷⁸ Ibid., 32.

note of the "fundamental principles of a wonderful discovery"⁷⁹ and so was obviously more interested in his discovery than in any battle. Clarke reports that Descartes left Germany "some time in 1621 or 1622, but there is no clear indication of where he went."⁸⁰

In or about 1623, Descartes apparently returned to Paris until about 1628 when he moved to the United Provinces at the age of 32. While his reasons for leaving France were stated as his desire to avoid distractions and to avoid the French climate, there were probably additional reasons, for one, the religious climate in France and also Richelieu's intention to use the Thirty Years War as the means of resolving the Habsburg/Bourbon conflict in favor of the Bourbons.

Cottingham reports that during his first 12 years in Holland, Descartes moved as many times "to be left alone" and "to avoid being plagued with visits."⁸¹ Descartes continued to reside in Holland until 1648, when he briefly travelled to France and then returned to Holland. In 1649, he moved to Sweden at the invitation of Queen Christina. The following January he contracted pneumonia and died in February 1650.

From the above condensed history of Descartes life, he obviously acquired an intimate understanding of the religious wars that had fractured and continued to fracture the French population specifically and the European population generally through the end of his days.

Concerning the importance of Montaigne and Charron in Descartes' thought, recall that Clarke states "{Descartes} had been given a copy of Charron's *Three Books of Wisdom* in 1619, and, perhaps contrary to his usual practice, he had read some of it on his travels In the case of Montaigne, it was apparently impossible for any educated Frenchman not to have perused some pages of his voluminous *Essays*."⁸² Again, based on this abbreviated history of his life and his knowledge of the religious wars in France and the Thirty Years War, Descartes could not have been other than keenly aware of the power and intolerance of both the Roman Church and the Reformed Church. He was certainly also aware of the skepticism argued by both Montaigne and Charron in support of the Roman Church and their notable use of nonhuman animals in those arguments.

B. Background concerning nonhuman nature:

None of the history of Descartes' young or later years seems to suggest that Descartes was much of an "outdoors" person. While no one then (or now) could in any way ignore nature, it

⁷⁹ Stephen Gaukroger, *Descartes An Intellectual Biography* (Oxford: Oxford U. Press, 1995), 126-127.

⁸⁰ Clarke, *Descartes A Biography*, 65.

⁸¹ John Cottingham, *Descartes* (Oxford: Basil Blackwell, 1986), 11.

⁸² Clarke, *Descartes A Biography*, 334.

does not seem that Descartes enjoyed any kind of a close relationship with nature and, apparently, considerably less than Montaigne.

C. Position about nature generally:

Descartes, in Meditation 3, observes that he has ideas that seem to be derived from external things and that his belief in these things seems to result from the idea that he has been "taught by nature."⁸³ He then distinguishes between "taught by nature" and the "light of nature" where these two ideas seem to refer to empirical evidence and intuition respectively. In Meditation 6, when he reflects on being "taught by nature," he defines nature as follows: "by 'nature,' taken generally, I understand nothing other than God himself or the ordered network of created things which was instituted by God."⁸⁴ Consequently, Descartes clearly believed that human beings, as "created things," are included within "nature" and not something separate and apart from "nature."

In *The World* {written between 1629 and 1633 but posthumously published}, Descartes defined "nature" and the "laws of nature" as follows:

But I do not want to delay any longer in telling you by what means nature alone could untangle the confusion of the chaos I have spoken of, and what are the laws that God has imposed on {nature}. You should know, first, that by nature here I do not intend some goddess or some other sort of imaginary power. Rather, I make use of that word to signify matter itself, insofar as I consider it with all the qualities I have attributed to it taken all together, under the condition that God continues to conserve it in the same fashion in which he created it. It follows necessarily, from the fact that he continues to conserve it in this way, that there must be several changes in its parts which cannot, it seems to me, be properly attributed to God's action - because that action never changes - and which I attribute to nature. And the rules by which these changes are brought about, I call the laws of nature.⁸⁵

Descartes explains that nature is no "goddess" or "imaginary power" and acknowledges that, because God does not change, the changes that are obvious in the matter that is part of nature must occur because of the "laws of nature" apparently established by God. The two above passages seem consistent, but the later passage is more definitive and focuses on "matter" rather than the "created things" that are comprised of matter, such as animals, plants and soil. While Descartes mentions, on a few occasions, plants and such, he certainly approaches nature as a

⁸³ René Descartes, *Meditations on First Philosophy*, in *René Descartes Philosophical Essays and Correspondence*, ed. Roger Ariew (Indianapolis: Hackett, 2000), 115; vii 38.

⁸⁴ *Ibid.*, 136; vii 80.

⁸⁵ René Descartes, *The World*, in Ariew; 37; xi 36-37.

physical scientist rather than one who appreciates its beauty.⁸⁶ In this, he dramatically differs from Montaigne.

D. Position about nonhuman animals:

Descartes has been and still is much maligned because of his apparent position concerning nonhuman animals. While Descartes recognizes human animals as part of nature and as animals, he was, of course, extremely careful to distinguish human animals from nonhuman animals. The standard view of Descartes' nonhuman animal position results from his first widely published writing in 1637, the *Discourse on the Method* {"*Discourse*"}.⁸⁷ His *locus classicus* is found in Part Five of the *Discourse* and can be summarized as including the ideas that nonhuman animals are, at least, like machines, do not have thoughts, reason or souls as do human animals and thus cannot be categorized with humans, and, in addition, do not experience pain or have certain other feelings.

While the *Discourse* position has been enthusiastically accepted by many, especially in the scientific and medical professions, it has, as well, been severely criticized by many and, in most cases, on the assumption that Descartes truly believed in that position. Jeremy Bentham, for example, referenced this "standard view" in 1789 when he argued that, if a being is sentient, it is entitled to the right of equal consideration that is accorded any other sentient being -- "the question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?"⁸⁸ His obvious understanding was, of course, that Descartes believed they could not suffer.

David Hume commented in his *Treatise* on Descartes' refusal to grant reason to nonhuman animals as follows:

Next to the ridicule of denying an evident truth, is that of taking much pains to defend it; and no truth appears to me more evident, than that beasts are endow'd with thought and reason as well as men. The arguments are in this case so obvious, that they never escape the most stupid and ignorant.⁸⁹ ... Men are superior to beasts principally by the superiority of their reason; and they are the degrees of the same faculty, which set such an infinite difference betwixt one man and another.⁹⁰

⁸⁶ While Descartes disavows the concept of a "goddess," it is at least interesting that in the companion piece to *The World*, his *Treatise on Man*, Descartes refers to nature through use of the feminine "she." René Descartes, *Treatise on Man*, in *The Philosophical Writings of Descartes*, trans. J. Cottingham et al., vol. 1 (Cambridge: Cambridge U. Press, 1985), 108; xi 201. *The World* and *Treatise on Man* were written by Descartes during the years 1629 and 1633 but were published only posthumously because of Descartes' fear of the Roman Inquisition. *Ibid.*, 79.

⁸⁷ Descartes, *Discourse on the Method*, in Ariew, 46; vi 1.

⁸⁸ Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Oxford: Clarendon Press, 1907), Chap. XVII, fn311.

⁸⁹ David Hume, *A Treatise of Human Nature* (Oxford: Oxford U. Press, 1978), 176.

⁹⁰ *Ibid.*, 610.

Certainly, as will be reviewed, Descartes took great pains to defend his *Discourse* position.

Peter Singer, who was one of the first twentieth century philosophers to argue ethical consideration for nonhuman animals, states his understanding of Descartes' position as follows: "that animals are automata was proposed by the seventeenth-century French philosopher René Descartes, to most people, then and now, it is obvious that if, for example, we stick a sharp knife into the stomach of an unanesthetized dog, the dog will feel pain."⁹¹

While Descartes may have been original in his denial of certain feelings, including pain, to nonhuman animals, he was not original in giving nonhuman animals a different categorization from human animals which had always been the position of both the Roman Church and the Reformed Church. Singer argues persuasively that the blame for the "Descartes position" belongs to Judaism, Greek antiquity and Christianity generally. "Western attitudes to animals have roots in two traditions: Judaism and Greek antiquity. These roots unite in Christianity, and it is through Christianity that they came to prevail in Europe." The short explanation for this judgment is based on the dominion idea of Genesis 1:26 & 28, the further extension of the dominion idea to the fear idea found in Genesis 9 and Aristotle's concept of a human being as the "rational animal." Singer counts Christianity responsible because it "was founded and became powerful under the Roman Empire" where that empire "was built by wars of conquest" that "did not foster sentiments of sympathy for the weak." Further, during this period, Singer states humanity "looked upon the slaughter of both human animals and other animals as a normal source of entertainment"⁹²

Singer continues: "the last, most bizarre, and - for the animals - most painful outcome of Christian doctrines emerged in the first half of the seventeenth century, in the philosophy of René Descartes."⁹³ While this scenario seems accurate, Descartes' role here is exaggerated to the extent that it infers that Descartes generated this outcome and believed the argument upon which it was based.

In the book, *In Defense of Animals: The Second Wave*,⁹⁴ which was edited by Singer, Paola Cavalieri writes:

The view that René Descartes put forward in the seventeenth century is so contrary to both common sense and to empirical findings that one wonders how it could have been formulated at all. Animals do not suffer. Not possessing language, they do not possess reason. Not possessing reason, they are not feeling beings, but mere automata. In the face of such a counterintuitive claim, some

⁹¹ Peter Singer, *Animal Liberation* (New York: Harper Collins, 2002), 10.

⁹² *Ibid.*, 186-190.

⁹³ *Ibid.*, 200.

⁹⁴ Paola Cavalieri, "The Animal Debate: A Reexamination," in *In Defense of Animals*, ed. P.Singer (Malden, MA: Blackwell Publishing, 2006), 54.

authors have attempted to amend the perspective, claiming that, if not in his remaining works, at least in some private letters, Descartes granted animals some sensations, thereby showing that he did not himself believe his theory. This is enlightening, but in a sense opposite to the one suggested. Why, in fact, did Descartes argue for a stance he could not really accept?⁹⁵

The arguments advanced in this paper answer Cavalieri's question as follows: first, this was at least consistent with the position of the Roman Church which Descartes obviously was loathe to anger because they, at least, were burning people alive at the time and, consequently, he was as certain as one could be that he would not be censured by that institution for his *Discourse* position; secondly, it would promote his passionate scientific interests in anatomy and physiology; and, thirdly, and most importantly, in order to elevate the importance of reason within human life, it directly challenged the skepticism of Montaigne which Montaigne had promoted through his argument that human animals were no better than nonhuman animals.

This paper argues that Descartes could not have believed his *Discourse* position and, in fact, softened that position through both his published and unpublished writings but would not change his position in regard to categorization. Finally, in support of this lack of belief, it is my further thesis that Descartes did not accept the Genesis idea of dominion that nonhuman animals are on earth merely to serve us human animals which is not consistent with his *Discourse* position. Therefore, this discussion is set forth under the following three headings: anatomy and physiology, stated position about nonhuman animals, and rejection of "dominion."

1. Anatomy and physiology:

Descartes' scientific objectives were numerous, and he is best known for his work in mathematics. However, the study of anatomy and physiology was also extremely important to Descartes and, because of the similarity between the organs of the human animal and mammalian, nonhuman animals, he was able to better understand their human counterparts through his study of nonhuman organs. Descartes' letters indicate that he had been dissecting nonhuman animals at least as early as 1628 and as late as a short time before his death in 1650.

An initial reference is found in his 1632 letter to his friend and lifelong confidant, the Franciscan friar, Marin Mersenne: "I am now dissecting the heads of various animals, so I can explain what imagination, memory, etc. consist in."⁹⁶ In his 1639 letter to Mersenne, Descartes states:

⁹⁵ Ibid., 58.

⁹⁶ Descartes, *Letter to Mersenne*, Nov. or Dec. 1632, in *The Philosophical Writings of Descartes*, ed. J. Cottingham, et al., vol. 3 (Cambridge: Cambridge U. Press, 1991), 40; i 263.

In fact, I have taken into consideration not only what Vesalius and others write about anatomy, but also many details unmentioned by them, which I have observed myself while dissecting various animals. I have spent much time on dissection during the last eleven years, and I doubt whether there is any doctor who has made such detailed observations as I.⁹⁷

During those 11 years beginning in 1628, Descartes must have been able to engage in a considerable number of dissections. His interest continued. In his November 13, 1639, letter to Mersenne, Descartes states:

It is not a crime to be interested in anatomy. I spent one winter in Amsterdam during which I used to go almost every day to the butcher's house to see him kill the animals, and I used to take home with me the parts that I wanted to dissect with more leisure. I have done the same thing on many occasions in all the places where I lived, and I do not think that any intelligent person could blame me for that.⁹⁸

In this letter, he relates his position that an "interest in anatomy" and dissection of nonhuman animals are not "crimes." In his 1649 letter to Henry More,⁹⁹ he repeats this thought. His concern, at least through this 10-year period, could not have been related to civil or criminal law because no such law is known to have existed at that time. It is possible that his concern related to "crimes" against the involved animals themselves. If this was his concern, it would further serve to dispute his personal belief in his *Discourse* position. At least, while the *Discourse* position would hopefully justify his activities to others, he may have hoped that it would also justify those activities to himself.

After Descartes published the French translation of *Principles of Philosophy*¹⁰⁰ in 1647, Clarke reports that Descartes "concentrated on two projects: cultivating plants for research purposes in his garden and performing anatomical dissections" to continue with his "animal life" explanation. Clarke further reports that Descartes corresponded with Tobias Andreae in July 1645 and stated "that he was dedicating all his resources and energies to anatomical experiments for a full year."¹⁰¹ In addition, Clarke reports that Samuel "Sorbière provides a snapshot of this period in a {February 20, 1657} letter to {Pierre} Petit, written more than a decade later."

One of his friends went to visit Descartes at Egmond. This gentleman asked him, about physics books: which ones did he most value, and which of them did he most frequently consult. "I shall show you", he replied, "if you wish to follow me." He led him into a lower courtyard at the back of his house, and showed him

⁹⁷ Descartes, *Letter to Mersenne*, 20 February 1639, in Cottingham et al., vol. 3 (1991), 134; ii 525.

⁹⁸ Descartes, *Letter to Mersenne* (13 November 1639), in Clarke, *Descartes A Biography*, 104; ii 621.

⁹⁹ Clarke describes More as "the Cambridge Platonist." Clarke, *Descartes A Biography*, 384.

¹⁰⁰ Descartes, *Principles of Philosophy*, in Ariew, 222.

¹⁰¹ Descartes, *Letter to Tobias Andreae* (July 1645), in Clarke, *Descartes A Biography*, 303-304; iv 247.

a calf that he had planned to dissect the next day. I truly believe that he hardly read anything any more.¹⁰²

Regarding Descartes' use of vivisection, nothing written by Descartes could be found that clearly admitted his specific use of vivisection. However, examples of Descartes' recommendations for vivisection indicate that he, at minimum, observed those practices even if he himself did not hold the knife. In Descartes' *Description of the Human Body and of All Its Functions* {apparently Descartes began work on this treatise in 1647; it was posthumously published in 1664}, he states as follows:

{Harvey} could have supported this last point by a very striking experiment. If you slice off the pointed end of the heart in a live dog, and insert a finger into one of the cavities, you will feel unmistakably that every time the heart gets shorter it presses the finger, and every time it gets longer it stops pressing it. This seems to make it quite certain that the cavities are narrower when there is more pressure on the finger than when there is less. Nevertheless all that this proves is that observations may often lead us astray when we do not examine their possible causes with sufficient care.¹⁰³

Within this same treatise, the second following paragraph compares the same experiment performed with both a dog and a rabbit.¹⁰⁴

Vivisection had, of course, been practiced long before the seventeenth century. There is a possibility that Aristotle {384-322 BC} may have practiced vivisection; he certainly admitted to dissecting many animals. It is further reported that Erasistratus {304-258 BC} and Galen {131-201 AD} did engage in the practice.

The above quotations certainly indicate that Descartes approved of vivisection and, while Descartes' efforts to extend anatomical and physiological information did not attain the recognition of his mathematical efforts, he spent a significant part of his life studying anatomy and physiology.

2. Stated position about nonhuman animals:

a. *Discourse* position and earlier thoughts:

In Part Five of the *Discourse*, Descartes begins by describing the similarity of all animal bodies, both human and nonhuman, to "automata, or moving machines," and then observes that "those" human animals who are aware of these automata "will regard this body as a machine which," because it is made by God, is "incomparably better" than any invented by men. In other words, human animals who are aware of automata and machines made by humans would "regard"

¹⁰² Ibid., 304.

¹⁰³ Descartes, *Description of the Human Body*, in Cottingham et al., vol. 1 (1985), 317; xi 241-242.

¹⁰⁴ Ibid., 318; xi 243.

the animal body as a machine made by God. Thus far, he has compared animal bodies to machines made by God but has not equated animal bodies, whether human or nonhuman, to machines. He then states:

{I}f there were such machines having the organs and the shape of a monkey or of some other animal that lacked reason, we would have no way of recognizing that they were not entirely of the same nature as these animals; whereas, if there were any such machines that bore a resemblance to our bodies and imitated our actions as far as this is practically feasible, we would always have two very certain means of recognizing that they were not at all, for that reason, true men.¹⁰⁵

Descartes here opines that, while human animals could not distinguish machines from nonhuman animals, human animals could distinguish themselves from machines by "two very certain means."

The first is that they could never use words or other signs, or put them together as we do in order to declare our thoughts to others. For one can well conceive of a machine being so made that it utters words, and even that it utters words appropriate to the bodily actions that will cause some change in its organs (such as, if one touches it in a certain place, it asks what one wants to say to it, or, if in another place, it cries out that one is hurting it, and the like). But it could not arrange its words differently so as to respond to the sense of all that will be said in its presence, as even the dullest men can do.

This first means of distinction, in these three sentences, is the inability of automata or machines to use words or signs to "declare" thoughts. Recognizing that this statement will generate disagreement because some machines can produce words or signs, Descartes qualifies this statement. He gives examples of the ability of machines to respond through audible declarations, including words, to outside influences of physical contact or touch, for example "if one touches {a machine} in a certain place..., it cries out that one is hurting it" - it cries out in pain. Here Descartes observes that a machine can be programmed to "cry out" in this manner. He describes this programming as the ability to utter "words appropriate to the bodily actions that will cause some change" in the "organs" of the machine. The machine's painful cry then is recognized as consistent with the bodily reaction to physical contact but is merely a programmed response.

Descartes then describes the second means of distinguishing human animals from machines:

The second means is that, although they might perform many tasks very well or perhaps better than any of us, such machines would inevitably fail in other tasks; by this means one would discover that they were acting, not through knowledge < understanding >, but only through the disposition of their organs. For while reason is a universal instrument that can be of help in all sorts of circumstances,

¹⁰⁵ Descartes, *Discourse*, in Ariew, 72; vi 56.

these organs require some particular disposition for each particular action; consequently, it is for all practical purposes impossible for there to be enough different organs in a machine to make it act in all the contingencies of life in the same way as our reason makes us act.¹⁰⁶

Descartes' "second means" seems to be no more than an expansion of the first. The first means involved only one activity, that of declaration and response through speech. The second expands the activities to other tasks accomplished by machines where they would "inevitably fail" in some tasks so that human animals could discover that the machines "were acting not through knowledge < understanding > but only through the disposition of their organs" or through the programming that he first argued. Here, Descartes argues that the initiation of general action for human animals originates through "knowledge" or "understanding" while for machines it originates through or from "the disposition of their organs" or programming.

In the next sentence, Descartes replaces "knowledge" or "understanding" with the word "reason," which he states is "a universal instrument" that "helps" the human animal in the circumstances and situations in which it finds itself. However, Descartes opines "it is for all practical purposes impossible" for a machine to have "enough different organs to make it act in all the contingencies of life in the same way... our reason makes us act." In summary, the second means seems merely to be an expansion of the first and an opportunity to attempt the introduction of reason as a basis for the different categorization of human animals and machines. As between human animals and machines, this expansion initially seems strange because few in the seventeenth century would have considered machines to be capable of knowledge, understanding or reason as those words would even then have been understood. For Descartes, it however provided a segue to his actual purpose for the whole discussion.

Immediately then, he states, "Now by these {same} two means one can also know the difference between men and beasts." It is at least curious that first, he opines that there would be *no* means of distinguishing nonhuman animals from machines, second, he then describes means of distinguishing human animals from machines, and, third, he states unequivocally that these same means of distinguishing human animals from machines *can be used* to distinguish nonhuman animals.

Why use this line of reasoning when one could seemingly have more easily simply equated nonhuman animals with machines? Descartes may have believed that that equation could

¹⁰⁶ This quote and the remaining quotes from Part 5 of the *Discourse* are those from Descartes, *Discourse*, in Ariew, 71-73; vi 55-60. However, because J. Cottingham et al. translate these passages somewhat differently, the words in angle brackets "< >" are the words from Descartes, *Discourse*, in Cottingham et al., vol.1 (1985), 139-141; vi 55-60.

never be accepted because anyone who had dissected, for example, a dog, would not accept the concept that the dog was just the same as a man-made machine. He may have also believed that an analogy was all he could successfully attempt to argue. Of course, while he was not immediately entirely successful with the analogy and had numerous questions raised about the *Discourse* position during his lifetime, he was unfortunately very successful with his analogy after his death.

