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NEO-CARTESIANISM AND THE PROBLEM OF ANIMAL SUFFERING

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The existence and extent of animal suffering provides grounds for a serious evidential challenge to theism. In the wake of the Darwinian revolution, this strain of natural atheology has taken on substantially greater significance. In this essay we argue that there are at least four neo-Cartesian views on the nature of animal minds which would serve to deflect this evidential challenge.

What a book a devil's chaplain might write
On the clumsy wasteful, blundering, low, and
Horribly cruel works of nature!
—Charles Darwin

I. Introduction

In the half century after the publication of the *Origin of Species*, Christian apologists who adopted the evolutionary account of biological origins were forced to grapple with how to explain the pervasiveness of animal suffering and death required by Darwin's view. As Darwin himself explained the problem, "the sufferings of millions of the lower animals throughout almost endless time" is apparently irreconcilable with the existence of a creator of "unbounded" goodness.[1] Traditional attempts to explain the reality of animal suffering and death as consequences of the Fall appeared moot in the face of the mounting evidence that humans were late-comers in the evolutionary derby.

However, these early attempts to address the problem of animal suffering failed to provide a coherent and satisfying reply. Many were thus led to conclude, with Brooklyn's popular clergyman Henry Ward Beecher, that God's purposes in nature lay beyond our ken, and that "neither in Nature nor in Providence are His ways like our Ways."[2]

In recent days, the problem of animal suffering in the context of theodicy has received almost no attention. This absence is especially conspicuous when one notes that in the most discussed recent argument for atheism from the existence of evil, William Rowe employs an imagined case of animal suffering as the central example.[3] Rowe presents the image of a deer, burned in a forest fire, dying slowly and in great pain, alone in the woods. What kind of God, he asks, could possibly permit preventable suffering in an animal that lacks moral responsibility, if the suffering serves no purpose? If the existence of pointless evil is incompatible with the existence of the God of orthodox theism, then if it is reasonable

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to regard animal suffering as gratuitous, it is unreasonable to believe that such a God exists. Since the Darwinian picture of biological origins has now become firmly entrenched, this piece of natural atheology provides the critic of theism with an argument that deserves a serious and thoughtful reply.

Of those proposed strategies that deal specifically with animal suffering and pain, some are based on the "standard view" of Descartes which includes, what John Cottingham has called the "monstrous thesis" that "animals are totally without feeling."[4] On this standard view of Descartes, animals are mere automata and consequently possess only those characteristics found in the rest of mechanistic nature. Non-human creatures are thereby excluded not only from having thought, reason, or consciousness, but also from having sensation of any kind.[5] On this view, animals do not experience pain because they do not experience anything at all. They are, essentially, nothing but mobile machines. The yelps and squeals of animals are no more expressions of pain than are the creaks and groans of machinery in need of lubrication. On this view, since animal suffering is merely apparent, there is no evil left for the theist to explain.

Despite its obvious advantages for explaining apparent evil, the "monstrous thesis" that animals are totally without feeling elicits strong negative reactions ranging from incredulity to moral outrage. Nonetheless, we will argue that various defensible neo-Cartesian accounts can be formulated and put to work in addressing the problem of evil raised by apparent animal suffering.

II. The Theist's Task in Confronting Evil

Before we venture forward, it is worth pausing briefly to get clear on exactly what we take ourselves to be doing in addressing this challenge. What is the theist up to when trying to "explain" the existence of evil? In general, what the theist is up to is confronting an evidential challenge implicit in a question of the form, "Why does God permit X?" where X is a type of event the occurrence of which appears incompatible with or which makes unlikely the existence of the God of traditional theism. In this context, X is a type of evil, or more narrowly, an apparently pointless type of evil, which appears to provide a bit of evidence that is either flatly inconsistent with the truth of theism, or which makes theism improbable.[6]

Let's consider these in turn. For those who aim to argue that X is *inconsistent* with theism, the theist need offer only what Alvin Plantinga has deemed a "defense." A "defense" is a claim which is compossible with theism and which entails the existence of tokens of X. For its purposes, a defense need not be plausible or even true. It need only show how God and tokens of X might possibly coexist.

However, arguments aiming to show the incompatibility of God and evil are no longer taken very seriously. What are taken seriously, rather, are arguments which aim to show that evil makes the existence of God implausible. And defense alone is useless in the face of these challenges since showing the mere compossibility of the existence of God and evil does nothing to show that the existence of God is not unlikely given the reality of evil.

What then is required? The theist might hope, perhaps, to be able to provide the whole and sober truth about why God permits evil. Plantinga labels this sort of response a "theodicy." Theodicy would, of course, suffice to show that the existence of evil does not make the existence of God unlikely. But constructing a theodicy is, as David Lewis, points out "too hard."[7] And what is more, it is not necessary.

Those who have tried to find a middle way between defense and theodicy are not in complete agreement about what *is* necessary. Lewis claims that we need to develop "hypotheses that are at least somewhat plausible, at least to the Christian,"[8] which show how evil provides a necessary means for certain goods. Yet this standard also seems too high. It would, of course, be nice if the theist could devise such hypotheses. But the theist's task in this context is to preserve the reasonability of theistic belief in the face of the apparent evidential challenge raised by X. In such a situation the theist may freely admit that she is not aware of any *plausible* hypotheses which turn back the evidential challenge raised by X. Still, there might be a variety of reasons which are, for example, *true for all she knows* and which are such that if they were true, they would constitute good explanations for evil (that is they would be consistent with theism and would explain why the types of evil would be necessary for securing outweighing goods).

In light of considerations similar to these, Peter van Inwagen has argued that what is required is rather "a story according to which God and suffering of the sort contained in the actual world both exist, and which is such that . . . there is no reason to think that it is false, a story that is not surprising on the hypothesis that God exists."[9] But this standard turns out to be too high still. To see why, consider the following variation on a story used by van Inwagen in discussing this issue. Suppose that Jane wishes to defend the character of Richard III and that she must contend with evidence that Richard murdered two princes in the Tower. What is the evidence? Perhaps the following: a foreign spy reports to Jane that he saw Richard issue the death warrant, the two princes were plotting a threat to Richard's throne which he was seeking to thwart, and Richard was known to be in court at the Tower immediately before the murders were carried out. All of these provide Jane with "some reason" to think that Richard had the princes murdered. Still, Jane might accept the following claims: the foreign spy was seeking to undermine Richard's character, Richard had foresworn killing rogue princes, and certain guards at the Tower were seeking to damage Richard's reputation. In light of that, Jane considers the possibility that the guards, knowing Richard had recently held court at the Tower, murdered the princes to implicate him. Jane does not know this to be the case, it is not rendered plausible by what she knows, and she even has some reason to believe it false. Still, on the assumption that she has some good reason to trust that Richard has a good character in the first place, this conjunction of hypotheses allows her to maintain the reasonability of her belief in Richard's good character since she is not justified or warranted in rejecting it in light of the totality of the claims she accepts.

Similarly, to deflect the evidential challenge posed by evil, the theist need only construct hypotheses which she is not justified or warranted in rejecting in light of the claims she accepts. In order to avoid confusion,

we will not label such hypotheses "theodicies" or "defenses." The new category deserves a new name. For the remainder of this essay we will call such a hypothesis a *causa dei* (or "CD" for short), the Latin equivalent of the Greek "theodicy."[10]

III. A More Subtle Reading of Descartes

On the view standardly attributed to Descartes, animals are mere unconscious automata. The numerous critics of this view have rejected it for a variety of reasons. Some see it as inviting moral atrocities against animals. Some see it as inconsistent with what we know about our own evolutionary origins and our neuroanatomical similarity to other animal species. Still others find it an affront to common sense.

While the unconscious automata view strikes many as implausible, there are hints that this was not the only view of animals' mentality considered by Descartes. There is no doubt that in some texts Descartes likens animals to mere machines. For example, in a letter to Mersenne of 1640 he writes that "For in my view, pain exists only in the understanding. What I do is explain all the external movements which accompany feeling in us; in animals it is these movements alone which occur, and not pain in a strict sense."[11] The view presented here was widely adopted by later Cartesians such as Arnauld and Malebranche and used for specifically theodicean purposes. These later Cartesians argued that divine goodness requires that animals not actually feel the pain that their behaviors appeared to signal, and the Cartesian position supplied an easy route to that conclusion.

A closer examination of some of the texts of Descartes later career, however indicate that he may have held, or may have come to hold, a more subtle position than the one attributed to him by his successors. In these later texts Descartes appears to allow for the reality of animal sensation, while denying that animals have "thought." On this view, "sensation" can be regarded as a function of the corporeal mental capacities, while thought is accomplished through the powers of the immaterial mind alone.

This fits in well with the account we find in *Meditation Six*, where Descartes provides an argument for the reality of the external world that essentially relies on a broadly Aristotelian psychology. For Aristotelians, the mental capacities were parceled out among the sensitive, imaginative, and intellectual "parts" of the soul. Sensitive and imaginative powers permitted facility with particulars, whereas intellectual powers permitted, among other things, awareness of universals, apperception, and the ability to deliberate.[12] Aristotelians attributed all three sorts of powers to human beings, while admitting only sensitive and imaginative powers for animals. Further, they argued that sensitive and imaginative powers were corporeal powers, meaning the activities of these souls were carried out via the operation of corporeal organs, in this case via the sensory faculties and the brain. Thus, while animals had sensitive and imaginative powers, these powers were exercised wholly through the operations of the activity of the corporeal organ.[13] The intellectual powers, on the other hand, do not operate via the activity of a corporeal organ. Although the soul of a human being might be embodied, some of the functions of the human mind went on without the direct involvement of the matter of the substance.[14] Thus,

Aquinas could say, "If the intellect were a body, the intelligible forms of things would not be received into it except as individuated. But the intellect understands things by those forms of theirs which it has in its possession. So if it were a body, it would not be cognizant of universals but only of particulars. And this is patently false. Thus, no intellect is bodily."[15]

In the *Sixth Meditation*, Descartes similarly argues that the powers of sensation and imagination are not part of my essence, since they do not presuppose thought, and thereby concludes that these powers inhere in some corporeal substance to which my soul is intimately connected.[16] On this view, sensation and imaginative capacities are carried out through a corporeal organ (i.e., the brain alone or in conjunction with certain sensory neural pathways) and thus sensation and memory can be present even in beings lacking immaterial souls. This view seems to allow that animals have both sensation and memory, while lacking the suite of mental capacities grounded in the intellect (i.e., awareness of universals, apperception, and freedom). As a result, Descartes' views appear to permit animals to have the same first order sensitive and imaginative states that humans have, including pain.

To attribute this view to Descartes on the evidence of the argument from *Meditation Six* would be a stretch. But in fact, some of his late correspondence gives further reason to believe that Descartes held just such a view. In a letter to the Marquis of Newcastle in 1646 Descartes writes, "All the things which dogs, horses, and monkeys are taught to perform are only expressions of their fear, their hope, their joy; and consequently they can be performed without *thought*."[17] Here Descartes attributes fear, hope, and joy to animals while denying that they are capable of thought, i.e., the activity characteristic of the immaterial soul alone. Likewise, in a 1649 letter to More, Descartes goes so far as to insist that his view only denies thought to animals, and not life or sensation, "For brevity's sake I here omit the other reasons for denying thought to animals. Please note that I am speaking of thought, and not of life or sensation. I do not deny life to animals since I regard it as simply in the heat of the heart; and I do not deny sensation, in so far as it depends on bodily organ."[18]

Putting the pieces together, we might understand Descartes' view in the following way. What animals lack is only those capacities conferred by the intellectual soul, such as the ability to think about universals, to reflect on one's own mental states, to deliberate, etc. On this view, while it might be true that animals see, hear, and smell, they are not capable of reflecting on those first order mental states, and thus of regarding them as pleasureable or not. So, while they may hear the symphony, they never say to themselves "Wow, that was wonderful!" since they cannot engage in a reflective awareness of their own sensory states.

IV. Four neo-Cartesian Alternatives

On the more subtle interpretation of Descartes, higher-order cognitive capacities, not first-order sensory ones, form the basis for morally significant distinctions between our conscious lives and the lives of other creatures. We have seen Descartes ground these cognitive differences in ontology. As a substance dualist, who saw mind and matter as distinct substances, he

could conceive of thought as a power of the immaterial mind alone, leaving the powers of sensation to inhere in corporeal substance. Yet, we need not presuppose a *Cartesian ontology* in order to fashion a *neo-Cartesian CD*. Indeed, contemporary non-Cartesian theories of consciousness provide the resources for fashioning several alternative neo-Cartesian CD's for the problem of animal suffering.

Classical Cartesian theodicy founders on the implausibility of the thesis that animals are unconscious automata. Yet, contemporary philosophical discussions of consciousness agree on at least this: there are many different notions of consciousness. So it is open to the neo-Cartesian to affirm that animals are conscious, in an ordinary sense of 'conscious,' while denying they are conscious in yet another ordinary sense of the term.

Obviously, animals are alive and often awake. They are not unconscious in the way rocks are. Animals can have occurrent mental states that play a role in the control of their bodily movements and behavior. These are features of any organism that is *sentient*, and clearly, some animals are sometimes conscious in this sense. Let us call this sort of consciousness, *creature consciousness*.[19] The particular occurrent mental states of sentient creatures can themselves be called *conscious* when they are states of awareness of something else. Let us call this relational notion of the consciousness of a mental state *access consciousness*.[20] Insofar as a housefly can accurately represent a state of affairs external to itself, it has access to its surroundings and is consciously aware of what is nearby.

Most philosophical discussions of consciousness, however, have focused on a third, more mysterious conception of consciousness. This sort of consciousness involves the peculiarly subjective or phenomenal character of experience, the particular way it is like to have certain sorts of experiences, or the qualitative aspect of sensory awareness ('*qualia*'). Let us call this sort of consciousness *phenomenal consciousness* and ascribe such consciousness both to particular mental states and to the subjects of such mental states.

Plainly, a creature can be in a state of access consciousness without being in a state of phenomenal consciousness. A familiar example is the common experience of driving on psychological "autopilot," when one is not aware (phenomenally) that one is driving, even though one is plainly aware (in the creature and access senses) of the road ahead, as evidenced by the fact that one would appropriately respond to any unanticipated and unusual interruptions.

The phenomena of "blindsight" and "deaf-hearing" provide other more commonly cited examples of the distinction between these two types of consciousness. Patients who have sustained damage to their primary visual cortex may retain the ability to detect, discriminate, and localize visual stimuli presented in the areas of their visual field in which they report that they are subjectively blind. Such "blindsighted" patients report that they are no longer able to see, and yet they are capable of giving correct motor responses to changes in their environment that could only be detected through the visual modalities. In a natural sense, they are conscious of what they think they do not see (they have some access to the external information), while in another sense they are blissfully unaware, for they are not phenomenally conscious of this access.[21]

Patients with corresponding damage to the auditory cortex similarly report being unable to hear, while nonetheless showing a capacity to detect, localize, and exhibit appropriate autonomic reactions to sound. As with blindsighted patients, it is natural to regard these patients as deaf when we consider phenomenal consciousness, while acknowledging that they have mental states which display auditory access consciousness.[22]

Using these distinctions we are now in a position to formulate four proposals for a distinction between human and non-human consciousness. Each of the four proposals, if true, would have the moral significance necessary to sustain a neo-Cartesian CD with respect to animal pain.

The first proposal exploits the distinction between access consciousness and phenomenal consciousness:

1. Many non-human creatures are conscious inasmuch as they are alive, awake and have sensations. These creatures have mental states that give them perceptual access to features of their environment in a way that allows them to make the requisite discriminations necessary for psychological control over their behavior. Yet, unlike the sensory states possessed by humans, the mechanisms whereby these organisms have access to the world lack any phenomenal character whatsoever. There is an intrinsic difference between the sensory states of non-humans and humans in this phenomenal respect.

On this proposal, the pain of animals is *blind pain*, inasmuch as the creature has no phenomenal sense of the pain, even though it can have informational access to a harmful situation.

Critics of classical Cartesian CD are not likely to be impressed. Though the proposal does not characterize animals as *unconscious automata in the creature or access senses*, it does seem to make them *unconscious automata in the phenomenal sense*. If deer pain is intrinsically different from a human pain in this proposed way, then deer and other creatures turn out to be phenomenally unconscious *zombies*. To speak of pain in such creatures would be to speak of mental states that are merely similar in function but intrinsically different in a respect that critics might well regard as the most fundamentally important sense of being conscious.

Neo-Cartesianism of this first sort sees non-human sensory states as lacking phenomenal character and regards this as an *intrinsic difference* between sensory states in humans and other creatures. A second neo-Cartesian CD could detach the second part of that claim. Those pressing this second CD could persist in maintaining that the pain sensations of other creatures lack phenomenal properties, but maintain that this does not mark an intrinsic difference between pain states in humans and pain states in other creatures. The key to this proposal is to deny that phenomenal consciousness is an intrinsic feature of mental states. Just such a claim is a consequence of a contemporary theory of consciousness with considerable currency.

On strictly functionalist theories of the mind, all psychological properties are representational or functional properties. It is thus natural for functionalists to regard the difference between a state's being phenomenally conscious or not to turn upon relational facts about the state, and not upon intrinsic, qualitative features of the state itself. For example, according to

Higher-Order Thought (HOT) theories, a mental state's being conscious consists in having an accompanying conceptual mental state that represents the first state as its intentional object.[23] This general theory of state consciousness can then be employed to generate a theory of phenomenal consciousness on which a phenomenally conscious mental state is a state with non-conceptual content, which is the object of a higher-order intentional state, and which causes that state non-inferentially.[24]

Our neo-Cartesian theodicist, buoyed by the prospect of being fashionably up-to-date in the philosophy of mind (generally a rather unfamiliar feeling for Cartesians), is now in a position to formulate a second proposal:

2. For a mental state to be a conscious state (phenomenally) requires an accompanying higher-order mental state (a HOT) that has that state as its intentional object. This HOT must be a thought that one is, oneself, in that first-order state. Only humans have the cognitive faculties required to form the conception of themselves being in a first-order state that one must have in order to have a HOT.

On this second proposal, no intrinsic difference in states of pain or other sensory states grounds the phenomenal difference. Instead, the phenomenal properties turn on the extrinsic features of the state, viz., whether the creatures is aware of itself as being in that first-order state. There is nothing it is like for such a creature to be in pain, not because the state of pain in that creature is intrinsically different, but because the creature lacks the relevant access to itself and to that state of pain.

Is neo-Cartesian theodicy available only to those who accept functionalist theories of phenomenal consciousness? Indeed not. Those who think phenomenal consciousness is an intrinsic qualitative feature of first-order states can concede that this is a further similarity between humans and other creatures while persisting in the belief that only humans have higher-order access to these first-order states. Thus, we have a third neo-Cartesian proposal:

3. Some non-human creatures have states that have intrinsic phenomenal qualities analogous to those possessed by humans when they are in states of pain. These creatures lack, however, any higher-order states of being aware of themselves as being in first-order states. They have no access to the fact that they are having a particular feeling, though they are indeed having it. Since phenomenal properties of states of pain and other sensory states are intrinsic to the states themselves, there is no difference on this score between humans and other creatures.[25]

One might object to this view by arguing that there is moral disvalue in a world in which there are many organisms possessing mental states that have phenomenal features characteristic of painful sensations. Access to these states, the critic might contend, is irrelevant to whether it is bad to be in the state itself. Clearly, if a state is intrinsically bad, it is not made better merely in virtue of the fact that the creature does not know about it.

The objection misses the mark. For defenders of this third proposal, no less than those defending the second, can plausibly respond that so long as an animal lacks the higher-order access, so long as it cannot represent

itself as being in a state of pain, there is nothing about its situation that is of intrinsic moral disvalue. For lacking any such access, there is simply no victim, no subject for whom it can be said that there is a way it is like for it to be in such a state of pain.[26]

Does neo-Cartesian CD require that other creatures lack any higher-order access to states of pain? Not at all. For, even if an animal has higher-order access to a first-order state of pain, it would lack any moral disvalue if the animal did not find the state to be undesirable. Such a mental state might bear some similarity to the conscious experience of persons with a damaged or absent prefrontal cortices. Individuals who have undergone a prefrontal lobotomy, for example, have reported an awareness of familiar pains but paradoxically insisted that they no longer found the pain to be undesirable or unpleasant. They claim the pain "feels" the same, even though it no longer bothers them. As a result, creatures of this sort have first order pain states, and second order awareness of them. But because they lack the capacity to regard those states as undesirable, such creatures do not *suffer* because of their pain.

We then have available a fourth neo-Cartesian proposal:

4. Most creatures lack the cognitive faculties required to be in a higher-order state of recognizing themselves to be in a first-order state of pain. Those non-human creatures that can on occasion achieve a second-order access to their first-order states of pain, nonetheless do not have the capacity to regard that second-order state as undesirable.[27]

This fourth view faces at least one immediately obvious objection: if animal pain were understood on this model, then they would be incapable of properly motivating the sorts of avoidance behaviors pain typically elicit. After all, if the prey did not find the pain of being eaten by a predator undesirable, why would it struggle to get free?

This objection rests on the assumption that animal behavior is motivated, at least sometimes, by the pleasantness or unpleasantness of the animal's mental states. But there is no reason to think this is true. On evolutionary grounds, it is reasonable to suppose that if animals exhibit certain behaviors when they are exposed to potentially injurious (noxious) stimuli, they do so because reacting this way has proven to be adaptive. The adaptiveness of the behavior is utterly detachable from any feelings of pleasantness of unpleasantness that may attend the mental state that generates the behavior. Thus, if the prey seeks to escape the predator, to cower, to whimper, etc., it does so because such behaviors have, for whatever reason, proven to be adaptive or to be related to adaptive capacities the organism possesses. But this is true whether or not the mediating mental states are regarded as pleasant or not. As we will see in the next section, even humans often exhibit pain-avoidance behaviors in the presence of noxious stimuli without (or prior to) feeling the unpleasantness attending the noxious stimulus. This is true even in some cases where the person, in retrospect, takes the unpleasantness of the stimulus to be the explanation for his action. For example, we know that when we withdraw our hand from a hot object, the behavior is initiated before the painful sensation is felt, even though most would claim that they moved their hand away because "it hurt."[28]

Common to all of these neo-Cartesian proposals is the thesis that non-human creatures lack some psychological capacity that grounds a morally significant distinction adequate for a CD. The successful neo-Cartesian CD must steer around a rock of Scylla and not exaggerate the psychological difference between humans and non-humans. Yet, it must also avoid a whirlpool of Charybdis by not leaving unexplained states in animals that are simply not good.

Constructing a successful CD requires that the components be such that we are not justified or warranted in rejecting them in light of what we accept. However, some might argue that the neo-Cartesian positions set out above fail to get over even this low hurdle, since some things we accept, or ought to accept, do warrant their rejection. The first thing we accept, or ought to accept, is that the evidence of ethology, neuroscience, and evolution render these descriptions of animal mentality untenable. The second thing we accept, or ought to accept, is that animals deserve moral consideration, and the neo-Cartesian CD's described above preclude such consideration. Below we respond to these concerns.

V. Empirical Objections to the neo-Cartesian CD

In section IV we take ourselves to have shown that there are a variety or positions defended in contemporary philosophy of mind which would deliver the distinctions required to sustain a neo-Cartesian CD. But one might wonder if evidence from outside of philosophy might undercut the neo-Cartesian picture. If the known facts of science, for example, were inconsistent with these neo-Cartesian views, this would make it inconsistent with our acceptances and thus mandate its rejection. And one might suppose that there would be strong evidence from cognitive ethology, neuroscience, and evolution to rule out the neo-Cartesian position. In this section we try to address this concern in brief.

Ethology is the study of animal behavior in a way that pays special heed to the importance of ecological and evolutionary considerations. Cognitive ethology looks specifically at the extent to which animal behavior might best be explained in terms that attribute cognitive mental states to animals. Fundamental to the standpoint of the cognitive ethologist are the claims that animal behavior is profitably explained by postulating these inner mental states, and that, as with humans, the behavior of other organisms is often best understood in terms of their information processing capacities.

Those who are attracted to cognitive ethology as a tool for understanding animal behavior, are attracted because of its apparent success in explaining the apparently thoughtful behavior of animals. But it is worth noting at the outset that it is an open question whether the success of these explanations require that we actually attribute the cognitive states to the animal. As David DeGrazia notes[29] we can distinguish two species of cognitive ethology: strong and weak. Weak Cognitive Ethology (WCE) recognizes the utility of explaining and predicting animal behavior in cognitive terms, but does not go so far as to actually attribute the mental states to the animals. On WCE, we can consider animals and their behavior to be analogous to chess-playing computers and their behavior. We can all recognize

the utility of explaining the behavior of the computer by saying things like "It is trying to fend off the challenge of the queen" or "It is trying to lure the queen side rook" without going all the way to actually attributing beliefs, desires, and intentions to the computer. The friend of WCE adopts this same stance towards explaining animal behavior.[30] Strong Cognitive Ethology (SCE) on the other hand, uses the same explanatory strategies, but goes further by attributing the cognitive states to the organism. Of course, simply assuming the truth of SCE would be to beg the question against at least the advocates of our first neo-Cartesian CD. SCE critics of neo-Cartesianism will need independent arguments for their views.

Second, even if we did think that there were overriding reasons to accept SCE, it is an open question what implications this would have concerning the sort of consciousness that is central in neo-Cartesian CDs. In the first three CDs what matters is the presence of absence of phenomenal consciousness arising from second order mental states. In the fourth CD what matters is the capacity of the organism to form reflective pro or con attitudes towards such second order mental states. Do the explanations invoked by SCE require or suggest that animals have these sorts of capacities as well? It is not immediately obvious that they would, since these explanations typically invoke only beliefs and desires, and it is not at all clear that beliefs and desires depend on such second order mental states.[31]

If, however, we had some sense of what mental capacities essentially involved these sorts of second order states, and we had some behavioral reason for attributing those mental capacities to animals, then we would have reason to attribute these mental states as well. At least some advocates of SCE think that there is little reason to attribute such conscious states to animals. The prominent primatologist and advocate of SCE, Gordon Gallup, Jr., argues that we have no reason to attribute second order mental states to anything other than humans and other humanoid primates.[32] Gallup contends that the only sure sign that animals have awareness of their own mental states is the presence of self-concepts. If the animal has the capacity to conceive of itself, it can thus think of itself and thereby have an awareness of itself. If it lacks this capacity, it lacks awareness of itself. Gallup claims, "Either you are aware of being aware or you are unaware of being aware, and the latter is tantamount to being unconscious. The sleepwalker is sufficiently aware to navigate and avoid colliding with obstacles, but unaware of being aware. . . . If a species fails to behave in ways that suggest it is aware of its own existence, then why should we assume it is aware of what it is doing?"[33]

Gallup has famously argued for the presence of such self-awareness in certain organisms using evidence from experiments which involved placing a red dot on the foreheads of mirror trained primates and noting that, when viewing their images in the mirrors, the primates would immediately touch the spot on their forehead, signaling that the primate recognized the mirror image as an image of itself. Gallup takes this behavior as evidence that the primate recognizes that it is seeing "itself" in the mirror. It is worth considering however, whether such experiments show that even these primates have self-awareness of the sort relevant for neo-Cartesian CD. Gallup shows here only that some animals have the capacity to recognize certain bodies as their own. This is a form of

self-awareness, but it is surely different from having second order awareness *of one's own mental states.*

Are there other less stingy ways of reading the behavioral evidence such that the evidence provides good reason for attributing the needed type(s) of second order states to animals? As a first attempt, one might simply argue that pain related behaviors themselves suffice for such an attribution. But as we have argued earlier, the empirical evidence from phenomena such as blindsight, deaf-hearing and the like make it clear we cannot generally infer the existence of second order awareness from behavior in this simple fashion. In addition, since we know that pain related behaviors are not always to be explained in ways that require appeal to second order awareness of pain states, there is no straightforward way to infer one from the other. Many simple organisms exhibit behaviors such as recoiling from potentially injurious (noxious) stimuli without any pain quale. This is true of microorganisms, snails, jellyfish, etc. What is more, there is strong evidence that, in many cases, pain related behaviors *in human beings* are not intrinsically connected with the conscious awareness of pain states. First, there are well-documented cases of human beings displaying both physiological and behavioral evidence indicative of experiencing pain, while the patients report not actually feeling pain.[34] Second, it is clear that in many cases pain behaviors are not caused in any way by the qualitative mental states that accompany the noxious stimulus. In cases of simple pain avoidance, such as withdrawing a hand from a hot surface, it has been firmly demonstrated that the pain related behavior precedes the conscious awareness of pain, as noted in section III.[35]

Still, one might argue, we know that even if jellyfish lack second order awareness of pain, *we* do not. As a result, the capacity for such awareness appears at some point in evolutionary history. If we can discover the physical basis for such awareness, then we can perhaps discern which organisms actually experience pain in the way that we do. We will return to this claim below when we consider the neurological objection.

Although the behavioral evidence from pain avoidance does not provide the critic with what she needs, some have argued that the behavioral evidence provides a more direct line of attack, at least against the first three neo-Cartesian CD's. These first three CD's depend essentially on the fact that animals lack a second order awareness of their own mental states. Depending on the view, this lack entails either that the animals have no phenomenal mental states at all or that they lack access to the phenomenal character of their mental states. Perhaps we might be able to make an empirical case for the implausibility of these views by showing that at least some organisms have the capacity for second order awareness of their own mental states. Is there any evidence that animals have such second order awareness?

It is worth noting at the outset that very few behaviors seem to require such consciousness awareness. As Bob Bermond notes, "almost no human capacity *requires* consciousness, e.g., conditioning, acquisition of complex procedural knowledge, learning of natural and artificial grammars, breakthroughs in physics and mathematics, solving equations, and learning processes and decisions which steer our behavior in daily situations."[36] However, two sorts of behaviors seem especially suggestive of

such second-order awareness. First, apparently deceptive behavior seems to indicate that animals are aware of the mental states of others, implying a general capacity for "awareness of mental states." For example, Jane Goodall has described behavior in which chimpanzees appear to go to great lengths to avoid looking at, and sometimes even obscuring, otherwise unnoticed fruit while dominant males are present, and then going on to eat it after the others leave.[37] Second, animals sometimes seem to show a more direct awareness of the first order mental states of others. For example, in one suggestive experiment, researchers describe chimpanzees removing the blindfold from a trainer's face in order to lead him to a box filled with food which only the trainer could open.[38] The results seem to indicate that the chimps have an awareness of what the trainer's mental states would be like with the blindfold on, thus displaying a general awareness of mental states.

Yet while such evidence is suggestive, it is not decisive. Behavior of the first sort can be explained by simple conditioning. Past instances in which the chimp looked at or failed to obscure the fruit would have led to loss of reward. The second case is a bit more interesting, but still not decisive. In this case, for all we know, the chimp relies on its awareness that eyes are necessary for proper navigation. Seeing the blindfold on the trainer, and recognizing that this prevents the trainer from navigating, leads the chimp to act as it does. This is the sort of inference we would draw if, for example, we saw a chimp carry a nonambulatory trainer to the locked box. We would not infer that the chimp knows what it feels like to be unable to walk. We would simply assume that the chimp has the capacity to recognize that trainers without legs can't walk. It is not clear that any stronger conclusion is warranted in the case of the blindfold.

If considerations of animal behavior are not decisive, perhaps neuroscience and evolution will raise more serious objections. Unfortunately, the evidence against the neo-Cartesian CD from these quarters is thin. Neuroscience is of limited use since we simply do not know what explains phenomenal or second order consciousness at the neural level. While a number of interesting experiments have been done on this front, none has delivered any decisive positive information. We do know that there is no consciousness "lobe." The neural capacities which underlie consciousness are distributed across various perceptual systems and seem to depend on specific forms of neural structural and dynamic complexity, rather than the presence of a distinct structure. As a result, losing the capacity for phenomenal consciousness in one perceptual modality might leave the others full intact.[39] While some experimental work has been done in an attempt to discover exactly what the neural correlates to phenomenal consciousness might be, none have been successful.[40] As a result, the neural evidence will not be of much value for assessing these neo-Cartesian views.

This fact, however, not only shows us that the neuroscientific critique of neo-Cartesian CD's fail, but also shows us why the evolutionary critique will have a hard time succeeding as well. We can press as hard as we like on the fact that there is continuity and similarity between the peripheral and central nervous systems of humans and their evolutionary neighbors. But since we don't know what sorts of similarities and continuities are relevant in this case, these observations can do no work for the critic.

One might try to narrow the target somewhat here, arguing that while we perhaps do not know enough about the neurology of phenomenal consciousness generally, we surely know enough about the neural basis of pain perception (i.e., nociception) to be able to say that the experience of some animals in pain must closely resemble normal human nociception. But once again, this is simply not the case. What we do know is that many organisms are capable of perceiving noxious stimuli, and are capable of producing adaptive behaviors in response to their pains. We know that in many cases, as described earlier, pain behaviors are not caused by the qualia associated with nociception. Thus, nociception and pain related behavior do not require second order phenomenal consciousness of pain. What we do know about nociception thereby seems to leave room for the possibility of the first three CDs.

What is more, we know enough about human pain perception to know that there is also room for our fourth CD. We know that, in the human case at least, nociception involves more than one perceptual pathway. For example, there is at least one pathway that detects the cognitive significance of the noxious situation, and a second that detects the "emotional" or affective importance of the situation. The latter of these two centrally involves the right neocortex and the prefrontal cortex, the part of the mammalian brain structure which appears last in evolutionary history. The distinctness of these two pathways is important and warrants some brief reflection.

There are three types of cases which display the nature of the distinct pathways. First, as we have already seen in the discussion of the fourth CD, are cases in which lobotomized patients report that they continue to sense or experience pain, but without disliking or being displeased by the pain. These patients report that they understand that the pain sensations signal noxious stimuli, but they simply are not motivated to do anything to rid themselves of the sensations. For example, such patients uniformly refuse analgesics which would eliminate or alleviate the sensations.[41] Similarly, patients with induced loss of function in the prefrontal cortex often display a generalized indifference to the threat of pain and other potentially negative consequences of their behavior. As a result, these patients not only engage in practices which knowingly involve noxious stimuli, but they will act in ways that harm their own long term interests (spending money recklessly, engaging in reckless patterns of social behavior). In all of these cases, the patients report that they understand the negative consequences of their behavior, but they are not motivated to do anything to stop those consequences from occurring.[42]

Finally, there is evidence of these distinct perceptual pathways arising from a comparison of a pair of disorders: prosopagnosia and Capgras Syndrome. Prosopagnosiacs lack facial recognition capacities. What is remarkable however, is that these individuals show clear autonomic and other physiological signs typical in cases where people see things that are familiar. The result seems to be that while they lack the relevant cognitive perceptual capacity, their ability to generate the appropriate affect is undiminished.[43] Those with Capgras Syndrome, on the other hand, are able to recognize ordinary objects and faces as being identical from one encounter to the next. But unlike the prosopagnosiac, they lack appropriate

physiological responses to these objects. Typically, when one sees one's parents, children, spouse, etc., there follows a cascade of physiological responses characteristic of recognition of something familiar. Those suffering from Caprgras syndrome seem unable to process the affective importance of the situation. The result, interestingly, is that those suffering from the disorder mistakenly infer that the familiar looking object or person is in fact a substitute. They report that someone looking just like their parent or spouse is acting as an imposter.[44]

None of this shows, of course that non-human animals have the cognitive nociceptive capacities while lacking the affective ones. But this evidence does make clear that the two pathways are distinct, and that the affective pathway that leads us to regard noxious stimuli as bad or unpleasant essentially involves brain structures, specifically the prefrontal cortex, which most animals lack.

VI. The Ethical Treatment of Animals

Are there disturbing ethical consequences for neo-Cartesian CD's? Must those who deny the reality of animal suffering find nothing objectionable in any possible treatment of non-human creatures? Apparently many Cartesians accepted this implication with glee. Some report of Cartesians that, "They kicked about their dogs and dissected their cats without mercy, laughing at any compassion for them, and calling their screams the noise of breaking machinery."[45]

Robert Wennberg alleges that, in the final analysis, a Cartesian theodicy is stuck with such consequences, and presents a stark choice for us:

> Indeed if we cannot join those particular followers of Descartes who "kicked about their dogs and dissected their cats without mercy . . . " then we must part company with those who would seek to construct a theodicy based on a denial of animal pain.[46]

Does the fact that we do not want to join the dog-kickers and cat-dissecters pose a problem for us as neo-Cartesians? There are at least three issues that need addressing. First, does the endorsement of a neo-Cartesian CD imply that one should regard any treatment of non-human creatures as morally permissible? Second, if animals cannot, in fact, suffer, does our treatment of them turn out to be morally inconsequential? Finally, do the hypotheses of neo-Cartesian CD's imply that non-human creatures have only instrumental value and lack any inherent worth?

In addressing the first question, we would do well to recall what is required to endorse a CD. One must provide an answer to a question of the form "Why would the God of traditional theism permit X?" (where X is a type of event that appears to be gratuitously evil), an answer that one is not justified or warranted in rejecting given the claims one accepts. As neo-Cartesians, we need not claim to know, or even accept, the hypothesis that non-human creatures never experience states that are intrinsically evil. We need only leave open the possibility that this is so, for all we accept. But in light of such a weak endorsement of neo-Cartesian thesis, we must admit that we do not know that animals never suffer, and that

it would be morally reckless to act as if we did. Normally, one ought not shoot at what is moving in the brush, unless one knows it is not a person. Similarly, one should not treat animals as if they do not suffer, unless one knows this is so. We have no such knowledge.

Yet one might press further. Suppose some version of the neo-Cartesian CD turned out to be true. Does it follow that any treatment of animals is morally inconsequential? It does not. Kant famously denied that animals have intrinsic worth, while insisting that there can still be wrongful acts of cruelty to animals. He deems our duties to animals as indirect duties toward humanity.

> If a man shoots his dog because the animal is no longer capable of service, he does not fail in his duty to the dog, for the dog cannot judge, but his act is inhuman and damages in himself that humanity which it is his duty to show towards mankind. If he is not to stifle his human feelings, he must practice kindness towards animals, for he who is cruel to animals becomes hard also in his dealings with men.[47]

On Kant's account, then, cruelty to animals is wrong because it disposes us to harm other persons. Plainly, Kant has provided a morally relevant reason why we should not join those who wantonly beat dogs and dissect cats, and moreover a reason that is compatible with a neo-Cartesian theodicy. This addresses the second issue by showing that neo-Cartesians need not view our treatment of animals as morally inconsequential.

Nonetheless, some have argued that the Kantian response is insufficient by pressing the third issue. These critics argue that the Kantian view denies that animals have value or worth apart from their role in serving human ends and that, as a result, it does not accord them the sort of worth our moral judgments concerning them require. Surely, causing animals needless injury is wrong for reasons beyond the fact that it might lead one to treat one's neighbors with indifference or hostility. The moral judgments we make about cases of apparent cruelty to animals seem to require that we take such mistreatment to be intrinsically wrong. Wennberg puts the objection to the Kantian response this way:

> [With the Kantian line] we end up with a radically truncated moral belief. For one thing, the action of beating a dog with a baseball bat is no longer appalling in-and-of-itself; . . . [thus] whenever we are reasonably convinced that the beating of the pet (or non-pet) will not have negative secondary effects we can beat without restraint.[48]

Can neo-Cartesian CD's support the claim that animals inherently merit moral respect even if they cannot suffer?

Given that we are engaged in the project of CD, our central task is to consider whether or not a theistic or fully Christian worldview properly coheres with the existence of evil. As a result, we can help ourselves to distinctively Christian claims when arguing for such coherence. In light of that, neo-Cartesian Christians can appeal to the fact that the Christian Scripture portrays the natural world as possessing intrinsic worth in virtue of its status as a divine creation. Christian environmentalists have long

appealed to the fact that God creates, owns, and redeems the natural order as evidence of its inherent moral worth. In creating the world, God declares it good even before human beings come on the scene to use it as an instrument or to exercise dominion over it (Genesis 1:28). Scripture contains repeated affirmations of God's ownership of creation (e.g., Psalm 24:1). Finally, God is described both as entering into covenantal relationships with the natural world and as engaged in the project of redeeming it (Genesis 9:8–17 and Romans 8:18–22).

As a result, Christians are obliged to regard nature as having worth apart from its role in serving human ends. What sort of claim does the worth of the natural world place on human creatures? Critics of Christianity have often made the claim that the Judeo-Christian scriptures accord human beings a dominion over nature (in Genesis 1:28) which has encouraged wanton environmental destruction. But claims of dominion are balanced by claims that human creatures are stewards of the created order. As a result, Christians are obliged to acknowledge a *prima facie* duty to safeguard the integrity of nature. Such a duty would undoubtedly preclude pointless destruction of the environment as well as wanton disregard for the integrity of animals.

Grounding the moral worth of animals in the general worth of nature and its integrity requires more fleshing out than we can provide here. For example, one might wonder exactly what "preserving the integrity of the natural order" amounts to. Am I destroying the integrity of nature if I disrupt the smooth sandy surface of the beach with my foot, or if I swat a mosquito? Answers to these questions will have to be filled out via a developed account of the proper functioning of nature and its components. On such an account, interventions in nature will only count as violations of natural integrity if they serve to thwart the proper functioning of nature or its components. This will explain why walking on the beach is not morally objectionable (though perhaps destroying erosion-protecting sand dunes would be). It will also explain why predation, a natural feature of the animal food chain, is not an evil (though perhaps trophy hunting would be).

Nonetheless, the duty to safeguard the integrity of nature is only a *prima facie* duty, one which can be overridden in those cases where violations of that integrity are necessary or prudent for securing greater goods. Thus, it would be permissible for one to cut down a tree to secure shelter or to kill a fish for food. Some might object that this position is still not robust enough since it also fails to provide proper grounding for still further moral judgments that we make concerning animals. For example, this view fails to explain why certain factory farming practices are morally objectionable. If it turns out that factory farming practices are much more efficient at producing an affordable human food supply than alternative practices, then this view seems to allow that such practices are morally permissible. One might be able to argue in favor of widespread deforestation by logging on similar grounds.

However, our imaginary critic still has some work to do to make this objection stick. First, the critic's claim here is only problematic if we are convinced that factory farming, to use the first example, *is* always objectionable. But our moral judgments about factory farming and logging

practices are typically far less robust than our judgments that there is something wrong with purposelessly beating a pet. Further, many would argue that if factory-farming practices can secure an adequate food supply with significantly greater efficiency that its impermissibility is not simply obvious.

Second, even if such practices *are* objectionable, it might be the case that the moral objection can be sustained on alternative grounds. For example, one might object to factory farming on Kantian grounds of the sort described above. Perhaps if such practices are wrong, their wrongness derives from the impact they are likely to have on those who carry out and are aware of them. In addition, some cases of this sort might be ruled out on still other, non-Kantian grounds. Thus, if over-fishing or deforestation will deplete resources necessary or useful for the well-being of future generations, such grounds might suffice for the wrongness of these destructive practices.

VII. Conclusion

The task of engaging the question of animal pain and suffering in the context of CD is an urgent one, and one that requires serious attention on the part of reflective theists. In this essay we have aimed to show just how far one might be able to press one CD which had substantial currency in the seventeenth century, but which has fallen into disfavor recently. We have made the case that neo-Cartesians can endorse a variety of positions, attributing a greater or lesser degree of mentality to animals, by drawing on contemporary resources in the philosophy of mind. We do not mean to argue that the positions we describe here are known to be true, or indeed that they are true at all. On the other hand, we take the position defended here to be something stronger than a mere defense. Rather, our claim is that we are not warranted or justified in rejecting these positions in light of our acceptances. Thus, since such neo-Cartesian views are "true for all we know" we are not in a position to assert that it is incompatible with the existence of God, nor that this apparent pain and suffering makes the existence of God unlikely.[49]

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NOTES

1. See Darwin's letter to Hooker of July 13, 1856 in *More Letters of Charles Darwin* Volume 1, ed. Francis Darwin and A. C. Seward (J. Murray: London, 1903), 94.
2. Cited in Jon H. Roberts, *Darwinism and the Divine in America: Protestant Intellectuals and Organic Evolution, 1859–1900* (Notre Dame: University of Notre Dame Press, 2001), 135.
3. William Rowe, "The Problem of Evil and Some Varieties of Atheism." *The Problem of Evil*, ed. Marilyn McCord Adams and Robert Merrihew Adams (New York: Oxford University Press, 1990), 126–37.
4. John Cottingham, "'A Brute to the Brutes?': Descartes' Treatment of Animals," *Philosophy* 53 (1978), 551.

5. Ibid., 552.

6. For reasons we cannot justify in detail here, we prefer to cast this discussion in terms of evil types rather than evil tokens. In brief, the reason is that we think that it is consistent with and likely on theism that token evils are pointless. To see why, we might consider the (at least epistemic) possibility that in creating, God is confronted an array of worlds in which there are two that are tied with respect to overall goodness. We can imagine that these two worlds differ only in one significant respect as follows. In one world, person P1 freely carries out a certain moral evil, M1, while in the other world, person P2 freely carries out a distinct but morally equivalent moral evil, M2. *Ex hypothesi* these facts provide no reason for preferring one world over the other. Further, we can stipulate that while the existence of freely choosing beings is a good which outweighs the evil that occurs in these worlds, no particular good is secured, nor particular evil prevented in these worlds by either M1 or M2. If God arbitrarily chooses to create the former world, M1 occurs. While there are, in fact, good reasons for permitting evils of the type of which M1 is a token, there is no reason, from the standpoint of God's intentions, nor from the standpoint of securing the best world, why M1 occurs rather than not. Such considerations show why the theist should never, in treating the issue of evil, aim to give reasons for token instances of evil. For all we know, there are no such reasons. As a result, the theist should stick to showing why the permission of various types of good are necessary for securing outweighing benefits. For more on this consult Michael Murray "Seek and You will Find," in *God and the Philosophers*, ed. Thomas V. Morris (Oxford: Oxford University Press, 1996), and Peter van Inwagen's "The Place of Chance in a World Sustained by God" reprinted in *God, Knowledge, and Mystery*, (Ithaca: Cornell University Press, 1995), 42–65.

7. "Evil for Freedom's Sake," *Philosophical Papers*, XXII (1993), no. 3, 152.

8. Ibid.

9. "The Problem of Evil, the Problem of Air, and the problem of Silence," reprinted in *The Evidential Argument from Evil*, ed. Daniel Howard-Snyder (Bloomington: Indiana University Press, 1996), 156.

10. The phrase has a heritage in Christian thought. Leibniz, for one, uses it as the title for an appendix to the *Theodicy* which was intended to be a summary of the work in Latin.

11. Rene Descartes. *The Philosophical Writings of Descartes: Volume III, the Correspondence*, ed. John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny (Cambridge: Cambridge University Press, 1991) (henceforth, *CSM III)* 148.

12. For a representative Aristotelian defense of these claims one can consult Aquinas. Concerning the claim that sensitive and imaginative powers are directed towards awareness of particulars alone see *Summa Contra Gentiles* (*SCG*) II cc. 66–67. Concerning the claim that the intellectual soul confers powers of awareness of universals, apperception, and free choice see *SCG* II cc. 51, 49 (ß8) and 47–48, respectively.

13. See St. Thomas, *SCG* II c.80–82.

14. St. Thomas, *SCG* II cc.50–51, 55.

15. St. Thomas, *SCG* II 49 ß4.

16. Rene Descartes, *The Philosophical Writings of Descartes: Volume II*, ed. John Cottingham, Robert Stoothoff, and Dugald Murdoch (Cambridge: Cambridge University Press, 1985) (henceforth, *CSM II*) 54–55.

17. *CSM III* 303.

18. Ibid., 366

19. The label comes from William Lycan (*Consciousness and Experience*. Cambridge, MA: MIT Press, 1996) who compares it also to Ned Block's 'access consciousness' and Roger Shepard's 'objective consciousness.'

20. The term comes from Ned Block ("On a Confusion about a Function of Consciousness" in *Behavioral and Brain Sciences*, 1995, 18:227–87), though we do not mean to presuppose everything Block claims for his notion of *access consciousness*. For example, Block thinks it is a fallacy to analyze phenomenal consciousness in terms of access consciousness. We disagree in what follows.

21. For a discussion of this phenomenon and its potential implications for animal consciousness see Peter Carruthers, "Brute Experience," *Journal of Philosophy*, volume 86, 258–69.

22. See, Monica Meijsing, "Awareness, Self-awareness and Perception: An Essay on Animal Consciousness" in *Animal Consciousness and Animal Ethics: Perspectives from the Netherlands*, Marcel Dol, Soemini Kasanmoentalib, Susanne Lijmbach, Esteban Rivas, Ruud van den Bos, (Assen: Van Gorcum, 1997), 130.

23. See for example, David Rosenthal. *Consciousness and the Mind* (Oxford University Press, 2002). To avoid obvious counterexamples, Rosenthal requires that this representation of the first-order sensory state has to be immediate, and not the result of perception or inference.

24. This view has been defended most thoroughly by David Rosenthal (See for example, Rosenthal, 2002). Other higher-order views of phenomenal consciousness are defended as well, but may not be as suitable for the purposes of a neo-Cartesian CD. For example, Higher-Order Perception or "Inner sense" views hold that the higher-order mental state be a state which, like the first order state, has analog content and which has as its intentional object the first order state. This sort of view is defended most recently by Lycan (see his *Consciousness and Experience* [Cambridge: MIT Press, 1996]). One might think it more likely that animals have such higher-order analog states. But as we will see below, the evidence that animals have any such higher order states, analog or conceptual, is very thin. Dispositional Higher Order Thought theories according to which the first order state must have the disposition to cause such higher-order states (see for example, Peter Carruthers, *Phenomenal Consciousness: A Naturalistic Theory* [Cambridge: Cambridge University Press, 2000]) may be useful in constructing neo-Cartesian CD's as well. See note 25.

25. Here we might note that dispositional higher-order thought theories might provide another variant on this theme as hinted at in note 24. On the dispositional view, first order mental states must have the disposition to cause higher order conceptual mental states having the first state as their target in order to be phenomenally conscious. One might argue that human and non-human animals have first order mental states that are intrinsically equivalent, but since animals, in fact, lack the resources for having higher-order conceptual states, those intrinsically identical states never yield phenomenal consciousness in them. Further, note that for the purposes of CD, one need not insist that other creatures lack any higher-order access to first order sensory states. What is critical is only that they lack higher-order access to states of pain. While it is open for the advocate of this CD to point to the grace of God to account for this difference, we doubt those attracted to the second or third neo-Cartesian proposals will find this modification attractive. Opponents are likely to regard it as *ad hoc*, if not desperate.

26. This is not to deny that the state possesses a phenomenal quality. This third neo-Cartesian theodicy treats such phenomenal properties as simple, irreducible, intrinsic features of the first-order state. Thus, phenomenal properties cannot literally be "what it is like for a subject to be in a state," since that is a complex and relational property. Those who find *what it is like-ness* to be a necessary feature of the phenomenal are invited to return to our second neo-Cartesian proposal.

27. This is not the "mad pain" described by David Lewis "Mad Pain and Martian Pain" in *Readings in Philosophy of Psychology*, volume I, ed. Ned Block (Cambridge: Harvard University Press, 1980). Since animals display pain behaviors, they do not act like Lewis's madman or indeed like prefrontal lobotomized patients. Thus it is essential here to insist that finding a state to be undesirable is not to be understood behavioristically, but rather in terms of the presence of a distinct higher-order affective state.

28. This and similar issues are discussed in detail in section IV.

29. *Taking Animal Seriously*, (Cambridge: Cambridge University Press, 1996), 87.

30. One cognitive ethologist who defends this stance is E. W. Menzel, Jr. See his "Chimpanzee Spatial Memory Organization." *Science*, 182:943. 1973.

31. However, it is worth noting that some have argued that the notion of desire does require the very sort of capacity which the fourth neo-Cartesian CD claims animals to lack. Bennett Helm argues, for example, that intrinsic to the notion of "s desires p" is the further notion that s would "take pleasure in the occurrence of p" and would be "pained by the absence of p" (see his *Emotional Reason*, [Cambridge: Cambridge University Press, 2001]). If this analysis were correct, the fourth CD would be in jeopardy. We think this view is in error. However, a discussion of the view is beyond the scope of this paper.

32. Gordon G. Gallup, Jr., "Do Minds Exist in Species Other than Our Own?" *Neuroscience and Biobehavioral Reviews* 9 (1985) 631–41.

33. Ibid., 638.

34. See Bob Bermond, "The Myth of Animal Suffering," in *Animal Consciousness and Animal Ethics: Perspectives from the Netherlands*, ed. Marcel Dol, