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Old Ideas in a New Age: Descartes' Influence on Modern Animal Farming

Descartes is known as "the father of modern philosophy," and for good reason. He is famous for his dictum, "I think, therefore I am," and his philosophical separation of mind and matter underlies the scientific method itself. His championship of reason led him to devise the Cartesian coordinate system and develop much of analytical geometry. As well, his Cartesian philosophy gave scientific credence to there being a wide separation between humans and animals. Descartes' epistemology of animals, while proven flawed by later scientific studies, has formed the foundation for modern factory farms. In light of the flaws of Cartesian philosophy, the ethics of factory farming must be reevaluated.

All of Descartes' philosophy was built on the central tenet, "I am thinking, therefore I exist" (Descartes, Discourse 15). As such, he frames the question, "How can humans and animals be differentiated?" in terms of thought. In addition, Descartes' animal philosophy is based on Occam's Razor, or the law of parsimony: when considering multiple explanations for a particular phenomenon, the explanation requiring the fewest assumptions, and therefore the simplest, is the correct explanation. Therefore, he begins his treatment of animals with what he considers to be the simplest approach: "...that they don't have minds at all, and that it is nature that acts in them according to the disposition of their organs" (Descartes, Discourse 23).

Consequently, Cartesian philosophy draws a line between instinct and reason. Instinct is "derived from the powers of matter" (Descartes, Discourse 23), meaning that it cannot be extricated from the nature of having a body, whereas reason "must be specially created as a sheer addition to the human body" (Descartes, Discourse, 23). Sentience is divorced from physical existence; instead, it is an additional element of the human nature. Things "derived from the powers of matter" include eating and self-preservation: "Indeed, even if we expressly willed not to put our hands in front of our head when we fall, we could not prevent ourselves. I think also that if we had no thought we would eat, as the animals do, without having to learn to..." (Descartes, Letters 60). For Descartes, the defining trait of rational thought is the ability to communicate: "In fact, none of our external actions can show anyone who examines them that our body is not just a self-moving machine but contains a

soul with thoughts, with the exception of words..." (Descartes, Letters 60). Without language, we would be unable to demonstrate to others that we are rational beings, and might as well be instinctive animals.

These definitions provide a very clear-cut distinction between man and animal: "For it is a very remarkable fact that there are none so depraved and stupid ... that they cannot arrange different words together, forming of them a statement by which they make known their thoughts, while, on the other hand, there is no other animal ... which can do the same" (Descartes, Machines 2). That some animals, such as parrots, are capable of speaking or otherwise communicating to humans to some extent, he explains as the animal learning to express one of its instincts in a fashion that appears, to humans, to be speech (Descartes, Letters 60), while to the animal, it is simply a means of getting a benefit such as food.

Descartes goes so far as to compare animals to machines: "...it seems reasonable, since art copies nature, and men can make various automata which move without thought, that nature should produce its own automata, much more splendid than artificial ones" (Descartes, Letters 61). In a sense, Descartes posits a form of the Turing Test: "For we can easily understand a machine's being constituted so that it can utter words, and even emit some responses to action on it of a corporeal kind...But it never happens that it arranges its speech in various ways, in order to reply appropriately to everything...as even the lowest type of man can do" (Descartes, Machines 1).

With such a clear distinction between animals and man drawn, Cartesian philosophy states that animals have no thoughts, and are therefore separate from humans. It thoroughly establishes humans atop Aristotle's Great Chain of Being, and places animals barely above plants as just another natural phenomenon.