While he seemingly attempted to argue only the analogy, his *Discourse* position has been interpreted as equating nonhuman animals with machines, which was his clear purpose even though he apparently wanted to sidestep that strict interpretation. However, if the premises are {1} two means distinguish all human animals from all machines and {2} these same means distinguish all human animals from all nonhuman animals, then the conclusion must be that all nonhuman animals are machines. While that argument may be valid, it is not sound because the second premise is not true, as is recognized today and as some recognized at the time of the argument.

Next, Descartes returns to the inability to arrange "words together and of composing from them a discourse by means of which they might make their thoughts understood." He then does distinguish nonhuman animals from machines by recognizing that, while machines have insufficient organs, this inability in nonhuman animals "does not happen because they lack the organs." Moving beyond the comparison between "dull" humans and machines, Descartes now suggests that "men born deaf and dumb" and thereby "deprived just as much as, or more than, beasts of the organs that aid ... speaking," at least invent signs to express themselves. Here he seems to attempt some rehabilitation of the "insufficient organ" argument for his human/nonhuman distinction.

Descartes then leaps to the claim that this "attests not merely to the fact that the beasts have less reason than men but that they have none at all." While Descartes does not explain this leap to conclusion, he will attempt to argue that there are not degrees of difference between human and nonhuman animals.¹⁰⁷ Still, this, at minimum, appears to be a blatant example of a false dichotomy fallacy.

¹⁰⁷ Earlier in the *Discourse*, Descartes states: "for as to reason or sense, inasmuch as it alone makes us men and distinguishes us from the beasts, I prefer to believe that it exists whole and entire in each of us, and in this to I follow the opinion commonly held by the philosophers, who say there are differences of degree only between *accidents*, and not at all between *forms* or natures of individuals of the same *species*." Descartes, *Discourse*, in Ariew, 47; vi 2-3. This is an example of one of Descartes' inconsistencies. He argues that the term "men," or human animals, are not accidents and, therefore, differences of degree do not apply. Because Descartes fully acknowledges that human animals and nonhuman animals are all animals,

He then returns to the machinelike characterization of nonhuman animals and introduces the idea of "natural movements that attest to the passions and can be imitated by machines as well as by animals." He does not elaborate on the importance of passions in the *Discourse* but relies upon this concept at length in his later written works. At this point in the *Discourse*, Descartes returns to the ability of certain nonhuman animals to exceed the ability of human animals in certain activities and opines that this excellence merely proves that nonhuman animals "have no intelligence of all, and that it is nature that acts in them, according to the disposition of their organs" which he then compares to a clock which, of course, can measure time more accurately than human animals. This represents another huge leap to conclusion that disturbed Descartes' critics.

Here for the first time, Descartes suggests that nonhuman animals are governed by nature. This concept is generally referenced as governed by "instinct." It is at least interesting that Descartes, in the *Discourse*, and apparently in his other works written for publication, was not found to use the word "instinct." While this word would seem to suit his purposes regarding separate classifications and categories for human and nonhuman animals, he chose not to use it, possibly because it did not lend itself, in his mind, to possible "proofs" as readily as the use of the machine analogy. However, in his October 16, 1639, letter to Mersenne, he states:

I distinguish two kinds of instinct. One is in us *qua* human beings, and is purely intellectual: it is the natural light or mental vision. This is the only instinct which I think one should trust. The other belongs to us *qua* animals, and is a certain impulse of nature towards the preservation of our body, towards the enjoyment of bodily pleasures, and so on. This should not always be followed.¹⁰⁸

Based on his later publications, this latter kind of instinct clearly includes what he collectively called "passions."

The only other reference to "instinct" found was in the Newcastle letter when Descartes is discussing Montaigne's reference to the habit of certain animals to bury their dead. Descartes states: "the instinct to bury their dead is not stranger than that of dogs and cats, which scratch the earth to bury their excrement, although they hardly ever do bury it - which shows that they do it only by instinct, and without thinking about it."¹⁰⁹ Descartes avoids use of the word "instinct" in his published works where he rather uses the idea of "disposition of organs." It is possible that

this suggests that nonhuman animals are accidents where differences of degree do not apply. However, Descartes suggests otherwise in his later letters to the Marquis of Newcastle and to More.

¹⁰⁸ Descartes, *Letter to Mersenne*, 13 November 1639, in Cottingham et al., vol. 3 (1991), 140; ii 599.

¹⁰⁹ Descartes, *Letter to the Marquis of Newcastle*, About Animals (November 23, 1646), in Ariew, 277; iv 576.

Descartes used the word “instinct” in the above two letters only because it had been used in the letters of the authors to which Descartes was responding.

Descartes conveniently concludes his *Discourse* position of nonhuman animals with a discussion of the soul. He begins the discussion with a few words about the human rational soul and the need to have it "closely joined and united to the body in order to have ... feelings and appetites similar to our own, and thus to constitute a true man." He then suggests that, believing "that the soul of beasts is of the same nature as ours," "puts weak minds at a {great} distance from the straight path of virtue." He continues, "when one knows how different {the beasts} are {from us}, one understands much better the arguments which prove that our soul is of the nature entirely independent of the body, and consequently that it is not subject to die with it." Descartes finally concludes that, because there are no apparent causes for the destruction of the soul, it must be immortal. It is difficult to believe that this finishing touch of an unsupported conclusion would bring other than an approving smile to the collective face of both the Roman Church and the Reformed Church. Still, Descartes does not deny nonhuman animals a soul but opines that theirs is not "of the same nature as ours" at least with respect to immortality.

In summary, Descartes' *Discourse* position concerning nonhuman animals is that:

1. Nonhuman animals "never use words or other signs... to declare" their thoughts or to respond to life's contingencies. They do not have a language of words, punctuation, etc., as do human animals.
2. Any apparent use by nonhuman animals to use words or other signs to make declarations or to respond to life's contingencies results only from "disposition of their organs," programming or nature {instinct} and relates to the passions and does not result from intelligence/knowledge/understanding/reason, none of which are found in nonhuman animals.
3. Nonhuman animals may have a soul but it is not "of the same nature as ours;" it is not immortal as is the soul of all human animals.

Discourse Four of the *Optics*, one of the *Essays*, is, if it is not consistent with, then it is possibly somewhat more restrictive than the *Discourse* position in that he states without introduction, "we know for certain that it is the soul which has sensory perceptions, and not the body."¹¹⁰ This is much more inclusive than Part Five of the *Discourse* because all sensory perceptions are covered here, including pain. This may possibly be because it was written before the *Discourse*. Cottingham et al. conclude that the *Optics* was written about 1635, at least, before

¹¹⁰ Descartes, *Optics*, in Cottingham et al., vol. 1 (1985), 164; vi 109.

the *Discourse* in which Descartes chooses to include only the "passions" as sensory in nonhuman animals.

Descartes' *Discourse* position is also consistent with his prior written but unpublished works. In Descartes' *The World*, written between 1629 and 1633 but not published until 1664, pain was explained as follows: "now, everyone knows that the ideas of tickling and of pain ... are formed in our mind" and also: "we have already said there is nothing outside our thought which is similar to the ideas we conceive of tickling and pain."¹¹¹ Descartes clearly equates mind and thought and finds that pain is an idea formed therein. His *Discourse* position includes the concept that nonhuman animals have neither mind nor thought and, therefore, no pain.

As of 1637, then, Descartes stated that the means of distinguishing between nonhuman animals and human animals were the inability of the former to use words or signs to declare their thoughts or to respond to life's contingencies. Further, these inability "prove" that nonhuman animals have no reason or intelligence. Also, the actions of nonhuman animals are controlled by the disposition of their organs, which are in turn controlled by nature/instinct. Because nonhuman animals have no reason, mind or thought, they cannot experience "pain," and their souls, if they have any, are certainly not immortal as are the souls of human animals.¹¹²

Throughout his written works, Descartes does not generally make a distinction between the automaton/machine character of animal bodies, whether human or nonhuman. This character is generally referenced as Descartes' "bête-machine" doctrine because, for the "beast," this comparative machine is all that exists. The human animal is given the addition of reason/soul to its machinelike body. For Descartes, reason resides in the mind or soul of the human animal where reason, mind and soul are not to be found in nonhuman animals. Further, because Descartes associated feelings with the mind/soul, these nonhuman "bête-machines" were, at least initially, as explained by Descartes, without feelings including pain. While Descartes referred to human animals and nonhuman animals collectively as "animals"¹¹³ as did Aristotle, he

¹¹¹ Descartes, *The World*, in Cottingham et al., vol. 1 (1985), 82-84; xi 5-10.

¹¹² In his 1638 *Letter to Reneri for Pollot*, Descartes discusses passions and feelings in human and nonhuman animals and is consistent with the *Discourse* position. In this letter, he again begins by posing a hypothetical about a man who had never seen "any animals except men" and had made automatons "shaped like a man, a horse, a dog, a bird, and so on." Continuing, Descartes hypothesizes that these automatons were constructed such that they had the appearance of "feelings and passions like ours" which included "the signs we use to express our passions, like *crying when struck* and running away when subjected to a loud noise." {emphasis added}. When confronted with real animals with the appearance of the automatons, Descartes suggests that this hypothetical man would not come to the conclusion that there was "any real feeling or emotion" in nonhuman animals and that they were similar to his automatons in this regard. Descartes, *Letter to Reneri for Pollot*, April or May 1638, in Cottingham et al., vol. 3 (1991), 99-100; ii 39-41. Here again the nonhuman animals are only similar to automatons.

¹¹³ *Ibid.*, p.99; ii 39.

categorized them differently because of his insistence that nonhuman animals did not have reason, mind, soul or thought where Descartes associated thought with the first three of these items.

In his October 1637 letter to Plempius for Fromondus, Descartes justifies his *Discourse* position by invoking Leviticus 17:14 (“The soul of all flesh is in its blood, and you shall not eat the blood of any flesh, because the soul of flesh is in its blood”) and Deuteronomy 12:23 (“Only take care not to eat their blood, for their blood is their soul, and you must not eat their soul with their flesh”).¹¹⁴ Because he apparently was being accused of attributing souls to nonhuman animals, Descartes had to consider these verses a gift because he had long been dissecting animals and developing ways to refute Montaigne’s ideas about nonhuman animals. Differentiating the souls of human animals from the souls of nonhuman animals had to be welcomed by the Roman Church, the Reformed Church, and probably most other human animals at that time and, therefore, provided a safe route for criticizing Montaigne and his skepticism and also engaging in dissection and vivisection.¹¹⁵

b. Later published modifications:

His *Discourse* position raised numerous questions which, over the thirteen years after 1637, caused Descartes to soften this position somewhat in his works published through 1650 and to significantly modify it in his unpublished letters over that same period. Because he took much greater care to defend rather than modify his *Discourse* position in his published works than in his letters, it seems fair to presume that he was aware of the shortcomings of the *Discourse* argument.

Descartes defends his position on pain but does not directly mention nonhuman animals in his *Meditations on First Philosophy* {published in 1641 with the first six sets of *Objections and Replies*}. Nonhuman animals do, however, come up regularly in the *Objections and Replies*. Descartes, in the Sixth Meditation, discusses the “real distinction between mind and body” and addresses pain as follows: “I ... perceived by my senses that this body was situated among many other bodies which could affect it in various favorable or unfavorable ways; and I gauged the favorable effects by a sensation of pleasure, and the unfavorable ones by a sensation of pain.” Pain is now described as part of the senses and, therefore, as a sensation. Descartes discusses additional sensations which he calls “the ideas of all these qualities which presented themselves

¹¹⁴ Descartes, *Letter to Plempius for Fromondus*, 3 October 1637, in Cottingham et al., vol. 3 (1991), 62; i 414-415.

¹¹⁵ In his 1638 *Letter to Reneri for Pollot* {and in his 1641 *Letter to Regius*}, Descartes also relied upon his *Discourse* position. Descartes, *Letter to Reneri*, April or May 1638, in Cottingham et al., vol. 3 (1991), 99; ii 39-40.

to my thought," where these ideas were the "immediate objects of my sensory awareness."¹¹⁶ Sensations are now ideas within thought which, again, in the *Discourse* position is not something found in nonhuman animals.

Descartes admits that he had lost all "faith" in his senses and that his judgments of both "the external senses" and the "internal senses" were "mistaken."¹¹⁷ He then concludes that "these sensations of hunger, thirst, pain and so on" are only "confused modes of thinking which arise from the union and, as it were, intermingling of the mind with the body." He had to know that his denial of the sensations of hunger and thirst to nonhuman animals would raise questions in the minds of his critics. He further concludes that because there is nothing in a fire that resembles heat and pain, these feelings must occur elsewhere. Using the example of "a sensation of pain, as occurring in the foot" and resulting from a pulling of certain nerves, he anatomically describes the route from the foot to the brain and concludes that "it will necessarily come about that the mind feels the same sensation of pain."

Descartes then "suppose{s}" that the same thing happens with regard to any other sensation. He argues that the mind, upon recognizing the pain in the foot, then does "its best to get rid of the cause of the pain."¹¹⁸ Consequently, pain is only recognized in the mind/soul which nonhuman animals do not have and, therefore, cannot experience. The further result of this argument must be that a nonhuman animal would not express any need to eliminate a cause of pain because it could not experience the cause of pain. Simple observation proved - and still proves - otherwise.

In the *Second Set of Objections*, the apparent author, Mersenne, argues against Descartes' position "that an effect cannot possess any ... perfection that was not ... present in the cause." By way of example, Mersenne suggests that nonhuman animals and plants, which obviously have life, "are produced from sun and rain and earth, which lack life" and, therefore, something, life, not found in the cause is found in the effect. Mersenne argues that "life is something nobler than any merely corporeal grade of being" ¹¹⁹ In his reply, Descartes does not mention "life" but states, "since animals lack reason, it is certain that they have no perfection which is not also present in inanimate bodies; or, if they do have any such perfections," those nonhuman animals "derive them from some other source" because "the sun, the rain and the earth are not adequate

¹¹⁶ Descartes, *Meditations on First Philosophy*, in Cottingham et al., vol. 2 (1984), 52; vii 74-75.

¹¹⁷ As an example that internal sensors can be mistaken, he uses amputation. "For what can be more internal than pain? And yet I had heard that those who had had a leg or an arm amputated sometimes still seemed to feel pain intermittently in the missing part of the body." And they do. *Ibid.*, 53; vii 76-77.

¹¹⁸ *Ibid.*, 56-60; vii 81-88.

¹¹⁹ *Ibid.*, 88; vii 123.

causes of animals"¹²⁰ ¹²¹ However, Descartes gives no indication of what this "other source" might be. Further, even in 1641, it seems ludicrous to suggest that, because nonhuman animals lack reason, they are no different than "inanimate bodies." As Descartes must have realized, this preposterous answer would not satisfy Mersenne and Descartes' other critics.

In the *Fourth Set of Objections*, the author of the objection, Antoine Arnauld, disputes Descartes' position that nonhuman animals have no souls and, in his argument, provides the example of a sheep which, through its optic nerves, sees a wolf and, on this motion "reaching the brain," takes flight.¹²² In his reply, Descartes begins by stating, "I think the most important point is that, both in our bodies and those of the brutes, no movements can occur without the presence of all the organs or instruments which would enable the same movements to be produced in a machine." Descartes, here, is at least unequivocal in stating that the bodies of both human and nonhuman animals contain the "organs or instruments" necessary for a machine to produce the same movements.

Descartes then argues that the sheep's flight reaction is no more than mechanical and similar to the activities of "heartbeat, digestion, nutrition, respiration ... , ... walking, singing and the like." The information "reaches the brain and sends the animal spirits into the nerves in the manner necessary to produce this movement even without any mental volition, just as it would be produced in a machine."¹²³ ¹²⁴ Descartes also again references Part 5 of the *Discourse* and continues the use of the machine analogy but still will not directly call nonhuman animals machines.

In the *Fifth Set of Objections*, Pierre Gassendi argues that, because Descartes includes sense-perception and imagination as kinds of thought, nonhuman animals must think and have a mind "not unlike yours." Gassendi argues that the "corporeal imagination or faculty of forming images" is the same in all animals. He continues: "although man is the foremost of the animals, he still belongs to the class of animals; and similarly, though you prove yourself to be the most

¹²⁰ Ibid., 96; vii 134.

¹²¹ Descartes, in a very early writing, possibly in or about 1620, concludes: "the high degree of perfection displayed in some of their actions makes us suspect that animals do not have free will." Descartes, *Early Writings*, Cottingham, vol. 1 (1985), 5; x 219. This "high degree of perfection" displayed in the actions of nonhuman animals is certainly greater than we experience in "inanimate bodies."

¹²² Descartes, *Meditations*, in Cottingham et al., vol. 2 (1984), 144, vii 205.

¹²³ Ibid., 161; vii 229-230.

¹²⁴ In this same response, Descartes reviews what he calls the "two principles of motion," that of disposition of the organs and flow of the natural spirits which apply to all animals, and that of "mind or thought." Ibid., 162; vii 230-231. He then argues that when we see this motion principle in nonhuman animals, we incorrectly "jump to the conclusion" that the principle of mind or thought also exists in them.

outstanding of imaginative faculties, you {Descartes} still count as one of those faculties.”¹²⁵ In answer, Descartes is obviously distressed, retreats from the *Discourse* position, and now argues that the human mind can only "experience its own thinking" and "cannot have any experience to establish whether the brutes think or not; it must tackle this question later on, by an *a posteriori* investigation of their behavior."¹²⁶ This seems to be nothing short of a frustrated response because Descartes does not even claim to have embarked on such an investigation, at least before taking the *Discourse* position, though he had been dissecting for at least thirteen years. Modification of the *Discourse* position in Descartes' publications has begun.

In the *Sixth Set of Objections* that are thought to have been compiled by Mersenne, an argument is raised that there is no distinction between thought and corporeal motions, for “if the limited reasoning power to be found in animals differs from human reason, *the difference is merely one of degree* and does not imply any essential difference.”{emphasis added}.¹²⁷ Descartes replies:

However, not only have I declared that there is no thought whatever in brute animals, as is here being assumed by my critics, I also proved it by means of the strongest of arguments, arguments that to date have not been refuted by anyone. ... For even if they add that they do not believe that the operations of beasts can be explained by means of the science of mechanics without reference to sense, life, and soul (this I take to mean "without reference to thought," for I have not denied that there is in brute animals something commonly called "life," or a corporeal soul, or an organic sense)¹²⁸

He discards this idea of "difference of degree" as merely maintained by those who believe incorrectly that nonhuman animals think. Also, he introduces an "organic" system of sensation in addition to his earlier 1640 and unpublished comment {discussed below} about no pain "in the strict sense" while again elaborating on neither.

Also, in his *Sixth Set of Replies to the Meditations*, Descartes attempts defense of the *Discourse* position through, for the first time, arguing his three levels of sensory response. He does so in response to the objection that "no one has as yet been able to grasp that argument of yours whereby you think you have demonstrated that what you call thought cannot be a corporeal motion."¹²⁹ He obviously believes that his nonhuman animal argument so far is lacking and, therefore, states, "For us to observe correctly what sort of certainty belongs to sense, we must distinguish three levels ... within it."

¹²⁵ Ibid., 187-188; vii 269.

¹²⁶ Ibid., 247-248; vii 357-358.

¹²⁷ Ibid., 279; vii 414.

¹²⁸ Descartes, *Meditations*, in Ariew, 197; vii 426; in Cottingham et al., vol. 2 (1984), 287-288; vii 426.

¹²⁹ Descartes, *Meditations*, in Ariew, 190; vii 413.

"To the first {level} pertains only that by which the corporeal organ is immediately affected by external objects" which does not include responses such as pain, which are found only in the second level which "includes everything that immediately results in the mind from its being united to the corporeal organ which is thus affected." Further explaining the second level of response, Descartes includes the following in addition to "sorrow" {which is the first perception mentioned and must include pain}: "perceptions of ... tickling, thirst, hunger, colors, sound, taste, smell, heat, cold and the like." Any denial of thirst, hunger, sound, smell, "and the like" to nonhuman animals could not have seemed reasonable to Descartes at this point. He must have been extremely anxious about protecting his anatomical and physiological interests. His third level of sensory response includes judgments which seem only available through minds.

He next explains that "it is in this motion of the brain, which we have in common with brute animals, that the first level of sensing consists."¹³⁰ Neither the second nor the third level of sensory response is found in nonhuman animals; consequently, nonhuman animals do not experience sorrow or pain apparently "in the strict sense" but do experience the sensory response through which human animals ultimately know pain but which only produces bodily movement in nonhuman animals. Unsupported explanations but still no proofs and the questions continue.

Consequently, while Descartes retreated from the *Discourse* position in his answers to the Fourth Set of Objections when suggesting that further investigation was necessary to determine whether nonhuman animals might engage in thought, he nonetheless, in the Sixth Set of Objections, attempts to rehabilitate that position.

Descartes' *Principles of Philosophy*, published in 1644, does not further modify his *Discourse* position about nonhuman animals. However, it does contain a further impression about nonhuman animals. In the Preface to the French edition, he states: "The brute beasts, who only have their bodies to preserve, devote their constant attention to the search for the sources of their nourishment; but men, whose principal part is the mind, ought to make their principal care the search after wisdom, which is its true source of nutriment."¹³¹ Descartes does continue to argue that pain occurs in the mind and not in the body though he argues the negative: "there is no reason we should be required to believe that the pain, for example, that we feel as it were in our foot is anything outside our mind ... for {this is a prejudice} of our youth"¹³²

¹³⁰ Descartes, *Meditations*, in Ariew, 202; vii 436-438; see Cottingham et al., vol. 2 (1984), 294-295; vii 436-438.

¹³¹ Descartes, *Meditations*, in Ariew, 223; ixb 4.

¹³² Ibid., 249; viiia 33; see Cottingham et al., vol. 2 (1984), 217; viiia 33.

In the last work published during his lifetime, *The Passions of the Soul*, published in 1649 {and after August 14, 1649}, Descartes states:

For although {nonhuman animals} have no reason, not perhaps any thought, all the movements of the spirits and of the gland that excite the passions in us, are nonetheless present in them, and in them serve to maintain and strengthen, not, as in our case, passions, but the movements of the nerves and muscles that usually accompany them.¹³³

Descartes then continues with an example of a dog that, upon hearing a gunshot, will "naturally" run from that noise but that another breed of dog, a setter, can be trained to run toward a bird despite the noise of a gun. He then argues that, through some "industry, {because we can} change the movements of the brain in animals deprived of reason," we could do the same with human animals and thus could assist the "feeblest souls" in acquiring "absolute dominion over all their passions"

Here, in 1649, Descartes publicly modifies his *Discourse* position by, for the first time, allowing some question about whether nonhuman animals *may* possess thought. In the *Discourse*, thought was a function of the mind and the soul, neither to be found in nonhuman animals. In addition, Descartes states in *The Passions*:

For all the animals devoid of reason conduct their lives simply through bodily movements similar to those which, in our case, usually follow upon the passions that move our soul to consent to such movements. ... Likewise, we see that animals are often deceived by lures, and in seeking to avoid small evils they throw themselves into greater evils. That is why we must use experience and reason in order to distinguish good from evil and know their true value, so as not to take the one for the other or rush into anything immoderately.¹³⁴

Here, Descartes suggests that, in human animals, bodily movements occur because "the passions ... move our soul to consent to such movements" where those same movements in nonhuman animals occur not from such "consent" but apparently, for Descartes, simply from the programming of the machine.

Consequently, in the works published before his death, Descartes did revise his *Discourse* position, at least insofar as the inability of human animals to determine what might be in the hearts of nonhuman animals and in the possibility of nonhuman animals possessing thought.

c. Modifications in unpublished letters:

Concern about the *Discourse* position began as early as 1640 when Mersenne questioned it. In a June 11, 1640, response letter, Descartes answers a question about pain: "I do not explain

¹³³ Descartes, *Passions of the Soul*, in Ariew, 315; xi 369-370; see Cottingham et al., vol.1 (1985), 348; xi 369-370.

¹³⁴ Descartes, *Passions of the Soul*, in Cottingham et al., vol. 1 (1985), 376-377; xi 431.

the feeling of pain without reference to the soul. For in my view pain exists only in the understanding. What I do explain is all the external movements which accompany this feeling in us; in animals it is these movements alone which occur, and not pain in the *strict sense*....” {emphasis added}.¹³⁵ This response introduces some capitulation. Descartes modifies his prior position of no pain with no pain "in the strict sense" in nonhuman animals but does not explain that modification. Now the actions that cause pain "in the strict sense" in human animals, only produce in a nonhuman animal the motions that accompany "strict pain" in the human animal.

Mersenne remained unhappy about the pain issue. In his letter to Mersenne a few weeks later {July 30, 1640}, Descartes states: "As for brute animals, we are so used to believing that they have feelings like us that it is hard to rid ourselves of this opinion." He then again suggests that nonhuman animals are like automatons that can perfectly imitate "every one of our actions that it is possible for automatons to imitate" and that "in this case we should be in no doubt that all the animals which lack reason were automatons too."¹³⁶ He then references Part 5 of the *Discourse*. Again, in this 1640 letter, Descartes does not say that nonhuman animals are automatons but that they are *like* automatons and about that "we should be in no doubt." Descartes, here, chooses to retreat to the *Discourse* position and refuses any explanation of pain "in the strict sense."

Beginning in 1646, Descartes conceded some major modifications in the *Discourse* position through two of his letters. The first is his November 23, 1646, letter to the Marquis of Newcastle,¹³⁷ and the second is his February 5, 1649, letter to Henry More, both written prior to the publication of his *Passions of the Soul*. The Newcastle letter is, of course, Descartes' first and only known written reference to Montaigne and Charron. It is fair to assume that, because Descartes seldom mentions other authors by name, the Marquis probably mentioned both authors in his letter to Descartes, who then felt compelled to mention their names in his response. In the response, Descartes focuses first on Montaigne, when he states:

As for the intelligence or the thought that Montaigne and some others attribute to beasts, I cannot agree with them. ... I declare there are some stronger than us, and I believe there can be some which have a natural cunning capable of deceiving the subtlest men. But I consider that they imitate or surpass us only in such of our actions as are not controlled by our thought.^{138 139}

¹³⁵ Descartes, *Letter to Mersenne*, 11 June 1640, in Cottingham et al., vol. 3 (1991), 149; iii 85.

¹³⁶ Descartes, *Letter to Mersenne*, 30 July 1640, in Cottingham, vol. 3 (1991), 148; iii 121.

¹³⁷ René Descartes *Philosophical Essays and Correspondence*, ed. Roger Ariew (Indianapolis: Hackett, 2000), fn275, reports that the Marquis was "William Cavendish (1592-1676), a literary author and horseman, the husband of Margaret Cavendish, philosopher"

¹³⁸ Descartes, *Letter to the Marquis of Newcastle*, About Animals, (November 23, 1646), in Ariew, 275; iv 573; see Cottingham et al., vol. 3 (1991), 302.

In this statement, through the reference to thought, Descartes is consistent with his *Discourse* position. Descartes then argues that we human animals do many things, such as walking and eating, without thinking and, therefore, without the use of our reason and identifies this type of activity as the "movements of our passions." In this letter, he defines "passions," in part, as "fear," "hope," and "joy." Pain seems to remain something apart.

Descartes is also consistent with his *Discourse* position in characterizing human animals as using "words, or other signs." He then argues that these words or signs must not express "any passion" and gives the examples of "cries of joy and sorrow and the like, but also to exclude everything that can be taught by artifice to animals." His examples of training are words taught to a magpie or actions performed by "dogs, horses, and monkeys" where these trained actions are "only movements of their fear, their hope, or their joy" which occur "without any thought" in nonhuman animals. This attempt at a distinction between, for example, cries of sadness when they occur in human animals and when they occur in nonhuman animals, must fail as he seems to admit later in his letter to More. There is just no empirical {or other} evidence that can support this distinction.

After repeating the words of Montaigne that the Marquis probably recited in his letter to Descartes, Descartes replies: "even though Montaigne ... {has} said that there is more difference between man and man than between man and beast; there has nevertheless never been found any beast so perfect that it used some sign to make other animals understand something that had no relation at all to its passions." He then argues that no human animals are "so imperfect" that they cannot "invent special signs" to "express their thoughts."

Descartes then jettisons his second *Discourse* means of recognition, the imperfection of organs in nonhuman animals, and relies solely on thought. He states, "what brings it about that beasts do not speak as we do is that they have no thought, and not that they lack the organs for it." He does acknowledge that "dogs and some other animals express their passions to us" but continues to argue that these nonhuman animals "would surely express their thoughts as well, if they had any." This attempted distinction between passions and thoughts seems to be one without any real difference unless it relates solely to spoken words.

Descartes then addresses Montaigne's idea that nonhuman animals do some things better than human animals. Descartes specifically references the following nonhuman animals that were

¹³⁹Cottingham et al., in a footnote, state the following for the above passage: "Michel de Montaigne (1533-92), author of the famous *Essays*, in which he maintains that all human virtues can be found in non-human animals." *Philosophical Writings of Descartes*, trans. Cottingham et al., vol. 3 (1991), fn302.

used as examples by Montaigne: swallows, honeybees, cranes, and monkeys. He finally argues that the acts of these nonhuman animals occur "naturally and by springs" and are the result of "instinct," not thought. Again, while Descartes seems to avoid the use of "instinct" in the *Discourse*, he now employs its use, possibly because the Marquis had used it in his letter but also because it is direct and to the point. Instinct has certainly been argued, and is still argued today, as the means by which nonhuman animals live. However, as will be discussed later in this paper, all activities of nonhuman animals cannot be described as the result of instinct. Some are clearly the result of invention or instruction. Such activities must be the result of thoughts identical to, or at least similar to, those of human animals.

Returning to the bodily organ idea, Descartes further disqualifies that means as follows:

The most one can say is that although animals do not act in any way that assures us they think, since the organs of their bodies are not very different from ours, it can be conjectured that there is some thought attached to those organs, such as we experience in ours, although theirs is much less perfect.¹⁴⁰

After acknowledging the argument for the possibility of some kind of thought attached to these organs, though of a type "less perfect" and, therefore, a difference in degree but not in kind, Descartes attempts to continue his category distinction based simply on the lack of "an immortal soul" like that found in human animals. However, he now qualifies this basis, opining that "But ... {the existence of an immortal soul in nonhuman animals} is not probable, since there is no reason to believe this of some animals without believing it of all of them, and there are some too imperfect for us to be able to believe this of them, like the oysters, sponges, etc." Here, again, and not unlike Montaigne, Descartes retreats to a false dichotomy in as much as he refuses any idea of gradation. Therefore, while reciting the argument for the possibility of some difference in degree in thought between human and nonhuman animals, he refuses in the next breath the same concept regarding souls.

Consequently, by 1646, the complete absence of thought has been replaced by the possibility of an argument for "a very much less perfect" kind and, therefore, some acknowledgement of a difference in degree but not in kind, and also the lack of an immortal soul is described as simply "not probable" because of oysters and sponges.

This then-unpublished Newcastle position has, in 1646, substantially modified the *Discourse* position. The lack of necessary organs, the second earlier means of distinction, has been qualified to the point of nonexistence. Descartes, as an accomplished anatomist and

¹⁴⁰ Descartes, *Letter to the Marquis of Newcastle*, About Animals (November 23, 1646), in Ariew, 277; iv 576.

physiologist, must admit the great similarity between the organs in nonhuman animals and those in human animals and, therefore, cannot effectively argue that a nonhuman animal, like a machine without thought, cannot have the organs necessary for movements similar to those of human animals. Further, when those similar observed movements are recognized as a form of expression, the attempt to distinguish the expression of passions from the expression of thoughts becomes something that defies observation. Consequently, it must be concluded that Descartes has had to modify his argument to the point of the unobservable "foundation" of an immortal soul which now is "not probable."

While Descartes only mentions Montaigne and Charron in the 1646 Newcastle letter, Descartes, as observed earlier, must have had access to their books at least during his stay at La Flèche between 1607 and 1615. Therefore, it is at least interesting that, while he had probably read these two authors before 1620 and had responded to them in his *Discourse* position, he may only have been directly confronted in writing with their thoughts through the Marquis' letter. It is further interesting that, probably in part because of this direct reference, Descartes felt compelled to qualify his *Discourse* position.

In his letter to More dated February 5, 1649, Descartes becomes even less certain about his position that nonhuman animals have no thought and, therefore, no immortal soul. Descartes begins by reviewing his position up to that point and gives his standard explanation of the preconceived opinion of human animals who believe that there is "one principle of motion" in them "namely, the soul, that both gives movement and thinks" and which they also attribute to nonhuman animals. Descartes then declares that he "realized" that there were "two different principles" that cause the movements of human animals. He states the first is purely "mechanical and corporeal" and depends solely on the spirits and organs -- "the corporeal soul." The second principle is an "incorporeal {principle}, ... the mind, or that soul I defined as thinking substance." After having "inquired carefully," he then saw "clearly" that movements of nonhuman animals originate from only the corporeal principle and not from the incorporeal principle. As a result, he regards as "certain and demonstrated that we could in no way prove that there is any thinking soul in brutes." But he then again recognizes the argument based on the similarity of organs:

Still, although I hold it as demonstrated that it cannot be proved that there is any thought in brutes, at the same time I do not think it can be proved that there is none, since the human mind cannot penetrate their hearts. But when I examine what is more probable in this matter, I see no argument in favor of animals having thoughts except this one: that, since they have eyes, ears, tongue, and other sense organs like us, it is probable that they feel as we do; and since

thought is included in our manner of sensing, similar thought is also to be attributed to them.¹⁴¹

Here, Descartes, of course, admits that the “lack of organs” portion of his *Discourse* position must be scrapped. He then resorts to probabilities when he says “it is less probable that worms, midges, and caterpillars have immortal souls than that they move like machines.” While he acknowledges the argument that nonhuman animals have some thought, he cannot leave his machine analogy. That analogy, however, remains only an analogy and not a direct equivalency.

He also admits that “all {animals} easily communicate to us by voice or other bodily movements their natural impulses, like anger, fear, hunger, and the like.” Because pain is associated with anger, fear, and/or hunger, pain is apparently something that nonhuman animals can now communicate to human animals. Still, Descartes tenaciously clings to the lack of “true speech” in nonhuman animals. Descartes declares that: “speech is the only certain sign of thought concealed in the body.” If it is hidden in a body, inquiring carefully may not show “clearly” that nonhuman animals do not have a thinking soul.

Descartes then concludes as follows:

For the sake of brevity, I omit here other reasons for denying thought to brutes. It should be noted, however, that I am speaking of thought, not of life or sense. For I deny life to no animal, since I hold that life consists solely in the heat of the body. Nor do I deny sense either, insofar as it depends on a corporeal organ. And thus my opinion is not so cruel to beasts as it is kind to men - at least to those who are not subject to the Pythagorean superstition - since it absolves them from the suspicion of *crime* when they eat and kill animals. {emphasis added}¹⁴²

Brevity sometimes seems to be a convenient sanctorum. But finally, in 1649, Descartes admits indulging human beings like himself to the extent of absolving “them from the suspicion of crime when they eat and kill {or dissect or vivisect nonhuman} animals.” Recall that he referred to his interest in anatomy as “not a crime” ten years earlier in his 1639 letter to Mersenne.

In summary, in his letters, Descartes conceded the following modifications to his *Discourse* position. First, nonhuman animals do not feel pain in the “strict sense” which is never explained. Second, nonhuman animals cannot speak, not because of a difference in organs but because they have no thought. Third, some kind of thought may exist in nonhuman animals because they have “sense organs” like those of human animals and it cannot be proven that they have no thought. Fourth, the existence of an immortal soul in nonhuman animals is now only improbable because of oysters and sponges. Fifth, because nonhuman animals have “sense

¹⁴¹ Descartes, *Letter to More* (February 5, 1649), in Ariew, 296; v 276-277.

¹⁴² *Ibid.*, 297; v 278-279.

organs” like those of human animals, it is at least arguable “that they feel as” human animals do which apparently includes pain. Sixth, the *Discourse* position “is not so cruel to beasts as it is kind to” human animals. If Descartes made these private concessions to his *Discourse* position but refused publicly to acknowledge them, could he actually have believed in his *Discourse* position? It does not seem possible. Then why do authors today still cling to the *Discourse* position?

While Descartes' “standard” or *Discourse* position has been adopted by a number of later authors, only Cottingham seems to have used the Newcastle and More letters to argue a modification of that position. In his 1978 article “‘A Brute to the Brutes?’: Descartes' Treatment of Animals,” Cottingham states that “at the end of the day, Descartes may not have been completely consistent, but at least he was not altogether beastly to the beasts.”¹⁴³ Cottingham relies on the More letter and Descartes' attempted separation of sensations from feelings to conclude his article by arguing that this separation “connects with a fundamental and unresolved difficulty in Cartesian metaphysics.” This separation results in a pure, mental and intellectual appreciation of “joyful news, on the one hand, and, on the other, a *feeling* of joy,” which is somehow physiological. This leaves Descartes' choice of the phrase “*laetitia animalis*” as a *non sequitur* because, as Cottingham explains, “[F]or a true dualist, if something is ‘*laetitia*’ (an inescapably ‘mental’ predicate) it cannot be ‘*animalis*’ (part of ‘*res extensa*’); and conversely, if it is ‘*animalis*’ it cannot be ‘*laetitia*.’” {emphasis in original}. Cottingham clearly seems to hope that Descartes personally believed the truth of every word that he committed to paper.

However, especially in light of the political and religious realities that existed during Descartes' life, it should not be difficult to understand that Descartes actually may not have believed that the *Discourse* position represented truth and chose that position only as a means to his then philosophical, anatomical and physiological ends.

In any event, Descartes could not, in his heart of hearts, have believed that dogs, cats, and other mammals did not experience pain. It is reported that Descartes had a pet dog at least at one point in his life, and there is no report that he treated it unkindly. Anyone who has ever lived with any four-footed pet cannot fail to observe that they have feelings, communicate those feelings, and vocally or otherwise register pain when hurt. However, because he was intent on reversing Montaigne's position about nonhuman animals in support of skepticism and because of his interest in anatomy and physiology, Descartes had to separate human animals from nonhuman animals to whatever degree he could. While declaring in 1637 {at least eight years after he began

¹⁴³ John Cottingham, “‘A Brute to the Brutes?’: Descartes' Treatment of Animals,” *Philosophy* 53, no. 206 (1978): 551-559.

dissecting animals} that all animal bodies were corporeal and machine-like, he attempted to achieve that separation through the attribution of reason and thought, in which he included feelings like pain, to his incorporeal mind and soul only found in human animals. In addition, probably at least as insurance against the stake, he attributed immortality to this human mind/soul.

3. Rejection of “dominion:”

While Descartes references Leviticus and Deuteronomy in his 1637 letter to Plempius for Fromondus and also states in a 1639 letter to Mersenne that he did bring a Bible from France, Descartes does not in any of his works, published or unpublished during his lifetime, make but sparse reference to the Bible. When confronted with scriptural passages in the Sixth Set of Objections to his *Meditations* {1641}, he responds briefly and carefully to those passages but initially states: "as to the Scripture passages, I do not think it is my place to answer questions about them, except when they appear to be in opposition to some opinion that is unique to me."¹⁴⁴ He immediately goes on to disclaim any calling to “sacred studies” and to relate his concern about a “charge of arrogance” if he opines about sacred matters.

Nonetheless, in Part 3, the Visible World, of his *Principles of Philosophy* {1644}, Descartes chooses to address the question of whether "all things were created by God for" human animals. Initially, he states: "although {that idea} is true in some respect, because there is nothing created from which we cannot derive some use, even if it is only the exercise of our minds in considering it and being incited to worship God by its means ... ," he then immediately proceeds to decide that "it is yet not at all probable that all things have been created for us in such a manner that God has had no other end in creating them." He next turns to physics where he says "such a supposition would be certainly ridiculous and inept ... for we cannot doubt that an infinity of things exist, or did exist, though now they have ceased to exist, which have never been beheld or comprehended by man and which have never been of any use to him."¹⁴⁵ Here, obviously, he is not thinking particularly of nonhuman animals. Still, these general comments do apply to those animals as easily as to physics.

This seems to be the extent of Descartes’ published comments about the biblical reason for the creation of nonhuman animals. In his letters, he does mention the “empire/dominion” idea in at least two letters and, in the “Conversations with Burman,” he returns to the creation purpose idea.

¹⁴⁴ Descartes, *Meditations*, in Ariew, 198; vii 428-429.

¹⁴⁵ Descartes, *Principles of Philosophy*, in Ariew, 263; viii 81.

Descartes does particularly mention “dominion/empire” in his 1646 Newcastle letter. Again, this idea of Genesis must have been raised by the Marquis in his letter to Descartes, who replies, “not that I am disturbed <worried> by the statement that men have an absolute empire <dominion> over all the other animals” The Marquis probably raised this idea as a possible reason for Descartes’ differentiation of human from nonhuman animals. Descartes sidesteps the dominion/empire idea by suggesting that only the strength and cunning of some nonhuman animals are really of concern and quickly returns to his *Discourse* position that nonhuman animals only imitate or surpass human animals in those actions that are not controlled by thought. In this letter, his comment about Genesis relates solely to the lack of thought in nonhuman animals and does not apply to their instrumental use by human animals.¹⁴⁶

In his later 1647 letter to Chanut, Descartes again directly discusses the Genesis idea of creation being for the benefit of human animals. Descartes states that, while “we can say that all created things are made for us insofar as we can derive some advantage from them,” human animals are not “the goal of the creation.” He discusses utility in what seems to be a rather egalitarian style: “And as far as creatures are concerned, insofar as they are reciprocally of use to one another, each one can claim this advantage, that all those of use to it are made for its sake.” Descartes then states that

It is true that the six days of creation are described in Genesis in such a way that man seems to be its principal subject. But we can say that since this story of Genesis was written for man, it is chiefly things that concern him that the Holy Ghost wanted to specify and that he did not speak there of anything except as they related to man. And because preachers, taking care to urge us to the love of God, are accustomed to represent to us the various uses we can derive from other creatures, and say that God made them for us, and do not make us consider the other ends for which it could also be said that he made them, because that is irrelevant to their topic, we are much inclined to believe that they were made only for us. ... I do not see that ... all the other advantages that God has given to man, prevent his having given an infinity of other great goods to an infinity of other creatures.

He then states: “when we love God, and through him join ourselves willingly to all the things he has created, the more we conceive of them as greater, nobler, more perfect, the more

¹⁴⁶ Descartes, *Letter to the Marquis of Newcastle, About Animals* (Nov. 23, 1646), in Ariew, 275; iv 573. As in note 106 because Cottingham et al., translate somewhat differently, their translation is shown in angle brackets “< >.” Descartes, *Letter to the Marquis of Newcastle*, 23 November 1646, in Cottingham et al., vol. 3 (1991), 302.

we also esteem ourselves, since we are part of the more finished whole, and the more we have reason to praise God because of the immensity of his works."¹⁴⁷

Descartes, here, must have consciously understood that he was including nonhuman animals in "all the things that {God} has created" and that he was suggesting that human animals "join" themselves "willingly" to all these created things that include nonhuman animals. Oddly, he then suggests that "the more we conceive of {all things created} as greater, nobler, more perfect, the more we also esteem ourselves, since we are part of the more finished whole, and the more we have reason to praise God because of the immensity of his works." While not patently stated, Descartes, here, seems to be categorizing human animals and nonhuman animals together, at least as far as the "more finished whole" is concerned.

In Descartes' Conversation with Burman {based on notes taken by Burman on or about April 16, 1648} and after having written both the above Newcastle and Chanut letters, Descartes again discusses the Genesis concept of creation for the benefit of human animals and begins by stating that, "it would be the height of presumption if we were to imagine that all things were created by God for our benefit alone" though "it is a common habit of men to suppose they themselves are the dearest of God's creatures, and that all things are therefore made for their benefit." He then hypothesizes "other creatures far superior to us may exist elsewhere," for example, "on the stars." Again, he also sidesteps any definitive discussion of Genesis and states that he "could give an adequate explanation of the creation of the world based on his philosophical system, without departing from the description in Genesis." For what should be obvious reasons, he never attempts this explanation.

He next states "the story of creation to be found {in Genesis} is perhaps metaphorical" and that "the creation should not be taken as divided into six days" where "division into days should be taken as intended purely for the sake of our way of conceiving of things."¹⁴⁸ If these were Descartes' words, they indicate a number of things. First, he must have been one of the first to suggest that the Genesis creation story is metaphorical. Second, he at least seemed very concerned about the vainglorious nature of human animals. Thirdly, and perhaps most importantly, these comments and those in the Chanut letter cannot be interpreted as supporting the idea that nonhuman animals were made solely for the benefit of human animals.

On balance, these references seem to weigh more toward the concept of natural parity than toward empire/dominion. This, of course, seems wholly inconsistent with his *Discourse* position.

¹⁴⁷ Descartes, *Letter to Chanut*, ... (June 6, 1647), in Ariew, 279; v 54.

¹⁴⁸ Descartes, *Conversation with Berman*, 16 April 1648, in Cottingham, vol. 3 (1991), 349; v 166-169.

It is interesting that Descartes could only be found to have mentioned the “empire/dominion” word once and that in his response in the Newcastle letter. As noted above, he decided to address the "created for" idea on a number of occasions. While there does not seem to be any difference between the concept of “empire/dominion” and the concept of “created for” because they both provide for the control and use of nonhuman animals by human animals, Descartes seemed careful in his choice of the "created for" concept for his disapproving comments. He possibly used the “empire/dominion” word once because it had been used by the author of the letter to which he was responding. On this occasion, he commented only that that word did not "disturb/worry" him because of certain differences between human animals and nonhuman animals. Descartes then immediately returned to his *Discourse* position. Possibly he was loath to take direct issue with the idea of this specific word, “empire/dominion,” that found itself prominently used in the first chapter of the first book of the Bible.

Descartes was first found to disapprove of the "created for" concept in his *Principles*, published in 1644. While he wrote his Newcastle response in 1646, he returned to his disapproval of the "created for" concept in his 1647 letter to Chanut and apparently in his 1649 discussion with Burman. Descartes' apparent discomfort with the "empire/dominion" concept and his patent disapproval of the "created for" concept seem to be one more indication that his heart was not actually in his *Discourse* position.

E. Influence of religious institutions:

While Descartes placed human animals and nonhuman animals in different classifications based on the ability for speech, thought, and reason, he placed all these abilities in an immortal soul and opined that if nonhuman animals had a soul, it was totally different from the soul of the human animal, at least and especially, in the attribute of immortality. It is possible that he did this in an effort to pacify the Christian Churches then extant and particularly the Roman Church because he was born and raised in the Roman Church and professed to be a Roman Catholic. All those Churches obviously supported different classifications for human and nonhuman animals based on Genesis 1, and had no known misgivings about the dissection or vivisection of nonhuman animals {or the torture of human animals for that matter}. Consequently and, again, Descartes' different classifications apparently have at least the purpose of placating the Christian Churches while promoting his other purposes.¹⁴⁹

¹⁴⁹ During his lifetime his written works were not censored by Rome and, actually, only two of his books were placed on the *Index* of forbidden books in 1663 {Clarke, *Descartes A Biography*, 4, 413-416} and then only specific editions of those two books. The first was the 1650 Latin version {the third edition} of the *Meditations*, and the second was the 1650 Latin translation of the *Passions*. Clarke speculates that the Roman censors "concluded that, despite his vociferous protests, he was potentially an atheist in disguise,

While in his published works, Descartes' comments about the authority of the Roman Church give all deference to that authority, those comments should be read as self-serving based on his letters. Descartes spent considerable time and effort in "proving" the existence of God in his published works while in some of his letters he gave the Christian Churches brief and almost indifferent treatment. For example, in his December 1640 letter to Mersenne and in addressing the immortality of the soul, Descartes states that the soul "is of a nature entirely distinct from that of the body, and consequently that it is not naturally subject to die with it, which is all that is required to establish religion. And that is also all that I set myself to prove."¹⁵⁰ Therefore, Descartes seems clearly to have said, if only to Mersenne, that the only proofs necessary to satisfy the Churches were those of God and of a soul that did not die with the body. When considering the extensive dogma, especially of the Roman Church, Descartes' apparent position seems somewhat casual.

To review briefly, during and for decades preceding Descartes' lifetime, France and all of Europe were in political and religious conflict where those two components were inextricably intertwined. France had been consumed with its own religious wars from 1562 through about 1628, while France, Germany and most of the remaining European countries were consumed with the Thirty Years War from about 1618 through about 1648. Also, Descartes could not have avoided concern about the Inquisition of the Roman Church throughout his educational years and his travels thereafter. While possibly seeking no more than solitude through his move to the United Provinces in 1628, he also, through that move, avoided much of the conflict in Europe and experienced a somewhat less judgmental environment, though Descartes received criticism from both the Roman and the Reformed Churches. But in the United Provinces, he was also apparently insulated to some extent from the Inquisition.

Though Descartes was never other than solicitous of the Roman Church in his publications, he willingly expressed great concern in his correspondence with his close friend, Mersenne. In 1633, Descartes learned that the Inquisition in Rome had formally condemned Galileo on strong suspicion of heresy for embracing heliocentrism even though Galileo had attempted to couch his position in the form of a hypothetical. In November of that same year, Descartes wrote to Mersenne, stating that he was extremely concerned about the possibility of ecclesiastical censure of his own work that he was about to publish.

that he weakened rather than strengthened the church's teaching about the immortality of the human soul, and that his discussion of matter cast doubt on the Eucharistic theology that was taught by the Council of Trent." {Clarke, *Descartes A Biography*, 416}.

¹⁵⁰ Descartes, *Letter to Mersenne*, Immortality of the Soul (December 24, 1640), in Ariew, 92; iii 266.

The Roman Inquisition had apparently, in 1616, censured Galileo for supporting the Copernican theory. However, as stated in his November 1633 letter to Mersenne, Descartes was not particularly disturbed by the 1616 censure but was very concerned about the 1633 conviction.

I took the trouble to inquire in Leiden and Amsterdam whether Galileo's *World System* was available, for I thought I had heard that it was published in Italy last year. I was told that it had indeed been published but that all the copies had immediately been burnt at Rome, and that Galileo had been convicted and fined. I was so astonished at this that I almost decided to burn all my papers or at least to let no one see them.

The use of the word "astonished" may not be all that surprising, but no other reference to the possible destruction of his own written works was found. Descartes continues:

For I could not imagine that {Galileo} - an Italian and, as I understand, in the good graces of the Pope - could have been made a criminal for any other reason than that he tried, as he no doubt did, to establish that the earth moves. I know that some Cardinals had already censured this view, but I thought I had heard it said that all the same it was being taught publicly even in Rome. I must admit that if the view is false, so too are the entire foundations of my philosophy, for it can be demonstrated from them quite clearly.

This open observation, even to Mersenne, that the view that the "earth moves" represents "the entire foundations of my philosophy" when knowing that that view had resulted in Galileo's conviction, exhibits monumental anxiety on the part of Descartes. His next statement must be described as fear because, at least by 1633, it was completely evident that Descartes' ambition involved publication.

But for all the world I did not want to publish a discourse in which a single word could be found that the Church would have disapproved of; so I preferred to suppress it rather than to publish it in a mutilated form. ... You drew my attention to Horace's saying "Keep back your work for nine years", and it is only three years since I began the treatise which I intend to send to you. I ask you also to tell me what you know about the Galileo affair...¹⁵¹

In this letter, Descartes' view of the Church's action was his obvious complete disagreement. However, he did not want "to publish a discourse in which a single word could be found that the Church would have disapproved of" and, therefore, decided to "suppress" his work for the time being and to let no one, other than Mersenne, see it. Thankfully, he decided not to burn his work. Descartes was convinced that the action of the Roman Church was incorrect, though he did not want to relate that in so many words. Therefore, all of his future conciliatory words for the Roman Church must be questioned.

¹⁵¹ Descartes, *Letter to Mersenne*, End of November 1633, in Cottingham, vol. 3 (1991), 40-41; i 270-271.

Descartes continued his concern about Galileo's conviction and, in his February 1634 letter to Mersenne, states that, while he has "decided ... to forfeit almost all my work of the last four years in order to give my obedience to the Church," he also decided to await more information about Galileo's condemnation. He also observes that, in his opinion, "the Jesuits ... helped to get Galileo convicted." Descartes opines that the Jesuit, Father Scheiner, though his book condemns Galileo, he, Descartes, cannot believe that Father Scheiner himself "does not share the Copernican view in his heart of hearts; and I find this so astonishing that I dare not write down my feelings on the matter," again, to anyone other than Mersenne. In his April 1634 letter to Mersenne, he continues this concern and once again states that he "would not wish, for anything in the world, to maintain {his own positions} against the authority of the Church, ... I am not so fond of my own opinions as to want to use such quibbles to be able to maintain them. I desire to live in peace and to continue the life I have begun under the motto 'to live well you must live unseen.' " However, he states that "I do not altogether lose hope that ... my *World* may yet see the light of day" ¹⁵²

In his August 14, 1634, letter to Mersenne, he quotes from the document through which Galileo was condemned and, therefore, had taken the time and made the effort to obtain the document. He again reiterates that "I cannot possibly solve any question in physics absolutely without first setting out all my principles, and the treatise which I have decided to suppress would be required for that task." ¹⁵³ Also in mid-1635, Descartes writes to Mersenne and remarks that he has "detached" his treatise on optics from *The World* and would publish that portion. Mersenne has also apparently embraced heliocentrism because Descartes states, "I am very surprised that you are proposing to refute the book *Against the Movement of the Earth*, but I leave this to your own discretion." ¹⁵⁴

Descartes continued his concern with Galileo's condemnation into 1641. In his March 31, 1641, letter to Mersenne, he seems to try to defend the institution of the Roman Church against its leaders, those who "abuse the authority of the Church" who were "the people who had Galileo condemned" and who "would have my views condemned likewise if they had the power," but "I am confident I can show that none of the tenets of their philosophy accords with the Faith so well as my doctrines." ¹⁵⁵ Descartes seems to try to dissociate the condemnation of Galileo from the

¹⁵² Descartes, *Letters to Mersenne*, February & April 1634, in Cottingham, vol. 3 (1991), 41-44; i 281-288.

¹⁵³ Descartes, *Letter to Mersenne*, 14 August 1635, in Cottingham, vol. 3 (1991), 45; i 305.

¹⁵⁴ Descartes, *Letter to [Mersenne]*, June or July 1635, in Cottingham, vol. 3 (1991), 49-50; i 322-324.

¹⁵⁵ Descartes, *Letter to [Mersenne]*, 31 March 1641, in Cottingham, vol. 3 (1991), 177-178; iii 349-351.

institution of the Roman Church {"the Faith"} and would like to convince himself that the problem is not with the institution but with the people who manage it.

In a 1644 letter to an undetermined addressee, Descartes argues that his system not only upholds the system of Copernicus but, in addition and rather amazingly, that his system provides that the earth does not move. He further argues here that the "passages of Scripture which go against the movement of the earth do not concern the system of the world, but only the manner of speaking about it."¹⁵⁶ Presumably, he is here referencing the fact that things located on the surface of the earth do not "move" in reference to that surface. He then relates that he is "obliged" to the correspondent for his warning "about what may be said against me." In 1644, he remains concerned about avoiding censure.

Descartes can be at least characterized as equivocal when the question is raised about the manner in which religious doubt is to be addressed. Descartes seems to feel the need to acknowledge that certain things, for example, what God has revealed, are "beyond our grasp" and, therefore, must not be doubted. However, Descartes, in *The Principles of Philosophy*,¹⁵⁷ begins with a paragraph entitled "*For a person inquiring into the truth, it is necessary once in his life to doubt all things, as far as this is possible.*" Immediately following that paragraph, he states: "*We ought to consider as false all things we can doubt.* It will even be useful to reject as false all things in which we can imagine the least doubt, so that we may discover with greater clarity those which are absolutely true and easiest to know."¹⁵⁸ Descartes further concludes in paragraph 76 as follows:

We ought to prefer divine authority to our perceptions, but, excluding this, we should not assent to anything we do not clearly perceive. Above all, we should impress on our memory as an infallible rule that what God has revealed to us is incomparably more certain than anything else, and that we ought to submit to divine authority rather than to our own judgment even though the light of reason may seem to us to suggest something opposite with the utmost clearness and evidence. But in things in regard to which divine authority reveals nothing to us, it would be unworthy of a philosopher to accept anything as true that he has not ascertained to be such, and to trust more to the senses, that is, to judgments formed without consideration in childhood, than to the reasoning of maturity.¹⁵⁹

Descartes, in this passage, seems somewhat less than absolutely truthful when he closes with a warning that the philosopher must use the "reasoning of maturity" in all things not divinely revealed just after having seen as necessary the imposition of the condition that divine authority

¹⁵⁶ Descartes, *Letter to ****, 1644, in Cottingham, vol. 3 (1991), 239; v 549-550.

¹⁵⁷ Descartes began work on the *Principles* as early as 1640 and published it in 1644.

¹⁵⁸ Descartes, *Principles of Philosophy, Part I. Principles of Human Knowledge*, in Ariew, 231; viiia 5.

¹⁵⁹ *Ibid.*, 253; viia 39.

must be followed *even when* "the light of reason may seem to us to suggest something opposite with the utmost clearness and evidence." That condition seems less of a warning to the philosopher and more of an unnecessary gift to the then religious powers.

At the very end of his *Principles* in paragraph 207, Descartes once again defers to the authority of the Church but ends with the imperative for the use of the force and evidence of reason.

207. *Nevertheless all my opinions are submitted to the authority of the church. At the same time, recalling my insignificance, I affirm nothing, but submit all these things to the authority of the Catholic Church, and to the judgment of those wiser than myself; and I wish no one to believe anything I have written, unless he is personally persuaded by the force and evidence of reason.*¹⁶⁰

His obvious need to again finish his deference to the Roman Church with his reason imperative gives the distinct impression of a qualified, possibly even a less than sincere, deference.

In summary, Descartes was greatly concerned about the Inquisition in Rome and Galileo's condemnation. His concern led him to what must be characterized as a display of insincere flattery for both the Roman Church and the Reformed Church as Blaise Pascal seemed to understand given his famous remark: "I cannot forgive Descartes. In all his philosophy he would have been quite willing to dispense with God."¹⁶¹

F. Summary of the Cartesian position:

Descartes seems to have been an opportunist. He was willing to admit, at least to Mersenne, that he might not have been straightforward in all his arguments. For example, Descartes is not timid about telling Mersenne that he is intentionally, at least on occasion, a bit obscure in his arguments. In his January 28, 1641, letter to Mersenne, he states:

These are the things that I want people mainly to notice. But I think I included many other things besides; and I may tell you, between ourselves, that these six Meditations contain all the foundations of my physics. But please do not tell people, for that might make it harder for supporters of Aristotle to approve them.

¹⁶⁰ Descartes, *Principles of Philosophy, Part IV. The Earth*, in Ariew, 272; viiia 329. It is at least interesting that Cottingham et al. translate the last part of the last sentence of this quote as follows: "And I would not wish anyone to believe anything except what he is convinced of by evident and irrefutable reasoning" {Descartes, *Principles of Philosophy, Part 4, The Earth*, in Cottingham et al., 291; viiia 329} and do not insert the qualification of "anything that I have written." While, as Cottingham points out {John Cottingham, *A Descartes Dictionary* (Cambridge, MA: Blackwell Publishers, 1993), 62-63}, his translation provides a non sequitur with the first thought of paragraph 207, Ariew's qualification seems necessary, at least, from the French translation which Descartes apparently approved. That portion of the last sentence in French reads: "Même je prie les lecteurs de n'ajouter point du tout de foi à tout ce qu'ils trouveront ici écrit, mais seulement de l'examiner, et de n'en recevoir que ce que la force et l'évidence de la raison les pourra contraindre de croire" where the words "qu'ils trouveront ici écrit" seem to require that qualification.

¹⁶¹ Blaise Pascal, *Pensées*, trans. W.F. Trotter (New York: Random House, 1941), no.77, 29.

I hope that readers will gradually get used to my principles, and recognize their truth, before they notice that they destroy the principles of Aristotle.¹⁶²

In the same vein, Descartes, in his March 4, 1641, letter to Mersenne relates:

In place of {the words that I once corrected}, {insert} simply: "When we attend to the immense power of this being, we shall be unable to think of its existence as possible without also recognizing that it can exist by its own power." But please correct it in all the copies in such a way that none will be able to read or decipher the words "thinking there can be some power by means of which it exists, and that power cannot be understood as residing in anything other than that same supremely powerful being; hence we conclude". For many people are more curious to read and examine the words that have been erased than any other words, so as to see where the author thinks he has gone wrong, and to discover there some ground for objections, attacking him in the place which he himself judged to be the weakest. Between ourselves, I think that this is why M. Arnauld paid so much attention to my statement that "God derives his existence from himself in a positive sense."¹⁶³

It appears that Descartes' legal training was thorough. The recognition that stricken words will draw close attention, at least, shows careful thought on the part of Descartes.

In his letter to Mesland dated May 2, 1644, he thanks the addressee for providing authority for his views from the words of St. Augustine. Descartes states: "But I am not at all of the habit of thought of those who desire that their opinions appear new. On the contrary, I accommodate mine to those of others insofar as truth allows me to do so."¹⁶⁴ Possibly Descartes meant "insofar as" necessary where I need to achieve my objectives. In any event, these admissions provide additional evidence that Descartes was an opportunist.

Descartes' *Discourse* position concerning nonhuman animals is that {1} nonhuman animals "never use words or other signs ... to declare" their thoughts or to respond to life's contingencies; {2} any apparent use by nonhuman animals of words or other signs to make declarations or respond to life's contingencies results only from "disposition of their organs" which amounts to programming from nature or instinct, relates only to the passions and not sensations which include pain, and does not result from intelligence/knowledge/understanding/reason, none of which are found in nonhuman animals; and {3} nonhuman animals may have a soul but it is not "of the same nature as ours" and not immortal, as is the soul of all human animals. In the works published before his death, Descartes did concede some small modifications to his *Discourse* position, at least insofar as the inability of human animals to determine what might be in the hearts of nonhuman animals and in the

¹⁶² Descartes, *Letter to Mersenne*, 28 January 1641, in Cottingham, vol. 3 (1991), 172-173; iii (297)-298.

¹⁶³ Descartes, *Letter to Mersenne*, 4 March 1641, in Cottingham, vol. 3 (1991), 174; iii 330.

¹⁶⁴ Descartes, *Letter to Mesland ...* (May 2, 1644), in Ariew, 217-218; iv 113.

possibility of nonhuman animals possessing thought. However, these minor concessions show that he defended his *Discourse* position in his published works virtually throughout his life.

He did, however, concede major changes in this position in his letters, beginning as early as 1640.¹⁶⁵ First, nonhuman animals do not feel pain in the “strict sense” which is never explained. Second, nonhuman animals cannot speak, not because of a difference in organs but because they have no thought. Third, there is an argument that some kind of thought may exist in nonhuman animals because they have sense organs like those of human animals and it cannot be proven that nonhuman animals have no thought. Fourth, the existence of an immortal soul in nonhuman animals is now only “not probable” because of oysters and sponges. Fifth, because nonhuman animals have “sense organs” like those of human animals, it is arguable that they feel as human animals do, which apparently would include pain. Sixth, the *Discourse* position is not so cruel to nonhuman animals as it is indulgent to human animals.

From Mersenne to Tom Regan, philosophers have argued about Descartes' position about nonhuman animals. Tom Regan, in 1983, in his book, *The Case for Animal Rights*, explained his argument for radical egalitarianism for the relationship between human animals and nonhuman animals and begins, like Singer, with a review of Descartes' position about nonhuman animals. In 2004, the third edition of Regan's book included a new preface in which Reagan affirms his continuing support for the words he wrote for the 1983 edition. In that earlier edition, Regan summarizes Descartes' position by stating that he, Descartes, denied "all thought" and therefore "all consciousness" to nonhuman animals which were "*automata*, machines" that experience "neither sights nor sounds, smells nor tastes, heat nor cold;... neither hunger nor thirst, fear nor rage, pleasure nor pain" and are no more than "clocks."¹⁶⁶

While Regan acknowledges the defense of Descartes argued by Cottingham and acknowledges Descartes' More letter, he still finds the "crucial question" to be how Descartes understands the word "sensation." Further, Regan states "now, it is an essential part of Descartes' philosophy, as Cottingham himself freely acknowledges, that animals have no mind." This was, indeed, a crucial published position concerning Descartes' objectives. Regan simply concludes that "it is perfectly possible, given Descartes' understanding of sensation, to say that animals 'have sensations,' on the one hand, and on the other, to deny that they are conscious." He then concludes that "Cottingham's challenge to the standard interpretation thus misfires," and Regan

¹⁶⁵ His letters were published beginning in the late 1650s with some not appearing until the 20th century.

¹⁶⁶ Tom Regan, *The Case for Animal Rights* (Berkeley, CA: U. of California Press, 2004), 3.

then states that his remaining concern about Descartes is based on this "standard interpretation" of Descartes which denies consciousness to nonhuman animals.¹⁶⁷

To Regan's credit, he recognizes that "it is tempting to dismiss Descartes' position out of hand, as the product of a madman. But Descartes is far from mad, and his denial of animal consciousness cannot, and should not, be dismissed in an *ad hominem* fashion; we should not, that is dismiss *what* he says by attacking *him* as a person." {emphasis in original}¹⁶⁸ This shows insight on the part of Regan, but he, like most others, seems to want to accept everything that Descartes says as his understanding of truth. Descartes, however, was a human animal who had specific objectives, and who, in light of the religious environment, quite probably was willing to use some arguments that he recognized as being something less than truth.

Certainly, Descartes was no madman nor was he stupid. He clearly wanted to defeat Montaigne's arguments for denigrating reason by denigrating human animals as no better than nonhuman animals. He also wanted the opportunity to dissect and to vivisection nonhuman animals for scientific purposes. While Cottingham observes that "the truth, perhaps, is that Descartes was never completely comfortable with strict dualism, however emphatically he affirmed it," the truth may be that Descartes argued his position on nonhuman animals to support his scientific and philosophical objectives. Sometimes in the minds and souls of human animals, the ends do justify the means.

Many authors, like Regan, seem to require that every position that Descartes defended have a fully rational basis. But human animals have always had to recognize that our reasoning abilities are imperfect and, as a result, human animals have had, and will have, to compromise their arguments. Descartes indeed was "far from mad," but he did not have perfect reasoning abilities and undoubtedly compromised his own reasonability in the religious/political environment of the seventeenth century to reach his objectives. Certainly, no one accepts Descartes' arguments for the existence of God as representations of truth. Probably, Descartes did not accept those arguments himself, but he used them to satisfy the Christian Churches and to save his own neck. Again, one of Descartes' objectives, if not his primary objective, was to conquer skepticism beginning, with his *Discourse*. Montaigne had argued that the capability of human reason could not be trusted and had used nonhuman animals as a central means of making that argument. Descartes was intent on exalting the value of human reason.

Consequently, his objectives of scientific investigation of anatomy and physiology and of the replacement of skepticism with rationalism were served. In his mind, his ends may have

¹⁶⁷ Ibid., 4.

¹⁶⁸ Ibid., 5.

justified certain of his means. Leibniz was born and lived under different circumstances than Descartes and, thereafter, could afford somewhat less concern for the Christian Churches. Still he had his own concerns about those Churches.

IV. Chapter Three: Leibniz's Correction:

As Schönfeld has argued, "the first challenge to the paradigm of empty-headed animals goes back to Europe at least to Leibniz."¹⁶⁹ In order to challenge Descartes' dualism, Leibniz, following Spinoza, argued monism but, unlike Spinoza, based his monism on active force which, of necessity, had to be found, not only in all animals but also in all life and, for that matter, in all substance including all "inert" substances. However, not only did Leibniz categorize all animals similarly, he also directly contradicted Descartes by clearly acknowledging that nonhuman animals were sentient and could experience pain. This acknowledgment appeared only after Leibniz cautiously, in his written work, proceeded from the mere possibility of that fact to its open acceptance arguably, again, because of the religious climate during his lifetime. As with Montaigne and Descartes, a review of that climate is important along with Leibniz's resistance and response to it.

A. Historical Environment:

Leibniz was born in Leipzig, Germany on July 1, 1646, just four years before the death of Descartes. At the time of Leibniz's birth, Leipzig was part of Electoral Saxony which was the birthplace of Luther and, as a result of the edict of the dukes of Saxony, was a Lutheran state. Leibniz's father had worked for the University of Leipzig as an actuary and, in 1640, he was given the position of the chair of moral philosophy where he proved to be a "traditionally oriented Lutheran scholar who based his teachings on the Nicomachean Ethics of Aristotle."¹⁷⁰ Leibniz's father died in 1652 when Leibniz was six. He then lived with his mother, another committed Lutheran, until her death in 1664.

During the Thirty Years War, Leipzig had suffered a number of battles. While it had been a major and prosperous city prior to 1618, it is reported that it went "bankrupt" in 1625 and was occupied by troops, whether defenders or enemies, from 1623 through 1633.¹⁷¹ However, Leipzig apparently returned, in the late 1630s and early 1640s, to its previous prosperity and importance. Nonetheless, the southeastern area of Germany had been a center of that war and, consequently,

¹⁶⁹ Martin Schönfeld. "Animal Consciousness: Paradigm Change in the Life Sciences" in *Perspectives on Science* 14 (2006): 354-381.

¹⁷⁰ Maria Rosa Antognazza, *Leibniz An Intellectual Biography* (New York: Cambridge U. Press, 2009), 26.

¹⁷¹ Cicely V. Wedgwood, *The Thirty Years War* (London: Jonathan Cape Ltd., 1938; New York: New York Review, 2005), 494. Citations are to the New York Review edition.

its history and devastation must have been burned into the minds of its citizens, both adults and children in the late 1640s and early 1650s. In fact, Leibniz's father assisted in the negotiation of the surrender of Leipzig in 1633 to the imperial Roman Catholic forces.

G. W. Leibniz spent the first 20 years of his life in Leipzig. At the age of seven, he entered into about eight years of schooling that was to prepare "a small cohort of male students for future study at the local university."¹⁷² At the school, both instructors and students were required to speak Latin which Leibniz mastered apparently quickly because of his love of reading history, including Livy's Roman history. In 1661, Leibniz began studying at the University of Leipzig where, in 1662, he received a bachelor's degree in philosophy. In 1664, he received a master's degree in philosophy from the University and, in 1665, received a bachelor's degree in law. In 1666, he apparently received his license and doctorate in law and that year left Leipzig.

In 1669, at the age of 23, he responded to family questions about his religion with the following: "I hold and with God's help will continue to hold fast to the Evangelical {Lutheran} truth as long as I live, but I am deterred from condemning others both by my own personal inclination and by the stern command of Christ: 'Judge not, that ye be not judged.'" ¹⁷³ By all accounts, one of Leibniz's lifetime goals was the unification of the universal or catholic Christian Church.

Of the three philosophers, Montaigne, Descartes and Leibniz, Leibniz was the only one who was not the beneficiary of family money and who had to work for a living. However and in common with both Montaigne and Descartes, Leibniz traveled extensively. Upon leaving Leipzig in 1666 and until 1676 when he moved to Hanover, he wrote and published and worked in and/or visited Nuremberg, Frankfurt, Mainz, Paris, Holland and London. During this period, he met with, among others, Christiaan Huygens and Baruch Spinoza, was elected Fellow of the Royal Society of England, and invented a calculating machine. During his first years in Hanover, having entered the service of Duke Johann Friedrich of Hanover, he again traveled extensively to Paris, London, and Holland and in 1678 began his work in the Harz silver mines, which continued through 1686 and again from 1692 through 1696.

During the period, 1686 through his death in Hanover in 1716, Leibniz traveled extensively in Italy and Germany, wrote and published extensively and, during this period, corresponded extensively with, among others, Arnauld, Burchard de Volder, and Christian Wolff. In 1692, he declined an invitation to join the service of Louis XIV. In 1711 and 1712, he had

¹⁷² Antognazza, *Leibniz*, 26-31.

¹⁷³ *Ibid.*, 29.

audiences with Peter the Great, then tsar of Russia. During this period, he also corresponded and wrote on religious toleration.¹⁷⁴

Among his many accomplishments were the development of integral calculus, a binary arithmetic (which was, of course, ultimately used in what we now call computers), and publications in the fields of philosophy, metaphysics, logic, physics, theology and law. Some refer to Leibniz as the last true polymath.

B. Background concerning nonhuman nature:

Leibniz embarked upon a truly new concept of nature and the universe. Within this new concept, two of his important contributions are his insistence on active force for all substances and his elevation of the relative value of nonhuman animals - and all of life - in order to explain this active force with regard to substances. His early life and student life do not seem to provide insight into his concern about these concepts, especially about nonhuman animals and his natural environment. His travels and his trips to and from the Harz mines, however, could not have done other than acquaint him with that environment. While his correspondence with Arnauld does answer questions that Arnauld raised about nonhuman animals, it does not do more than answer those questions. However, certain parts of Leibniz's *Monadology* and *Nature and Grace* do evidence a deep appreciation of the natural world.

C. Position about nature generally:

Leibniz was, among other objectives, intent on addressing the philosophical positions of Descartes and Spinoza. When Leibniz's monad powered up into consciousness, it encountered a philosophical world in which Descartes and Spinoza, among some other philosophers, wanted certainty because the world, at that time, was filled with all manner of uncertainty, for example, as a result of skepticism like that of Montaigne and also church power struggles. Descartes and Spinoza were, of course, arguing positively for a world that was, in large part, understandable through the use of human reason. Leibniz joined this effort with a prodigious attempt to change what he saw as flaws in their arguments.

Descartes first published in 1637, and his letters were published posthumously beginning in 1657. Spinoza's *Ethics* was published posthumously in 1677. Leibniz was apparently very familiar with the texts and the available correspondence of these two philosophers, in addition to all the extant philosophical texts generally when, in 1684, he published his *Meditations on Knowledge, Truth, and Ideas* which Ariew et al call his "first mature philosophical

¹⁷⁴ Ibid., xvii-xxvii.

publication."¹⁷⁵ Descartes, as a dualist, argued the existence of two substances, the immaterial substance of mind and the material substance of body, but could not satisfactorily explain how the two interacted. This dualism and his concept of free will introduced contingency that seemed inconsistent with an understandable universe. Spinoza, a monist, attempted to solve the Cartesian problems by arguing the existence of only one single substance, God, who determined everything. Thus, no explanation of interaction was necessary but, in addition, there could be no free will.

Further, neither Descartes nor Spinoza seemed as concerned about nature and the laws of nature as was Leibniz. Again, while Descartes clearly believed that human beings are included within "nature" and while, for Descartes, nonhuman animals may have a soul, nonhuman animals were akin to machines, and their souls were nothing like the Cartesian human soul.

In the *New System*, Leibniz responds to the view of nonhuman animals and other natural things of "the moderns" and especially Descartes. In Section 2, Leibniz indicates a basic concern: "It ... seemed to me that although the opinion of those {Descartes} who transform or degrade animals into pure machines may be possible, it is improbable, and even contrary to the order of things."¹⁷⁶ In Section 10, he explains that this view of nature generally is unacceptable:

I am the most readily disposed person to do justice to the moderns, yet I find that they have carried reform too far, among other things, by confusing natural things with artificial things, because they have lacked sufficiently grand ideas of the majesty of nature. They think that the difference between natural machines and ours is only the difference between great and small. ... I believe that this conception does not give us a sufficiently just or worthy idea of nature, and that my system alone allows us to understand the true and immense distance between the least productions and mechanisms of divine wisdom and the greatest masterpieces that derived from the craft of a limited mind; this difference is not simply a difference of degree, but a difference of kind.¹⁷⁷

Here, Leibniz responded to Descartes' position that all animal bodies, human and nonhuman, were like machines. Descartes simply did not have "a sufficiently just or worthy" concept of nature. Leibniz worked at correcting this defect by, in part, suggesting through the word "kind" that all natural things belong in the same category.

Spinoza's problems were different. Spinoza, in arguing that nothing in nature is contingent, distinguishes between "Natura naturans" and "Natura naturata." The former term refers to "that which is in itself and is conceived through itself; that is, the attributes of substance

¹⁷⁵ G.W. Leibniz *Philosophical Essays*, ed. & trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett Publishing, 1989), 23.

¹⁷⁶ Gottfried Wilhelm Leibniz, *A New System of the Nature and Communication of Substances, and of the Union of the Soul and Body* (1695), in G.W. Leibniz *Philosophical Essays*, ed. & trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett Publishing, 1989), 139.

¹⁷⁷ *Ibid.*, 141-142.

that express eternal and infinite essence; or ... God" Spinoza defines the latter term as "all that follows from the necessity of God's nature, that is, from the necessity of each one of God's attributes; or all the modes of God's attributes insofar as they are considered as things which are in God and can neither be nor be conceived without God"¹⁷⁸ In Proposition 33 of Part 1 of the *Ethics*, Spinoza mentions God's "decrees" which appear to equate to God's laws. Regarding nonhuman animals, Spinoza apparently believes that these animals, along with the rest of the natural world, are only modifications of God's attributes. God is simply the cause of all things. All power exists in God. Humans and the rest of nature have no continuing power other than God's power.¹⁷⁹ In Leibniz's January 14, 1688, {sixth} letter to Arnauld, he characterizes Spinoza as follows:

However, it follows that in nature there is something other than extension and motion, unless we refuse all force and all power to things, which would be to change them from the substances they are into modes. That is what Spinoza does; he thinks that only God is a substance, and that all other things are only modifications.¹⁸⁰

Leibniz cannot accept humanity without free will and autonomy and, therefore, wants the force or energy or power necessary to support these concepts.

This, then, is a very short sketch about the philosophical world that Leibniz encountered and about his thoughts about the positions of Descartes and Spinoza which, at least in part, prompted him to write his *Discourse on Metaphysics*, published in 1686, and his following works in an effort to correct the defects in their concepts that he believed detracted from the central project of an understandable universe.

To understand Leibniz's concept of nature, some idea of his philosophy generally is necessary because his concept of nature was a determining element in that philosophy. Leibniz called his "great principle," the Principle of Sufficient Reason, that provides a specific cause for every effect and thus, like Descartes and Spinoza, his universe is orderly and understandable.¹⁸¹ However, to achieve understandability, Leibniz could not tolerate contingency and, therefore, like Spinoza, Leibniz could not abide Descartes' dualist concept because this would generate contingency. Consequently, for Leibniz, like Spinoza, there is only one substance but, unlike Spinoza, Leibniz provides an infinity of this one type of substance. Leibniz called this immaterial

¹⁷⁸ Baruch Spinoza, *The Ethics* (1677), in *Modern Philosophy And Anthology of Primary Sources*, ed. Roger Ariew and Eric Watkins (Indianapolis: Hackett Publishing, 1998), 142L.

¹⁷⁹ *Ibid.*, 145-149.

¹⁸⁰ Gottfried Wilhelm Leibniz, *Letter from Leibniz to Arnauld*, 4/14 January 1688, in *Philosophical Texts*, trans. and ed. R.S. Woolhouse and R. Francks (Oxford: Oxford U. Press, 1998), 135-136.

¹⁸¹ Leibniz, *Principles of Nature and Grace, Based on Reason* (1714), in Ariew, 209-210; Leibniz, *The Principles of Philosophy, or, The Monadology* (1714), in Ariew, 217.

substance a soul generally though he called it a mind for humans. Leibniz ultimately called this one substance a “monad.”

Further, to eliminate contingency but to allow free will and the force to support it, Leibniz relied on a number of other concepts. To facilitate the concept of an understandable universe with embedded force, Leibniz relied on his Principle of Perfection along with his Complete Individual Concept of a substance {“CIC”} and his Doctrine of Pre-established Harmony {“DPH”}. Through this DPH, God selected the best possible universe immediately prior to its instantiation thereby upholding God's omnipotence and omniscience while eliminating contingency on the part of God who, after instantiation, does not in any way meddle in the universe.¹⁸² Consequently, Leibniz argues that all the laws that govern the universe were established at instantiation and do not change thereafter. Any apparent change is simply in accord with those laws.

Through the CIC, Leibniz argued that each individual substance, again at the instantiation of the universe, existed and contained its complete history.¹⁸³ As will be explained in greater detail later in this paper, these substances or monads are permeated with force, isolated but related, immaterial, indivisible, indestructible, and ingenerable{in addition to their other characteristics}. To accommodate the appearance of interaction between these substances or souls and also between a soul and its body, Leibniz relies on the DPH.¹⁸⁴ This doctrine provides the appearance of perfect interaction between substances but allows each substance or soul to interact only with God such that, while each substance is empowered with internal force, it is otherwise windowless.¹⁸⁵ This, of course, eliminated contingency through or from each individual substance or soul. However, Leibniz then needed an explanation for the obvious action of substances, which is where active force is introduced for this crucial role.

To provide for the apparent uniqueness of each substance or soul and through which free will and autonomy would be possible, Leibniz relies on his Principle of the Identity of Indiscernibles - nowhere is there perfect similarity.¹⁸⁶ As with virtually all philosophical efforts of that period, God had to be acknowledged as the omnipotent and omniscient source of this world

¹⁸² Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§1-6; 35-39.

¹⁸³ *Ibid.*, §8, 40-41.

¹⁸⁴ Leibniz, *A New System of Nature* (1695), in Ariew, §14; 143.

¹⁸⁵ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §26; 58.

¹⁸⁶ Leibniz, *On Nature Itself* (1698), in Ariew, §13, 163-164; see also, *Monadology* (1714), in Ariew, §9; 214.

and everything in it. In Section 19 of the *Discourse*, Leibniz states that God is the "author of things" and the "author of nature."^{187 188}

But why was God's best of all possible worlds obviously less than perfect? While Leibniz does not specifically seem to explain his scheme in the following manner, his idea seems to be that God could not have selected a totally perfect universe because, first, the universe would then just be God or part of God and, second, perfection is certainly not consistent with our day-to-day observations of this world. What Leibniz observed is a universe that is unfolding toward, he hoped, perfection. Whether or not perfection is ever achieved may be either unimportant or asymptotically impossible. In any event, to explain this unfolding, perfection cannot be the point of departure. Moreover, this point of departure needed an explanation that allowed understandability and that was consistent with God's omnipotence and omniscience. Leibniz's universe needed detailed rules that he described as "general laws" and "laws of nature."

Leibniz's concepts of rules are the laws of the universe that rely, again, on his Principle of Sufficient Reason - for every effect there is a specific cause. This principle and the Principle of Perfection provide a universe that is in all respects orderly with every detail identified that will occur between its instantiation and annihilation and, therefore, during its unfolding. In his July 14, 1686, {second} letter to Arnauld, Leibniz states "there was an infinity of possible ways of creating the world according to the different plans that God could form, and that each possible world depends on certain principal plans or aims on the part of God, which are peculiar to {that world}; that is to say, {that world or universe} depends on certain ... laws of the *general order* of that possible universe, to which {those laws} are suited and whose notion they determine." {emphasis in original}.¹⁸⁹ Consequently, everything that occurs within this universe will occur in conformance with these laws that were associated with the selected universe at instantiation. In Section 6 of the *Discourse*, Leibniz relates that this is in accord with the way God does everything: "God does nothing which is not orderly and it is not even possible to imagine events that are not regular."¹⁹⁰

In *Nature and Grace*, Leibniz describes the reason for these laws – the need for harmony: "everything is ordered in things once and for all, with as much order and agreement as possible

¹⁸⁷ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §19; 52-53; see also *Nature Itself* (1698), in Ariew, §2; 156; Leibniz, *Monadology* (1714), in Ariew, §65; 221.

¹⁸⁸ At the time that Leibniz was writing, he could not have embraced any position other than a God created universe. It is interesting that his "creation" occurred in a single instantaneous event, apparently not unlike the present "big bang" theory of the universe, now the "big bounce," where that event or those events established the physical universe and the basis for its associated life.

¹⁸⁹ Leibniz, *Letter to Arnauld* (4/14 July 1686), in Woolhouse et al., 107.

¹⁹⁰ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §6; 39.

{through the DPH}, since the supreme wisdom and goodness can only act with perfect harmony."¹⁹¹ Therefore, there is one original divine source and one set of laws from which the interconnected and harmonious self-organization of nature follows.

In Section 6 of the *Discourse*, Leibniz also states, "God has chosen the most perfect world, that is, the one which is ... the simplest in hypotheses" These simplest hypotheses are again the laws that govern the universe. Leibniz identifies three types of these laws, the first of which are the above "laws of the general order" or the general laws. Leibniz describes these general laws as being without exception: "For the most general of God's laws, the one that rules the whole course of the universe, is without exception." In fact, these general laws govern everything in the universe, including miracles. In Section 31, Leibniz describes the aim or purpose of these general laws or the "general order" as being "the greatest perfection of the universe" which is the goal of the unfolding of this best of all possible worlds. In Section 36 of the *Discourse*, Leibniz states this purpose in different terms when he identifies the "highest" of God's laws as concerned with "the happy and flourishing state of his empire, which consists in the greatest possible happiness of its inhabitants."¹⁹² Leibniz clearly is seeking, through these laws, the greatest perfection which seems to equate to the greatest harmony which results in the greatest happiness.

In addition to these general laws, Leibniz describes "laws of nature." In Section 7 of the *Discourse*, Leibniz comments that the general laws can be contrary to "subordinate rules" which, at the end of that Section, he calls "the laws of nature."¹⁹³ Also in Section 7, he explains that these subordinate rules are those that control "natural operations" and confirm that God established these laws of nature. In Section 16 of the *Discourse*, Leibniz also states that "everything that we call natural depends on less general maxims that creatures can understand."¹⁹⁴ Consequently, in his first major written work, Leibniz's laws of nature are these "subordinate" rules or laws which are "contrary" to miracles but which humanity can understand through its capacity of reason.

In Section 22 of the *Discourse*, Leibniz gives an example of the everyday scope of these "ordinary laws of nature." In discussing God's workmanship, he comments that the "tools" or laws through which God created the universe are "simple and cleverly contrived." He states that "*God is a skillful enough artisan* to produce a machine which is a thousand times more ingenious than that of our body, while using only some very simple fluids explicitly concocted in such a

¹⁹¹ Leibniz, *Nature and Grace* (1714), in Ariew, §13; 211.

¹⁹² Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§6, 7, 16, 31, and 36; 39-68.

¹⁹³ In his July 14, 1686, {second} letter to Arnauld, Leibniz describes "subordinate maxims" as the "laws of nature." Leibniz, *Letter to Arnauld*, 4/14 July 1686, in Woolhouse et al., 107.

¹⁹⁴ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§7, 16; 40-49.

way that only the ordinary laws of nature are required to arrange them in the right way to produce so admirable an effect." {emphasis in original}¹⁹⁵ Here, his reference to machines is obviously to Descartes' *Discourse* position. Consequently, for Leibniz, created things can understand their own bodies and natural machines of much greater complexity because they are produced through these subordinate laws of nature.

Consistent with this example and the DPH, these laws of nature affect everything that humans and the rest of life do. In Section 23 of the *Discourse*, Leibniz states that God enlightens and acts upon minds through these laws of nature. Again in Section 28, he describes the manner in which these laws affect our senses; "when we see the sun and stars, it is God who has given them to us and who conserves the ideas of them in us, and it is God who determines us really to think of them by his ordinary concourse while our senses are disposed in a certain manner, according to the laws he has established."¹⁹⁶ In fact, Leibniz suggests each individual substance or monad has its own settled laws. In his March 23, 1690, {seventh} letter to Arnauld, where Leibniz is discussing the DPH, he states: "every substance fits in with what the others need in accordance with its own laws, so that the operations of the one follow or accompany the operation or change of the other."¹⁹⁷

However, Leibniz argues that these laws merely incline our soul without necessitating it. In Section 30, he states:

In concurring with our actions, God ordinarily does no more than follow the laws he has established; that is, he continually conserves and continually produces our being in such a way that thoughts come to us spontaneously or freely in the order that the notion pertaining to our individual substance contains them, a notion in which they could be foreseen from all eternity. ... God determines our will to choose what seems better, without, however, necessitating it.¹⁹⁸

Here Leibniz attempts to introduce the opportunity for free will. Initially, in Section 13 of the *Discourse*, Leibniz argues that, though each monad will conform to its CIC, this conformance is not necessitated because the contrary of any involved action is possible even though it will never occur. This results in a substance or monad that is internally free and, therefore, internally autonomous. However, this freedom, in accordance with the DPH and the laws of nature, allows no actual interaction between monads or between the monad and its material body.

¹⁹⁵ Ibid., §22; 54.

¹⁹⁶ Ibid., §§23 & 28; 55-56 & 59-60.

¹⁹⁷ Leibniz, *Letter to Arnauld*, 23 March 1690, in Woolhouse et al., 136.

¹⁹⁸ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §30; 61.

In *Nature Itself*, Leibniz describes force {"active power"} as the "foundation" of the laws of nature.¹⁹⁹ Force is his foundation because it is the source of monadic action and free will. In *New System* {published in 1695}, Leibniz describes his philosophical journey concerning his concept of force. He states that, while he had initially been "charmed" by the "modern authors" {Descartes, Bacon, Hobbes, Malebranche and others} who explained "nature mechanically," "since then, having attempted to examine the very principles of mechanics in order to explain the laws of nature we learn from experience, I perceived that considering *extended mass* alone was not sufficient and that it was necessary, in addition, to make use of the notion of *force*" {emphasis in original}.²⁰⁰ However, this was not a new concept for Leibniz in 1695. In Section 8 of the *Discourse*, he comments that "others {including Leibniz} imagine that {God} merely conserves the force he has given to creatures."²⁰¹ For Leibniz, force constitutes "the inner-most nature of bodies"²⁰² and "is the underlying reality of motion."²⁰³

Also, in *Nature Itself*, Leibniz explains the way in which this force works when he explains that these laws of nature could not change after instantiation of the universe. First, Leibniz considers whether God's laws could change after instantiation by being continually applied with an associated changing structure. Of course, because Leibniz wants a totally rational universe, he cannot abide anything that introduces contingency. So Leibniz argues that God's initial command cannot exist after its initial proclamation "unless it left behind some subsistent effect at the time, an effect which even now endures and is now at work." Leibniz then appeals to the omnipotent concept of God and argues that if, when God selected things in the beginning, God's will had been so ineffective that there was no lasting effect on those selected things but had to be continuously renewed, God could hardly be all powerful. Leibniz then argues:

But if, indeed, the law God laid down left some trace of itself impressed on things, if by his command things were formed in such a way that they were rendered appropriate for fulfilling the will of the command then already we must admit that a certain efficacy has been placed in things, a form or a force ... from which the series of phenomena follow in accordance with the prescript of the first command.²⁰⁴

As a result, through the initial decree, all individual substances or monads are infused with a force provided by that "command" and through which the monad can then operate within the laws originally legislated. Leibniz then argues that if each monad was not provided with this force that

¹⁹⁹ Leibniz, *On Nature Itself* (1698), in Ariew, §4; 157.

²⁰⁰ Leibniz, *New System of Nature* (1695), in Ariew, §2; 139.

²⁰¹ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §8; 40.

²⁰² Leibniz, *A Specimen of Dynamics* (1695), in Ariew, §2; 118.

²⁰³ G.W. Leibniz, *Philosophical Texts*, trans. and ed. Woolhouse and Francks (1998), 153.

²⁰⁴ Leibniz, *On Nature Itself* (1698), in Ariew, §6; 158-159.

"lasts through time," everything would simply reduce to one permanent divine substance or, "what comes to the same thing, God would be the very nature or substance of all things" which he seems to attribute to Spinoza's arguments.^{205 206}

These laws with this force seem to support the following conclusions for Leibniz. First, there is an "immense variety of things in nature"²⁰⁷ and, in fact, "nature ... loves variety ..."²⁰⁸ Because of this variety in nature "{e}verything is a plenum, which makes all matter interconnected"²⁰⁹ and nothing is "empty."²¹⁰ Concerning that portion of matter that is a material, Leibniz observes that:

Each portion of matter can be conceived of as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humors, is still another such garden or pond. And although the earth and air lying between the garden plants, or the water lying between the fish of the pond, are neither plant nor fish, they contain yet more of them, though of a subtleness imperceptible to us, most often. Thus there is nothing fallow, sterile, or dead in the universe, no chaos and no confusion except in appearance, almost as it looks in a pond at a distance, where we might see the confused and, so to speak, teeming motion of the fish in the pond, without discerning the fish themselves.

²¹¹

Consequently, nothing is empty, there is no void, and all matter is full of substances or souls or monads. As a result, all matter is an aggregate of monads, each of which enjoys this active force.

In summary, while the general laws govern such things as miracles, Leibniz's "subordinate" laws of nature govern all monads, souls or minds. The foundation of these laws of nature is active force. Leibniz does not differentiate between different types or kinds of force for different monads. All force originates at the instantiation of the universe from God and is conserved but dwells thereafter in each monad and constitutes the "inmost nature of bodies" and the "underlying reality of motion." In addition, everything is full and interconnected. Leibniz makes an elegant argument for the requirement that this force must dwell in every living thing and, because of this fullness, all matter as well. Therefore, how could souls or monads be denied, at least to nonhuman animals? From the following discussion of characteristics of the components

²⁰⁵ Ibid., §8; 160.

²⁰⁶ Leibniz discards both physical influx and occasionalism and embraces the DPH, or what he calls here "an agreement derived from divine preformation, accommodating each thing to things outside of itself while each follows the inherent force and laws of its own nature; in this also consists the *union of the soul and body*." {emphasis in original}. Leibniz, *Nature Itself* (1698), in Ariew., §10; 161.

²⁰⁷ Leibniz, *Monadology* (1714), in Ariew, §36; 217.

²⁰⁸ Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 132.

²⁰⁹ Leibniz, *Monadology* (1714), in Ariew, §61; 221.

²¹⁰ Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 135.

²¹¹ Leibniz, *Monadology* (1714), in Ariew, §§67-69; 222.

of nature, it seems apparent that Leibniz, as early as 1686, had concluded that each nonhuman animal {and probably the rest of life} needs a soul and its indwelling force.

In addition to those characteristics of souls or monads already mentioned, some additional thoughts of Leibniz about monadic force and action are important. Leibniz begins *Nature and Grace* with the following sentences that summarize his idea of this infinite category of souls or monads: "A *substance* is a being capable of action. It is simple or composite. A *simple substance* is that which has no parts. A *composite substance* is a collection of simple substances, or *monads*." {emphasis in original}²¹² In *Nature Itself*, Leibniz gives a definition of this word "monad" as "a soul or a form analogous to a soul {which is} ... something constitutive, substantial, enduring ...{and} in which there is something like perception and appetite"²¹³ all of which seem to be generated by this active force. Further, any monad is distinguished from another monad by its perceptions {its internal qualities and actions} and its appetitions {its tendencies to change}, all of which operate through this active force.

Leibniz includes this concept of force throughout his explanation of substance. Though Leibniz apparently did not use the term "monad" until about 1696 in *On Nature Itself*, he begins to describe its traits in Section 8 of the *Discourse* where he discusses individual substances and notes that "actions and passions properly belong to individual substances" Here he also introduces the CIC in stating that an individual substance is a complete being that includes all of its happenings - all the "vestiges of everything that has happened" to it, "marks of everything that will happen" to it, and "traces of everything that happens in the universe." In Section 9 of the *Discourse*, he addresses monadic expression and states that "every substance is like a complete world and like a mirror of God or of the whole universe, which each {substance} expresses in its own way." In Section 12 of the *Discourse*, he introduces the concept of a soul, which he states "we commonly call substantial form" and which cannot be material.²¹⁴ For the remainder of the *Discourse* and throughout his letters to Arnauld, he continues to use the terms, "soul," "individual substance" or just "substance."

However, in his *Reflections on the Advancement of True Metaphysics and Particularly on the Nature of Substance Explained by Force* that was published in 1694, Leibniz begins to use Aristotle's term, "entelechy:" "active force involves an 'entelechy', or an activity; it is half-way between a faculty and an action, and contains in itself a certain effort It is led by itself to

²¹² Leibniz, *Principles of Nature and Grace* (1714), in Ariew, §1; 207.

²¹³ Leibniz, *On Nature Itself* (1698), in Ariew, §12; 163.

²¹⁴ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§8, 9 & 12; 40-44.

action without any need of assistance, provided nothing prevents it."²¹⁵ One year later in *New System*, he states, "Aristotle calls them *first entelechies*; I call them, perhaps more intelligibly, *primary forces*, which contain not only *act* ... but also an original *activity*." {emphasis in original}.²¹⁶ In *Nature Itself*, souls begin to equate with entelechies when he states that to have a body, "we must add a soul or a form analogous to a soul, or a first entelechy, that is, a certain urge [*nisus*] or primitive force of acting, which itself is an inherent law, impressed by divine decree."²¹⁷ Finally, in the *Monadology*, he clearly equates monads with entelechies.²¹⁸ As Schönfeld has pointed out, the word "entelechy" means something that has a goal within it that leads to realization of potential by turning that potential into actuality through action generated by active force.

Therefore, while Leibniz uses various names, it is abundantly clear that the first characteristic of a monad is active force, which is, of course, a force of nature.²¹⁹ While this progression certainly represents a change in nomenclature, it does not seem to be a real change of a basic concept.

Concerning other characteristics of substances or monads, Leibniz includes a number in Section 9 of the *Discourse*. Leibniz states that "it is not true that two substances can resemble each other completely."²²⁰ He states that a substance is a unity: "a substance is not divisible into two; ... one substance cannot be constructed from two" and, therefore, cannot be taken apart. In that same section, he states that substance "can begin only by creation and end only by annihilation"²²¹ For these reasons, the number of these substances does not "increase or decrease" - it is constant through all of time, and these substances cannot be hurt or destroyed. In his November 28, 1686, {third} letter to Arnauld, Leibniz confirms that substances are both indestructible and ingenerable.²²² Also, monads act continuously and never come to absolute rest.²²³

²¹⁵ Leibniz, *Reflections on the Advancement of True Metaphysics and Particularly on the Nature of Substance Explained by Force* (1694), in Woolhouse et al., 141.

²¹⁶ Leibniz, *New System of Nature* (1695), in Ariew, §3; 139.

²¹⁷ Leibniz, *On Nature Itself* (1698), in Ariew, §12; 162-163.

²¹⁸ Leibniz, *Monadology* (1714), in Ariew, §§18-19; 215.

²¹⁹ Leibniz, *A Specimen of Dynamics* (1695), in Ariew, §2; 118.

²²⁰ This is Leibniz's Principle of the Identity of Indiscernibles.

²²¹ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §9; 42.

²²² Leibniz, *Letter to Arnauld* (28 November/8 December 1686), in Ariew, 78.

²²³ Leibniz, *On Nature Itself* (1698), in Ariew, §9; 160. Certainly, Leibniz, himself, never seemed to come to rest from his entrance into the university as a young man until the day he died.

In Section 14 of the *Discourse*, he initiates the concept of the DPH by stating that "Each substance is like a world apart, independent of all other things, except for God."²²⁴ While monads are independent of any other living thing, Leibniz argues that all monads are related to one another through the DPH. In the *Monadology*, Leibniz describes this interconnection and relationship as follows: "This interconnection or accommodation of all created things to each other, and each to all the others, brings it about that each simple substance has relations that express all the others, and consequently, that each simple substance is a perpetual, living mirror of the universe." However, each monad has a different point of view which Leibniz describes as "the way of obtaining as much variety as possible, but with the greatest order possible, that is, it is the way of obtaining as much perfection as possible."²²⁵

Therefore, all monads are permeated with force, always active, perceptive, appetitive, related, windowless, immaterial, indivisible, indestructible, ingenerable, and mirror the universe from their own point of view. This is an amazing set of characteristics for the primary unit of the universe, but these characteristics seem to contain an equally amazing quantity of truth.

D. Position about animals, human and nonhuman:

While he seems less than certain about nonhuman animals and all of life generally in his earliest texts, Leibniz always states that human beings have souls and are substances – which, in humans, he calls minds or rational souls. In Section 34 of the *Discourse*, Leibniz, in a single sentence, differentiates between human beings and nonhuman animals when he states, "the principal difference is that they do not know what they are nor what they do, and consequently, since they do not reflect on themselves, they cannot discover necessary and universal truths." In all of his writings and for these reasons, human minds are clearly superior to the souls or monads of nonhuman animals. However, in this regard, in Section 30 of the *Discourse*, Leibniz indicates that while humans may be superior, God, by grace, just gives to created things differing degrees of perfection.²²⁶ Therefore, as early as 1686, Leibniz begins to speak of a continuum of created things.

While it can be argued that his position about nonhuman animals changes, the basic elements of his concept are evident in his earliest major work, the *Discourse* {1686}. Though he certainly expanded this concept throughout his life, the basic elements seem to be part of his conviction in and since the *Discourse*. For a number of reasons, Leibniz is cautious when he begins to argue against the Cartesian position. In his *Discourse*, Leibniz discusses the souls of

²²⁴ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §14; 47.

²²⁵ Leibniz, *Monadology* (1714), in Ariew, §§56 & 58; 220.

²²⁶ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§30 & 34; 60-66.

nonhuman animals, “if they have any.”²²⁷ The existence of this soul is an important issue in Leibniz’s letters to Arnauld. In the course of these letters, Leibniz’s position strengthens with regard to both nonhuman-animal feelings and souls. Further, while Leibniz differentiates between entelechies, souls and minds, they are all substances and monads and, therefore, are categorically the same. Finally, at least in his *Theodicy*, Leibniz can be interpreted to argue that nonhuman animals are not here solely to serve humans when he seems to take direct issue with the “domination” language in Genesis.

Arguably, Leibniz has to place human and nonhuman animals in the same category because he insists on active force for all substances and because he needs to elevate the relative value of nonhuman animals above the Cartesian position in order to explain this ubiquity of active force. In addition, Leibniz argues for the simplest laws that govern life and the universe. To categorize nonhuman and human animals differently would add unnecessary complication to his metaphysics. However, while Leibniz’s single category of life certainly facilitates his philosophy, he also seems convinced that there is some intrinsic value to be found in all of life and, particularly, in nonhuman animals, not just within human animals.

Consequently, it is arguable that, in and after the seventeenth century, not Jeremy Bentham {1748-1832} but Leibniz, through his new concept of nature, should be given recognition for first attributing sentience to nonhuman animals and for first placing human and nonhuman animals in the same category. Also, second only to Descartes, Leibniz may be the second to have suggested that nonhuman animals are not here merely to serve humans.

The souls of nonhuman animals are an extremely important aspect of Leibniz’s contribution to the general concept of nature. Descartes argued for the elevation of the concept of the rational human being to higher levels than had been previously accepted. In so doing, he not only emphasized the value of human animals but also devalued nonhuman animals, apparently to stress the worth of human animals - the reverse of Montaigne. While Leibniz agreed with Descartes’ concept of the value of humanity, he seriously disagreed with that devaluation of nonhuman animals. Consequently, and with good reason, he chose to emphasize the value of nonhuman animals to make his argument that active force is not only a part of human beings but also of all living creatures and all matter. As will be shown, for Leibniz, humans and nonhuman

²²⁷ Ibid., §12; 44.

animals are not categorically different, as they were for Descartes, but simply have different positions in Leibniz's category and on the continuum of monadic life.²²⁸

Leibniz uses a variety of terms for nonhuman animals. At times, Leibniz includes humans in the word "animals" and at other times seems to exclude humans from that word. For example, in Section 35 of the *Discourse*, Leibniz excludes human animals from the word "animals:" "just as we would praise a king who would prefer to preserve the life of a man rather than the most precious and rarest of his animals" ²²⁹ As an example in which he includes humans in the word, in Section 5 of *Nature and Grace*, he states: "Animals in which {rational} consequences are not noticed are called *beasts*; but those who know these necessary truths are those that are properly called *rational animals*, and their souls are called *minds*." {emphasis in original}.²³⁰ In Section 29 of the *Monadology*, he distinguishes "us" from "simple animals." In Section 63 of the *Monadology*, Leibniz clearly uses the word "animal" in referring to both human beings and nonhuman animals. In addition, Leibniz often uses the term "creature" to refer to both humans and nonhumans.²³¹

In describing the characteristics of nonhuman animals, the most important contributions of Leibniz are his attribution of feelings {sentience} and then souls to nonhuman animals. As mentioned above, Descartes describes animals as like machines that have no feelings of pain, for example. After beginning cautiously, as described below, to change this Cartesian position, Leibniz ultimately attributed souls or monads that were similar to those of human beings to all animals. First, however, to begin this process, he argued that nonhuman animals have feelings. As early as Section 35 of the *Discourse*, Leibniz describes "natures, which are either brutish and incapable of knowing truths or completely destitute of sensation and knowledge."²³² Here, he is obviously referring to nonanimal life as being without feeling and, therefore, is suggesting that nonhuman animals have feeling and some knowledge. In his October 9, 1687, {fifth} letter to Arnauld, Leibniz directly states his opinion that the whole "human species" is of the opinion that

²²⁸ Leibniz again justifies this continuum when he states "Men, to the extent that they are empirical, that is, in three fourths of their actions, act only like beasts." Leibniz, *Nature and Grace* (1714), in Ariew, §5; 208-209.

²²⁹ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §35; 67.

²³⁰ Leibniz, *Nature and Grace* (1714), in Ariew, §5; 209.

²³¹ Leibniz, *Monadology* (1714), in Ariew, §§29, 63 & 49; 217, 221 & 219. Leibniz uses a number of other terms to refer collectively to humans, nonhuman animals and all other life, including plants, for example, "organisms." Leibniz, *On Nature Itself* (1698), in Ariew, §2; 156.

²³² Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §35; 66.

"animals have feelings."²³³ Therefore, in mounting his opposition to Descartes, Leibniz began with something that could be observed and that was similar to humans; nonhuman animals can feel good or bad, relaxed or anxious, aggressive or passive just like humans.

As related above, Leibniz distinguishes humans from nonhuman animals through his position that the latter lack reason.²³⁴ While Leibniz acknowledges that nonhuman animals have memory of facts, they have no knowledge of causes.²³⁵ As early as 1686 in the *Discourse*, he stated, "It is also because they lack reflection about themselves that {nonhuman animals} have no moral qualities."²³⁶ He also distinguishes between humans and nonhuman animals based on what he calls "conservation of personality" and "immortality." In Section 89 of the *Theodicy*, he states that, while occurring in the souls of humans, "this conservation of personality does not occur in the souls of beasts: that is why I prefer to say that they are imperishable rather than to call them immortal."²³⁷ In summary, while humans and nonhuman animals are different, they are not categorically different and do share all of the characteristics that are common to all monads, the most important of which is active force.

Leibniz does change his position about nonhuman animals. After he wrote the *Discourse*, it appears that Leibniz changed his position on at least three related concepts that regard nonhuman animals. The first is whether nonhuman animals have souls. The second position is whether nonhuman animals are just created to serve humans, while the third position involves his idea of the relative value of nonhuman animals. While these issues can be differentiated in this manner, Leibniz's reason for addressing these three issues seems to be singular. Also, considering Leibniz's position in Section 35 of the *Discourse*, it appears that Leibniz was just exhibiting a necessary caution while actually including in his earliest major text a subtle reference to his ultimately stated position about substances and souls.

Concerning the first idea about whether nonhuman animals have souls, in Section 12 of the *Discourse* when discussing bodies and souls, he comments on the soul of animals, "if they have any." In Section 34 of the *Discourse*, he continues this equivocal position when he states, "Assuming ... that animals have souls."²³⁸ In the draft of his November 28, 1686, {third} letter to Arnauld, Leibniz states, "it seems probable that animals have souls, although they lack

²³³ Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 130; see also Gottfried Wilhelm Leibniz, *Theodicy: Essays on the Goodness of God, the Freedom of Man and the Origin of Evil* (1710) (Chicago: Open Court Publishing, 1998), §250; 280; Leibniz, *Nature and Grace* (1714), in Ariew, §4; 208.

²³⁴ Leibniz, *Theodicy* (1710), §91; 172-173.

²³⁵ Leibniz, *Nature and Grace* (1714), in Ariew, §5; 208.

²³⁶ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §34; 65.

²³⁷ Leibniz, *Theodicy* (1710), §89, 171.

²³⁸ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§12 & 34; 44 & 65.

consciousness."²³⁹ However, in that third letter as actually sent to Arnauld, Leibniz at one point seems to state with certainty that nonhuman animals have souls: "Thus the souls of brutes would all have been created from the beginning of the world" Nonetheless, later in that letter, he again equivocates: "I cannot be absolutely certain whether {nonhuman animals and other things} ... are substances."²⁴⁰ In his March 4, 1687, reply to Leibniz, Arnauld directly questions whether there is any necessity to give "lower animals" souls or substantial forms. Arnauld, here, seems at least interested in souls for nonhuman animals because he certainly does not dismiss the concept out of hand. In his April 30, 1687, {fourth} letter to Arnauld, Leibniz is still somewhat equivocal²⁴¹ but seems to be taking a stronger position. In his August 28, 1687, reply, Arnauld persists in his questions about nonhuman animals. Finally, in his October 9, 1687, {fifth} letter to Arnauld, Leibniz is unequivocal in talking about nonhuman animal substances²⁴² and in his last {March 23, 1690, {seventh}} letter to Arnauld, Leibniz discusses exempting "souls capable of reflection" {or humans} from the "revolutions of bodies" which must mean that nonhuman animals are clearly within this system of revolution and, therefore, must be individual substances and have souls.²⁴³

While all this seems to suggest a change in his position, Section 35 of the *Discourse* indicates that, from at least 1686, Leibniz believed that nonhuman animals have souls. Here, Leibniz argues that the entire function of substances is "merely to express God and the universe." He goes on to state that those substances that "are capable of understanding great truths about God and the universe" {or humans} will fulfill this purpose "incomparably better than those natures, which are either brutish and incapable of knowing truths or completely destitute of sensation and knowledge." Here, Leibniz is, as clearly as seems possible, including nonhuman animals and even plants within the category of "substances" and "souls" because, from Section 9 of the *Discourse*, we know that only substances can "express" or "mirror" God and the universe.²⁴⁴

²³⁹ Leibniz, *Draft of Letter to Arnauld*, in Woolhouse et al., 117.

²⁴⁰ Leibniz, *Letter to Arnauld* (28 November/8 December 1686) [excerpts], in Ariew 78,80.

²⁴¹ Leibniz, *Letter to Arnauld* (April 30, 1687), in Ariew, 88.

²⁴² Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 130.

²⁴³ Leibniz, *Letters to Arnauld*, 23 March 1690, in Woolhouse et al., 136. By 1695 in *New System*, Leibniz continues to discuss differences between human and nonhuman souls without any equivocation about whether nonhuman animals have souls. Leibniz, *New System of Nature* (1695), in Ariew, §7; 140-141. Here also, Leibniz explains his disagreement with Descartes by specifically referencing his name. *Ibid.*, §12; 142- 143. Again, in Section 89 of the *Theodicy*, Leibniz talks unequivocally about "the souls of beasts." Leibniz, *Theodicy*, §89, 171. By 1714 when he published *Nature and Grace*, he stated: "Such a Living thing is called an *animal*, as its monad is called a *soul*." {emphasis in original}. Leibniz, *Nature and Grace* (1714), in Ariew, §4; 208.

²⁴⁴ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §9; 42.

Because of the philosophical and theological climate, Leibniz, like Descartes, apparently wanted to use caution regarding his position and, therefore, wanted to see what support he might be able to muster, especially from Arnauld. Consequently, it seems probable that the equivocation that Leibniz seemed to exhibit about the existence of souls in nonhuman animals was for the benefit of Arnauld and for the purpose of obtaining Arnauld's reaction.

As for his substantive reason for attributing souls to nonhuman animals and all of life, Leibniz states, "I believe that it is consistent with neither order nor with the beauty or reasonableness of things for there to be something living, that is, acting from within itself {or with active force} in only the smallest portion of matter {or in human beings only}, when it would contribute to greater perfection for such things to be everywhere."²⁴⁵ As related above, Leibniz needed this active force for his concept of DPH and also for his concept of individual free will and individual autonomy.

His second change of position regards the question of whether nonhuman animals were created just to serve human beings. This clearly is also a church related issue because it impacts directly on the interpretation of the book of Genesis. In Section 12 of the *Discourse*, when he states, "It also follows that all other creatures must serve {human beings},"²⁴⁶ it seems that he could simply be attempting to avoid criticism. After 1695, when he had decided to openly argue that nonhuman animals had souls, he possibly felt he could take a more egalitarian position concerning nonhuman animals. By 1710, Leibniz states, "This opinion {about the relative importance of human beings} would be a remnant of the old and somewhat discredited maxim, that all is made solely for man."²⁴⁷ This "discredited maxim" would seem to be the "dominion" position found in the Genesis story of creation. If, in fact, his statement does reference this story, it would seem to be consistent with the position of Descartes but still contrary to the position of both the Catholic and Protestant Churches.

However, Leibniz always maintains his concept of a continuum. In Section 200 of the *Theodicy* when discussing extended bodies, Leibniz states, "The connexion and order of things brings it about that the body of every animal and of every plant is composed of other animals and of other plants, or of other living and organic beings; consequently there is subordination, and one

²⁴⁵ Leibniz, *On Nature Itself* (1698), in Ariew, §12, 163. See also Section 6 of Leibniz's {fourth} letter to Arnauld for a longer but beautiful description of this reason. Leibniz, *Letter to Arnauld*, April 30, 1687, in Ariew, 87. In addition, this reason provides for one basic category of life which is consistent with Leibniz's need for the simplest laws and which is also consistent with Ockham's "razor."

²⁴⁶ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §12; 44.

²⁴⁷ Leibniz, *Theodicy* (1710), §118; 189.

body, one substance serves the other: thus their perfection cannot be equal."²⁴⁸ Four years later in *Nature and Grace*, he states, "Each monad, together with a particular body, makes up a living substance. Thus, there is not only life everywhere, joined to limbs or organs, but there are also infinite degrees of life in the monads, some dominating more or less over others."²⁴⁹ Consequently, while Leibniz may have changed his position about total domination of nonhuman animals, he still maintained that some monads were dominant while others were subservient which, of course, is consistent with his concept of a continuum within a category.

The third apparent change of position may just be part of the second because it also involves the relative value of nonhuman animals. In his later texts, Leibniz is again willing to openly attribute a higher relative value to individual nonhuman animals. In Sections 35 and 36 of the *Discourse*, Leibniz suggests that God would "preserve the life of a man rather than the most precious and rarest of his animals" and that "God draws infinitely more glory from {humans} than from all other beings, or rather the other beings only furnish {humans} the matter for glorifying him."²⁵⁰ This seems to suggest that, in 1686, Leibniz did not feel that the life of an individual nonhuman animal was of great value. However, by 1710, Leibniz states, "It is certain that God sets greater store by a man than a lion; nevertheless it can hardly be said with certainty that God prefers a single man in all respects to the whole of lion-kind."²⁵¹ As a result, it can be argued that Leibniz attempted to elevate the value of nonhuman animals. That conclusion, of course, is not difficult given the low, or lack of, value that Descartes publicly gave to these creatures. Finally, all of these possible changes may simply have exhibited reasonable caution on the part of Leibniz.

A short review of Leibniz's position about plants is also helpful. In addition, this again confirms Leibniz's single category of monadic life. How can anyone deny any form of life the foundation that active force provides to all of nature? In Arnauld's March 4, 1687, {fourth} letter to Leibniz, Arnauld suggests that Leibniz does not give souls to plants. However, in his reply {his April 30, 1687, {fourth} letter} to Arnauld, Leibniz begins to argue that plants may have souls {and also that a continuum exists} when he states:

I do not dare assert that plants have no soul, life, or substantial form, for although a part of a tree planted or grafted can produce a tree of the same kind, it is possible that there is a seminal part in it that already contains a new vegetative thing, as perhaps there are already some living animals, though extremely small, in the seeds of animals, which can be transformed within a similar animal.

²⁴⁸ Ibid., §200, 252.

²⁴⁹ Leibniz, *Nature and Grace* (1714), in Ariew, §4; 208.

²⁵⁰ Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §§35-36, 66-67.

²⁵¹ Leibniz, *Theodicy* (1710), §118; 188.

Therefore, I don't yet dare assert that only animals are living and endowed with a substantial form. Perhaps there is an infinity of degrees in the forms of corporeal substances.²⁵²

In his October 9, 1687, {fifth} letter to Arnauld, Leibniz again mentions plants when he states that Malpighi, "on the basis of very considerable anatomical analogies, has a great inclination to think that plants can be included in the same category as animals, and are in fact imperfect animals."²⁵³ Finally, by the time Leibniz wrote the *Monadology*, there was no equivocation left on the issue of souls or monads in plants.²⁵⁴

In summary, one of Leibniz's primary goals was apparently reconciliation of the Roman Church with the Reformed Church initially and when that did not seem possible, the reconciliation of the Lutherans and the Calvinists. As a result, he was cautious in the above positions as explained in the next section.

E. Influence of religious institutions:

As suggested above, it seems probable that Leibniz exercised caution at least in his initial written works because of the religious upheaval in Europe that predated him and continued to some extent throughout his life. Leibniz, of course, was in contact with Arnauld as early as 1673 and corresponded at length with Arnauld beginning at least in 1686 and apparently continuing into 1690. Leibniz had to have been aware that, in 1679, Arnauld "fled France, never to return"²⁵⁵ because Louis XIV considered Arnauld a heretic as a result of Arnauld's support of some tenets of Jansenism. Further, Leibniz was certainly aware of the concerns that have been expressed by Descartes about the condemnation of Galileo. Descartes' letters, including those to Mersenne, were published in or about the 1660s, and, if that was the case, Leibniz would have been aware of the concern evidenced by Descartes and probably others in the scientific and philosophical fields about that condemnation.

When reading the written work of, and the biographical information about, Leibniz, it is very difficult to believe that he was other than sincere about his belief in God and his concern about the fragmentation of the Christian Church. Also, as indicated above, Leibniz was open about his interest in attempting to bring about the reunification of the Roman Church and the

²⁵² Leibniz,, *Letter to Arnauld* (April 30, 1687), in Ariew, 82.

²⁵³ Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 132.

²⁵⁴ Leibniz, *Monadology* (1714), in Ariew, §66 & 67; 222. By June 20, 1703 in his letter of that date to de Volder, he positively states that all animals {human and nonhuman} and plants have monads or souls when he states: "The remaining subordinate monads placed in the organs don't constitute a part of the substance, but yet they are immediately required for it, and they come together with the primary monad in a corporeal substance, that is, in an animal or plant." Leibniz, *Letter to de Volder*, 20 June 1703, in Ariew, 177.

²⁵⁵ R.C. Sleight, Jr., *Leibniz & Arnauld* (New Haven, CN: Yale U. Press, 1990), 26.

Reformed Church. Apparently, though, he became convinced in his later years that this was an impossible hope so that he changed his objective to the unification of the Lutherans, the Calvinists and possibly some other branches of the Reformed Church. As indicated in the following examples, Leibniz was not only more open than most about his religious concerns but also very careful, and sometimes successful, in his written word in that regard.

Leibniz spent about one year in Italy between 1689 and 1690 and, while in Italy, Leibniz wrote *On Copernicanism and the Relativity of Motion* where Leibniz stated at length:

{S}ince, in explaining the theory of the planets, the Copernican hypothesis wonderfully illuminates the soul, and beautifully displays the harmony of things at the same time as it shows the wisdom of the creator, and since other hypotheses are burdened with innumerable perplexities and confuse everything in astonishing ways, we must say that, just as the Ptolemaic account is the truest one in spherical astronomy, on the other hand the Copernican account is the truest theory, that is, the most intelligible theory and the only one capable of an explanation sufficient for a person of sound reason. ... {M}ost distinguished astronomers have openly admitted that they are held back from presenting the Copernican system only by the fear of censure. But they would not need such caution anymore and could freely follow Copernicus without damaging the authority of the censors, if only they were to recognize, with us, that the truth of a hypothesis should be taken to be nothing but its greater intelligibility, indeed, that it cannot be taken to be anything else, so that henceforth there would be no more distinction between those who prefer the Copernican system as the hypothesis more in agreement with the intellect, and those who defend it as the truth.²⁵⁶

Here, Leibniz attempted to restore Galileo's ploy of emphasis on the hypothetical characterization of the Copernican system while trying to equate hypothesis and truth as a distinction without a difference - a fairly difficult argument but then Leibniz could turn a phrase.

He then has the enterprise to suggest that his plan would "preserve the authority of the censors" while doing no "violence ... to the distinguished discoveries of our age through the outward appearance of official condemnation." Leibniz continues: "Once this is understood, we can finally restore philosophical freedom to those of ability, without damaging respect for the Church, and we will free Rome and Italy from the slander that great and beautiful truths are there oppressed by censors" ²⁵⁷

Later, in 1699, Leibniz conveyed his own thoughts about the success of his above suggestion when he wrote to Antonio Magliabechi that:

When I was in Rome I exhorted certain distinguished men endowed with authority to promote intellectual freedom in a subject that is not in the least dangerous and to allow to be lifted or abolished by disuse the prohibitions

²⁵⁶ Leibniz, *On Copernicanism and the Relativity of Motion* (1689), in Ariew, 92.

²⁵⁷ *Ibid.*, 92-93.

regarding the system of the earth's motion; and I showed that it was in the interest of the Roman Church itself that it not appear to the ignorant to afford protection to ignorance and error. Nor indeed did these men recoil from this advice of mine, so that I hope ... that the ancient liberty might be recovered, the suppression of which greatly harms the lively genius of the Italians [.]

Antognazza reports that, while the Vatican remained reluctant to review its official position about Galileo and Copernicus, "an open discussion was taking place in Rome amongst scholars and scientists convened by Cardinal Gregorio Barbarigo, himself favorable to the Copernican system." In further correspondence, Leibniz wrote that "groups of learned men" were meeting regularly such that "if this continues I expect not an inconsiderable harvest from this sowing[.]"²⁵⁸

Leibniz shared the *Discourse* with Arnauld in or about 1686 though it remained unpublished throughout Leibniz's life.²⁵⁹ The *Discourse*, of course, contains some of the first thoughts of Leibniz about nonhuman animals, and it was in his responses to Arnauld's letters that he later fully embraced the equivocal statements about these animals found in the *Discourse*. One can speculate that, through his correspondence with Arnauld, Leibniz prepared for his trip to Italy and his determination to carefully argue support for the "hypothetical" Copernican system.

F. Summary of the Leibnizian perspective:

Leibniz's nature is governed by the laws established in the original instantiation event through which each one of an infinity of substances or monads acquired active force. Leibniz's components of nature all occupy his category of monadic life and are, in the order of their location on his continuum, within that category: {a} humans, {b} nonhuman animals, {c} plants and all other life, and {d} material bodies and all the observable "space" between those bodies, all of which seems about as inclusive as could be, such that Leibniz has not forgotten anything. All of these components are infused with this active force which, in accord with Leibniz's principles, provides them, among other characteristics, perception, appetite, internal free will, internal autonomy, and harmonious interconnection and, in addition, a fully understandable universe {except for miracles which still can be accepted as within the original plan}. Possibly this approaches happiness as closely as one should reasonably expect. But what can this say to us a few hundred years later? Maybe Leibniz had more to say than is patent in his texts.

It seems probable that Leibniz embraced his concept about nonhuman animals and nature at least in and after 1686 because of his need for his foundational concept of active force which provides a reasonable explanation for observed activity. In any event, he strongly suggested that

²⁵⁸ Antognazza, *Leibniz*, 302.

²⁵⁹ The first major published work was Leibniz's *New System of Nature* that appeared in 1695 and contained many of the themes found in the unpublished *Discourse*.

the quality of consideration afforded nonhuman animals, and life generally, needed to be improved dramatically. Leibniz arguably opened the door for moral consideration for all of life by placing life in the same category, and on the same continuum, as human beings.

In addition to Leibniz's general laws and laws of nature, Leibniz introduces a third type of law, moral law, which he says must be "combined" with laws of nature.²⁶⁰ He also seems to refer to these moral laws as the "spiritual laws of justice."²⁶¹ These moral or spiritual laws apparently are meant to govern the manner in which humans use active force. Through this moral/spiritual law, Leibniz arguably gave humanity the responsibility to use this active force to make comparative judgments {perceptions} about, among other things, the moral significance to which all the rest of life is entitled and then to take the necessary actions {appetitions} to implement these judgments.

In Section 37 of the *Discourse*, Leibniz exhibits an interesting attitude when he states: "that, caring for sparrows, {God} will not neglect the rational beings which are infinitely more dear to him; that all the hairs of our head are numbered; ... that none of our actions are forgotten; that everything is taken account of, even idle words, *or a spoonful of water well used* {emphasis added}"²⁶² If Leibniz could acknowledge the "grand ideas of the majesty of nature,"²⁶³ talk about "a garden full of plants or ... a pond full of fish" and exhibit concern about "a spoonful of water well used," it is entirely possible that he was interested in nature for a whole host of reasons in addition to the opportunity to prove that Cartesian motion is not really conserved.

²⁶⁰ Leibniz, *Letter to Arnauld*, 23 March 1690, in Woolhouse et al., 136.

²⁶¹ Leibniz, *Letter to Arnauld*, 9 October 1687, in Woolhouse et al., 134.

²⁶² Leibniz, *Discourse on Metaphysics* (1686), in Ariew, §37; 68.

²⁶³ Leibniz, *New System of Nature* (1695), in Ariew, 142.

V. Chapter Four: Summary of the Three Perspectives:

Montaigne arguably took Luther's lead and answered problems created by the Roman Church. However, he used an entirely different approach. While Luther's approach addressed some of the dogma of the Roman Church in regard to the theological abilities of the individual human animal, Montaigne took the approach of trying to understand the individual human animal generally and particularly himself. It is interesting that he seldom {or never} digressed to investigating his own "sinful" nature. He wanted to understand his own human nature as best he could. He, however, had been enculturated by and within the Roman Church and thereby had a bias toward skepticism, but not such a deep skepticism that might have discouraged him from exercising his own ability to understand himself. Still, that skepticism led to a disbelief in the value of human reason and, therefore, to his decision to equate human animals to nonhuman animals - not that he denied reason to nonhuman animals but that he denied the value of reason to human animals. Further, while he always acknowledged the authority of the Roman Church, he did pursue friendships with such religious equivocators as Henry of Navarre, later to become King Henry IV.

Descartes answered not only Montaigne and his skepticism but the mysticism of the Christian Church as well. His use of nonhuman animals in that answer not only accentuated the value of human reason but seemed consistent with Genesis 1 and, consequently, strengthened his anatomical and physiological studies. In addition, though, he had to observe great care in advancing his scientific interests generally and, in this regard, Galileo's condemnation was an event that he took seriously while attempting to argue his scientific objectives generally. Still, his characterization of nonhuman animals was by no means central to those arguments that he considered paramount.

Leibniz answered Descartes' dualism through his active force which was not only found in human animals but was found in all of life, including nonhuman animals, and also in inanimate objects as well. It was a force that was only dependent on God as an original initiator and not as a constant provider as was the God of Spinoza. A separate soul/mind said to be found only in human animals was, of course, an impossibility for a monist. Though his concept of the monad would seem to have required the identical categorization of human animals and nonhuman

animals, still his comments about ponds in his *Monadology* and his attribution of sentience to nonhuman animals evidence a thoughtful appreciation of nonhuman animals.

Consequently, these three philosophers helped to bring about the end of reliance of human animals on religious dogma and the beginning of the reliance of those animals on their reason and, therefore, their ability to better understand each other and the planet on which they found themselves. Though he remained a skeptic of the Roman Church, Montaigne found that an individual human being could introspectively attempt to understand oneself, actually without the intervention or assistance of religion. Descartes understood the albatross of skepticism and valiantly began the process of replacing it with the belief that humankind could not only attempt to understand itself more fully but could also attempt to understand its environment more fully. Leibniz, while burdened with the capabilities of a polymath, was able to focus on and attempt to explain a universe that contained active power in at least all of life, human animals, nonhuman animals and beyond, where that active power was available individually and collectively and could and should be used to improve his best of all possible worlds and all of life generally.

VI. Chapter Five: Where These Perspectives Have Led:

A. Scientific consequences of these perspectives:

As argued, Descartes' *Discourse* position dramatically reinforced the idea of separate categories for human and nonhuman animals found in Genesis 1:26 and 28. While no one today {or Descartes then} could rationally believe that nonhuman animals, at least vertebrate animals, are not sentient, Descartes' position has encouraged, and still encourages at least to some degree, the use of nonhuman animals, for example, in medical research. Somehow, Descartes' use of the idea that nonhuman animals cannot feel pain "in the strict sense," is still the justification for inflicting pain on nonhuman animals where some benefit to human animals can be suggested.

Certainly, the dissection and even vivisection of nonhuman animals has been reported as occurring over 2000 years ago. Descartes was clearly not the first to suggest, or engage in, such activities. However, his *Discourse* position encouraged the continuation of these activities. His acknowledgment of the Pythagorean position in the More letter and his two known references to the possibility that these activities might be considered crimes, seem curious if only because no known religious or secular law precluded it. Possibly, Descartes was merely attempting some sort of gift to the Christian Church by seemingly supporting the concept of Genesis. However, because of the lack of secular or religious law proscribing dissection and vivisection, it must be concluded that Descartes believed that Montaigne's position necessitated his *Discourse* position. In any event, the infliction of pain on nonhuman animals for the advancement of science has continued, particularly in the fields of anatomy, physiology and medicine generally.

While the Leibnizian suggestion of a common category for human and nonhuman animals is not known to have been a significant factor in the development of acceptance of a common category for all animals, the development of evolutionary theory did demand that acceptance and had, of course, begun at least by the second half of the eighteenth century and found explicit acknowledgment in the work and writings of Charles Darwin in the nineteenth century. In the publication of *On the Origin of Species* in 1859,²⁶⁴ Darwin not only provided scientific evidence of the structural basis of descent with modification through the principle of natural selection for the singular categorization of, at least, all of human and nonhuman animal

²⁶⁴ Charles Darwin, *On the Origin of Species* (London: John Murray, 1859).

life but recognized that the mental processes of both were a difference of degree and not a difference of kind. He explicitly stated this as follows:

Some naturalists, from being deeply impressed with the mental and spiritual powers of man, have divided the whole organic world into three kingdoms, the Human, the Animal, and the Vegetable, thus giving to man a separate kingdom. Spiritual powers cannot be compared or classed by the naturalist: but he may endeavour to shew, as I have done, that the mental faculties of man and the lower animals do not differ in kind, although immensely in degree. A difference in degree, however great, does not justify us in placing man in a distinct kingdom
...²⁶⁵

Because he recognized that this area would not be accepted as readily as would be the structural similarity of human and nonhuman animals, he states in the conclusion of the *Origin*:

I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history.²⁶⁶

Also, in the *Origin*, Darwin focuses on many of the same nonhuman animals as did Montaigne. He particularly emphasizes the abilities of ants to segregate duties and of honeybees to produce geometrical cells.²⁶⁷ Montaigne, of course, attributes communication, negotiation and domestic management to the former and to the latter he attributes “a society regulated with more order, diversified into more charges and functions, and more consistently maintained” and “so orderly an arrangement of actions and occupations ... {that cannot be conducted} without reason and foresight.”

Darwin continues his position of one category for all animals in *The Descent of Man* where he states:

We thus learn that man is descended from a hairy, tailed quadruped, probably arboreal in its habits, and an inhabitant of the Old World. This creature ... and all the higher mammals are probably derived from an ancient marsupial animal, and this through a long line of diversified forms, from some amphibian-like creature, and this again from some fish-like animal. In the dim obscurity of the past we can see that the early progenitor of all the Vertebrata must have been an aquatic animal ...²⁶⁸

Darwin also continues to discuss mental faculties and the evolution of mental and moral faculties:

{E}very one who admits the principle of evolution, must see that the mental powers of the higher animals, which are the same in kind with those of man, : though so different in degree, are capable of advancement. Thus the interval

²⁶⁵ Charles Darwin, *The Descent of Man*, 1st ed., vol. 1 (London: John Murray, 1871), 186.

²⁶⁶ *Ibid.*, 488.

²⁶⁷ *Ibid.*, Chapter VII.

²⁶⁸ Charles Darwin, *The Descent of Man*, 2nd ed., vol. 2 (London: John Murray, 1874), 609.

between the mental powers of one of the higher apes and of a fish, or between those of an ant and scale-insect, is immense; yet their development does not offer any special difficulty; for with our domesticated animals, the mental faculties are certainly variable, and the variations are inherited. No one doubts that they are of the utmost importance to animals in a state of nature. Therefore the conditions are favourable for their development through natural selection. The same conclusion may be extended to man; the intellect must have been all-important to him, even at a very remote period, as enabling him to invent and use language, to make weapons, tools, traps, &c., whereby with the aid of his social habits, he long ago became the most dominant of all living creatures.²⁶⁹

For Darwin, there is no question that reason as exhibited in human animals and even the ability to “invent and use language” was not enough to require separate categories for human and nonhuman animals.

As reported by Schönfeld, it is now admitted that nonhuman animals, such as honey bees, have developed and have, for millennia, used a bona fide language that has come to be called their “waggle dance” and through which information is transmitted visually.²⁷⁰ It has also been shown that this language is genetically encoded which results in honey bee dialects.

As also reported by Schönfeld, tool making has been identified in monkeys, apes and birds. Finally, Schönfeld reports that experimentation in this twenty-first century has shown conclusively that nonhuman animals have ideas and intentions. Experiments with macaque monkeys have demonstrated that those monkeys can control the cursor on a computer monitor through willful thought alone. This experimentation has led to the ability of quadriplegic human animals, through electrodes implanted in the brain, to check e-mail and choose television channels through thoughts alone. As Schönfeld states, “what works in monkeys, works in humans ...”²⁷¹ Also recent scientific work, as reviewed by Schönfeld, has demonstrated, in monkeys, a comprehension of fair play which, as he points out, “requires a cognitive identification of cause and effect.”²⁷² So conclusively what works in humans, works in monkeys. Based on these and many additional recent scientific findings which regard nonhuman animals, Schönfeld rightfully finds a paradigm change in the life sciences from behaviorist to anthropomorphic interpretations of nonhuman animal actions in a field now known as “behavioral ecology.” Schönfeld concludes, as did Darwin, that while nonhuman animals are less complicated than human animals, “this does not make {nonhuman animals} categorically distinct from {human animals}.”²⁷³

²⁶⁹ Ibid., 609-610.

²⁷⁰ Schönfeld, “Animal Consciousness,” (2006), 360-61.

²⁷¹ Ibid., 370.

²⁷² Ibid., 373.

²⁷³ Ibid., 374.

On the 200th anniversary of Darwin's birth and the 150th anniversary of the publication of *Origin*, the journal *Science* published a number of articles that reviewed the efforts of Darwin and the continuing controversy that those efforts have generated. One of those articles, entitled "Darwin's Originality," by Peter Bowler, commented on a number of Darwin's efforts including his thoughts about a common category for all animals, human and nonhuman. Bowler pointed to "Darwin's hatred of slavery" which has been proposed as at least one reason for Darwin's move toward evolution. Bowler observes: "Because many slaveholders argued that the black race was separately created from the white, Darwin wanted to show that all races share a common ancestry, and he realized that this claim could be defended by extending the idea throughout the animal kingdom."²⁷⁴ That, of course, is exactly what Leibniz suggested and what Darwin, indeed, has done.

Bowler closes this article with a discussion of Darwin's insistence on the requirement of a natural struggle for existence which raised the specter of eugenics as attempted by the Nazis. Bowler argues that "this is not a simple matter of science being 'misused' by social commentators, because Darwin's theorizing would almost certainly have been different had he not drawn inspiration from social, as well as scientific influences." Bowler observes that humanity may be "uncomfortable" with these and other possible applications of Darwin's theory to "human affairs." Bowler closes his article with this recommendation: "but if we accept science's power to upset the traditional foundations of how we think about the world, we should also accept its potential to interact with moral values."²⁷⁵

As Montaigne and Leibniz argued, as Descartes may actually have believed, and as Darwin through his theory has proven, at the very least, human animals and nonhuman animals cannot be categorized differently. Actually, using Darwin's theory to the end that he suggested, all of life generally cannot and should not be categorized differently. All of life really is in this experience together and, dependent on the manner in which the most "dominant of all living creatures" approaches life in general, life will ultimately be a rewarding or a devastating experience.

As Bowler recognized, science, of course, interacts with moral values, - which brings us to the philosophical consequences of the perspectives found in the writings of Montaigne, Descartes and Leibniz.

It is important to note that Darwin, in the *Origin*, in 1859, acknowledges the continuation of religious influence when he chides his fellow naturalists as follows:

²⁷⁴ Peter J. Bowler, "Darwin's Originality" in *Science*, vol. 323, no. 5911; 223- 224.

²⁷⁵ *Ibid.*, 226.

Although naturalists very properly demand a full explanation of every difficulty from those who believe in the mutability of species, on their own side they ignore the whole subject of the first appearance of species in what they consider reverent silence.²⁷⁶

Again, the Christian Church has taken its toll in stifling scientific progress but that progress has nevertheless continued.

B. Philosophical consequences of these perspectives:

As argued in this paper, Descartes embraced his *Discourse* position for opportunistic reasons and not because he truly believed that position. Fellow philosophers beginning with Leibniz {and Spinoza} disagreed with at least the dualistic foundations of Descartes' philosophy which certainly assisted in the development of his *Discourse* position about nonhuman animals. Both Hume and Bentham openly criticized Descartes' *Discourse* position because, for Hume, Descartes denied reason to nonhuman animals and because, for Bentham, Descartes denied sentience to nonhuman animals. More recent philosophers such as Singer and Regan blame Descartes for a host of the problems encountered by nonhuman animals today. If, however, we accept the argument that Descartes was merely an opportunist in his suggestion of his *Discourse* position, then Genesis 1 seems to be the only foundation available for separate categories for human animals and nonhuman animals. Recall that Descartes apparently referred to Genesis as a metaphor. Also, Kant can be forgiven for his position concerning nonhuman animals based on the inadequate science that existed during his lifetime and possibly even based on his concern for religious retribution which he had experienced in his own family.

However, as recently as 2003, Donald VanDeVeer and Christine Pierce, in the third edition of their textbook, *The Environmental Ethics & Policy Book*, reference Descartes as follows:

{T}he famous seventeenth-century French philosopher and mathematician René Descartes seems to have taken the view that nonhuman animals lack linguistic capacity and, therefore, lack a mental-psychological life. Thus, animals are not sentient. If so, of course, they cannot be caused pain – appearances to the contrary. Hence, there could be no duty not to cause them pain. In Cartesian language they are mere automata; in modern language they are like programmed robots. Thus, if Descartes is right – even if sentience is the most defensible criterion of moral standing – then nonhuman animals cannot have such standing. Some people may side with Descartes in his denial of sentience to (any) animals, but his view seems indefensible.²⁷⁷

²⁷⁶ Darwin, *Origin*, 483.

²⁷⁷ Donald VanDeVeer and Christine Pierce, *The Environmental Ethics & Policy Book*, 3rd ed. (Belmont, CA: Wadsworth/Thomson Learning, 2003), 117-118.

While VanDeVeer, et al. open the above quote with the phrase “in a possibly ambiguous passage” and while they opine that Descartes’ “view seems indefensible,” they saddle Descartes with his *Discourse* position without further explanation and acknowledge that “some people” may still agree with that position. VanDeVeer et al., then devote the next 60 pages of their textbook to articles that argue that nonhuman animals are entitled to moral consideration. They also note that “Darwin considered Cartesian skepticism on this issue irrational.”²⁷⁸

Philosophy seems to encounter nonhuman animals only in the field of environmental ethics and in the field of philosophy of science. In the field of environmental ethics, Kenneth Goodpaster, in 1978, in his article “On Being Morally Considerable”²⁷⁹ distinguishes moral considerability from moral significance. He explains this distinction as follows: “The former represents the central quarry here, while the latter, which might easily get confused with the former, aims at governing *comparative* judgments of moral ‘weight’ in cases of conflict.” {emphasis in original}. Goodpaster’s “central quarry” is, of course, the threshold question of whether any moral consideration is to be afforded. Once moral consideration is found applicable, the second question then becomes one of priority. He argues “we should not expect that the criterion for having ‘moral standing’ at all will be the same as the criterion for adjudicating competing claims to priority among beings that merit that standing.” Goodpaster then immediately opines that the issue of comparative strengths – moral significance – is crucial. While Goodpaster in this article acknowledges that the question of priority is critical, maybe decisive, for any “operational ethical account,” he does not address that question in this article.

Schönfeld, however, has addressed that question in his article “Who or What Has Moral Standing” through the following proposed rule: “*The interests of potential and actual moral agents can override the interests of mere moral patients provided the interests involved are comparable.*” {emphasis in original}. He then argues that this “rule is justified by factual differences in moral capacities which are of immediate relevance for differences in moral standing.” Schönfeld explains this position as follows: “It is irrelevant for moral standing that only humans, but no birds, can do math, or that only birds, but no humans, can fly, but it is not irrelevant that only humans, but no birds can be moral agents in the terrestrial biosphere at present.”²⁸⁰

²⁷⁸ Ibid., 118.

²⁷⁹ Kenneth Goodpaster, “On Being Morally Considerable” in *Environmental Ethics: Readings in Theory and Application*, 5th ed., ed. L.J. Pojman and P. Pojman (Belmont, CA: Thomson Wadsworth, 2008), 156.

²⁸⁰ Martin Schönfeld, “Who or What Has Moral Standing,” in *American Philosophical Quarterly* 29, no. 4 (1992), 357-358.

Clearly, philosophy has much to do in attempting to improve human relations – and not many other fields of effort are sincerely attempting to advance that improvement. Still, it may be valuable – possibly even critical – to take Kant very seriously in his recommendation to humanity about nonhuman animals. While Kant was wrong when he said that nonhuman animals are not self-conscious, cannot judge, and exist only for the sake of human animals, he, of course, did suggest a duty of human animals toward non-human animals that he labeled an indirect duty toward “humanity.” He stated that: “animal nature has analogies to human nature, and by doing our duties to animals in respect of manifestations of human nature, we indirectly do our duty towards humanity.” Because science has now shown that some animals are self-conscious and can and do make judgments and because even Descartes was willing to admit that nonhuman animals were not made for the sole benefit of human animals, we have yet greater reason to seriously evaluate and then implement the duties of human animals to nonhuman animals {and beyond}. Through this process, human animals must recognize that these duties are not indirect but will have a salutary effect, as Kant suggested, on the relationship of one human animal to another and on the relationship of one society of human animals to another.

Schönfeld, in 2006, reported the recent scientific recognition of consciousness in primates and monkeys and suggested a philosophical interpretation of these scientific results. He concludes, like Darwin, that, while nonhuman animals are “less complicated” than human animals, that “does not make them categorically distinct from” human animals. He argues for “the stipulation of a natural continuum of lesser and greater potentials, capacities, powers or forces.” He closes with this advice: "Conceptually, it is time {for philosophy} to abandon the habit of thinking in rigid, static dichotomies, and to replace it by a more realistic way of reasoning along dynamic, evolutionary ranges - the ‘toggle-switch’ model of philosophical verdicts must yield to a ‘volume-knob’ model if a sound perspective on this scientific work is to be gained." Somehow philosophy must develop a volume-knob model way or ways of extending its consideration beyond the realm of human animals if it hopes to accomplish meaningful changes in those human animals.

Webster's Third New International Dictionary lists the word “philosophy” as a combination of “phil-” meaning "to love" and "Sophia" meaning "wisdom" and defines the word as "a love or pursuit of wisdom: a search for the underlying causes and principles of reality."²⁸¹ That definition is {or should be}, of course, familiar to almost everyone. However, the fact is that “reality” seems presently to be defined as the relationships between human animals - not between

²⁸¹ Webster's Third New International Dictionary, ed. P. B. Gove, et al. (Springfield, MA: Merriam-Webster, 1986), 1697-98.

animals in general or life forms in general. One thing made painfully clear through the field of environmental ethics is that reality covers a multitude of the relationships between all life forms {and the stuff upon which those life forms depend} in addition to relationships of human animal life forms.

Somehow it seems that the profession of philosophy must begin to work to widen its perspective beyond human animals and their interrelationships and needs to include, at least, all animals and their interrelationships and needs. While Kant was wrong about the faculties of nonhuman animals, he seems right on point concerning the value to human animals of recognition of the duties of those animals to nonhuman animals. Schönfeld has suggested a meaningful basis for assigning moral significance among animals generally based on comparable interests. Such comparison is, at best, difficult and lifestyles do not change easily. In addition, recognition of the present reality will require an unwelcome mandate of change.

While conventional wisdom may want to assign that mandate to science, Bowler is partially correct – “science interacts with moral values.” It seems, however, as is frequently debated, that science needs not only to interact with moral values but, more properly, to be directed by those values. Those values must be established and continually revised based on the ever-changing needs of life on this planet – all of life on this planet. This task seems to have been the responsibility of religion and/or philosophy. Western religion unfortunately has not been effective and, as suggested by the history reviewed in this paper, has been, and by all indications, still is, a detrimental force in attempting to improve relationships generally. That need for improvement is an awesome task but urgently needs to be addressed.

VII. Conclusion:

In the traditional sense, Montaigne was a skeptic and Descartes and Leibniz were rationalists. As Schönfeld, points out however, labels can deceive. Based on at least the last sixty years of animal science, Montaigne held the rational view about animals while Descartes' *Discourse* position was at best skeptical. Further, humanity need not separate the investigation of reality into the "rigid, static dichotomy" of skepticism and rationalism but can, as Schönfeld argues, use a volume-knob model." Montaigne, Descartes and Leibniz were investigators. Montaigne studied human animals by investigating the human animal that he knew best - himself. Descartes and Leibniz studied animals generally by investigating the natural world that surrounds all animals. In the sixteenth and seventeenth centuries when these philosophers wrote, a volume-knob model was not accepted by the extant Western religious institutions. Even today one of the primary proponents, if not the leading proponent, of the rigid, static dichotomy model is Western religion and its continuing emphasis, direct or implicit, on the first chapter of the first book of the Old Testament, Genesis, and its emphasis, whether literal or metaphoric, on the separation of the animal world and the separation of reality in general.

All three of these philosophers were impacted by the Christian religion but none of them apparently embraced the rigid idea of the Genesis separation. Montaigne could not be found to have directly mentioned the book of Genesis but equated the qualities and characteristics of human and nonhuman animals. Both Descartes and Leibniz criticized the Genesis concept - that all reality was brought into being for the sole benefit of human animals. Lynn White and Peter Singer are correct in blaming Christianity and Judaism and, in particular, the willingness of those institutions to cling, again, either literally or metaphorically, to the separation concept of Genesis.

That separation concept must be directly engaged because of its philosophical and scientific refutation and because of its increasingly negative impact on all life on this planet. Neither Western religion nor any other institution seems presently willing to actively continue the recognition by White and Singer of that impact, let alone, undertake the task of actively engaging that concept. More reverent silence? But then, reality is, after all, the realm of philosophy. To

achieve the volume-knob model of thought, philosophy needs to directly engage the concepts that argue against that model.²⁸²

²⁸² In addition, the made “in the image of God” concept of Genesis 1:27 needs to be engaged because, if human animals are made in that image, the primates cannot be excluded from that image. Actually, even though he was an atheist, Darwin’s position would include all of life in that image. And then Leibniz’s position would include everything with active power in that image – all of dynamic reality {is there anything else?}. Maybe not such an unkind idea and maybe an extremely positive concept for this planet - even possibly from a mystical point of view.

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