However, as scientific studies of the animal mind have progressed since Descartes' time, serious suspicion has been cast on the claim that animals have no thought. Marian Dawkins in *Through Our Eyes Only?* documents the case of pigeons being able to understand a concept of order in relation to colors and shapes. In an experiment, pigeons were given a series of colored buttons to push. In order to receive a treat, they had to peck them in the order red-green-blue-yellow. The colors were then displayed out of order; the pigeons quickly were able to answer correctly given any order of colors. However, there are only 24 possible orders for these four colors, so this test does not eliminate the possibility that the pigeons were simply memorizing all 24 patterns and a directional order in which to peck. To eliminate that possibility, a second test was performed: the pigeons were divided into two groups, and each group was shown two new symbols, a line or a diamond, as well as one of the colors from the previous test. For one group. the color was shown in the same place in the

order it had been in in the first test; for example, green appears second in the color test, so one test could be line-green-diamond. For the second group, the color was shown out of order, e.g. blue-diamond-line. “The group with the coloured light in the 'right' place in the sequence found the new task very much easier as measured by the number of trials they needed to get up to the preset standard of having correctly solved the task ... The second group, however, confronted with a situation where lights were in positions in a sequence they were not supposed to be in ... could not use their previous knowledge to tell them what to do” (Dawkins 113-114). The pigeons were able to demonstrate that they maintain a model of how the world works, and could use elements from different situations to help them assess a new situation.

A second example, and a fitting counterpart to Descartes’ point about language, is that of the gray parrot Alex. Irene Pepperberg, his trainer, decided to teach him words for concepts by having him observe interaction between two trainers. One would hold up an item, such as a cork or a nut, and the other would name it. If they named it correctly, they were given the item; if not, they were told “No!” and the item was taken away. After watching several of these sessions, Alex began to answer the questions of the trainer and was appropriately rewarded or told “No!”. After a few training sessions, Alex was capable of identifying nine different objects with an 80% accuracy. The trainers then proceeded in the same fashion to teach him the concept of quantity: for instance, five sticks. Several training sessions later, he was able to give the number of items held up to him with an 80% accuracy as well. Interestingly, when he was shown several unfamiliar items, such as toy cars, he was still able to answer correctly. “Alex had clearly transferred ‘Three’ from a familiar to an unfamiliar situation, showing that he had an idea of what constituted ‘three’ that was not tied to specific situations or specific things” (Dawkins 125). Alex’s ability to build abstractions in his mind demonstrates the beginning of rational intelligence.

But what is perhaps more interesting than these results is the conservativeness with which the experiments were performed. Much of the actual interrogation of Alex was done by people who knew little more than that they had to hold up, say, five sticks, and ask, “How many?” This was intended to prevent Alex from learning subconscious cues from one trainer and thereby skewing the results. As well, all the experiments were videotaped, and the correctness of his answers was judged quite harshly; giving an incomplete or delayed answer did not count as correct.

In this argument, Alex provides an excellent counterpart to Descartes’ claim that animals which appear to speak are simply expressing instinctual desires: Alex, while having no interest in toy cars (they are neither edible nor gnawable), could correctly identify the number presented to him. As well, he did not have much interest in quantities of items at all; one of any item was

sufficient to satisfy him for a while. As such, it appears that he is communicating more than instinctual desires require.

Dawkins summarizes these and several other experiments, both in the lab and in the wild, "The most plausible explanation, then...is that at least certain animals can think." (Dawkins 127) These experiments have been intentionally performed with animals that are hard to anthropomorphize to make the researchers more skeptical about their own results. As well, the tests are cleverly designed to rule out as many other possible explanations for the subjects' behavior, leaving the conclusion that some animals can think as the simplest explanation for the results.

But while some modern science has been busy disproving Descartes' ideas about animal thought (ironically, as science has a way of doing, using the framework developed by Descartes for scientific inquiry), other scientific inquiries and technical developments have proceeded with basing their ethical assumptions on Cartesian philosophy. In particular, modern developments in farming have been made possible by the strong distinction between humans and animals drawn by Descartes. In their essay "Brave New Farm?", Jim Mason and Mary Finelli explain how modern farmers view their livestock: "...virtually all poultry products and most milk and meat in the US come from animals mass-produced in huge factory-like systems" (158). They detail how humans modify and manipulate these animals, using breeding, feeding, and even genetic modification to tailor them towards a specific end product. Marjorie Spiegel, in her essay "In Defense of Slavery", reports an interview with a worker in an egg factory. She asks, with respect to whether hens would be happier being able to walk around on the factory floor instead of being confined to cages, "But in terms of the chickens who are doing the actual work, producing the eggs. What would they be happier with?" Her interviewee responds, "On the other hand, what's the alternative? Do we quit eating eggs?" (Spiegel 12) This response demonstrates the common mindset that factory farming is the only economic way to obtain various staples, and that cost-centered view inevitably brings with it the mindset that the animals in the factory are machines, designed to be as efficient as possible at producing.

The parallels with Descartes' argument that animals have no thought cannot be denied. He states that animals are nature's machines. Factory farms take these machines of nature and put them to work for human benefit. Mason and Finelli establish that our modern farming of animals is hardly different from our modern farming of plants, where we plant them in large fields and use controlled fertilization to breed special variations of all sorts. As well, the harsh, unnatural environments factory farms place their meat machines in are not a place any ethical person would place another thinking being. "...The animal factory pulls our society one long, dark step backward

from the desirable goal of a sane, ethical relationship with the natural world and our fellow inhabitants" (Mason and Finelli 159). Only if we view animals as non-thinking, non-sentient beings can we use them as machines in a factory.

Temple Grandin, a professor of Animal Science at Colorado State University, discusses another angle of how animals are treated as machines in factory farms. Her work focuses on humane handling of livestock. She focuses on what frightens animals and how to design machinery and train people to reduce the stress of livestock in farms. Even from a completely pragmatic point of view, this is easily justified; reducing animal scares prevents damage from stampeding cattle and streamlines the factory farm. In fact, it is easy to see this as simply tuning nature's machines to make them run smoothly for human purposes.

Grandin's work, however, is not based on the paradigm of animal as machine: she uses studies of autistic people, and her own experiences with her autism, as a foundation for determining what causes stress in animals. "A great deal of my success in dealing with animals," she notes, "comes from the simple fact that I see all kinds of connections between their behavior and certain autistic behaviors." (Grandin, Pictures 172) She has developed tactics for understanding why cattle become scared: "...both cattle and people with autism can become very set in their habits. A change in a daily routine can cause an autistic person to have a tantrum...when cattle learn that a certain area is safe, they become reluctant to move to a new area, which may contain danger." (Grandin, Pictures 172) As well, she draws on the fact that animals have a very visual memory to explain why animals rarely stop fearing something by comparing them to people with PTSD: "When people with PTSD remembered the trauma, visual areas of their brain lit up...and when people without PTSD remembered their traumas, verbal areas lit up." (Grandin, Translation 194)

This method of streamlining the factory farm reveals a telling dichotomy: using animals as machines, but understanding them through being human. "Her successes in improving equipment to handle them depend upon her ability to empathize...[she must] keenly and carefully imagine an animals' experience approaching death." (Hediger 337) Grandin struggled with the fact that all her designs for machinery helped animals die: "I was upset that I had just designed a really efficient slaughter plant" (Grandin, Translation 307). Her pragmatic mindset shows rather strongly when she explains how she can create such machines and yet still love animals: "...we brought these animals here, so we're responsible for them. We owe them a decent life and a decent death...That's my job" (Grandin, Translation 307). This rationale has allowed her to drastically improve factory farm efficiency and product quality as well as raising the living conditions and treatment of factory farm livestock.

But while this justification may be sufficient for pragmatists, it ignores the overarching issue of how humans view and treat animals. While Grandin is imagining herself as an animal, her work is allowing animals to be treated as factories for meat: on the one hand, understanding animals through being human, but on the other treating animals as if they were machinery. Her work takes advantage of a better, relational understanding with animals to generate improved production from factories made up of those animals. This dichotomy between personification and objectification should cause us to question whether such a disconnect indicates a fundamental flaw in modern farming's practices.

In light of modern criticism of Cartesian animal views, the ethics of factory farming must be reconsidered. Unfortunately, this is not a simple task, as much of Descartes' ideas permeate the modern technical and scientific fields. Nonetheless, there is significant scientific evidence that animals are capable of more than pure instinct. Therefore, by the law of parsimony, we must reject Descartes' view of animals as nature's machines, and instead accept the simpler approach that animals are sentient beings capable of forms of rational thought. This about-face in a basic metaphysical belief must then result in a re-evaluation of all scientific results and technological advancements based on it.

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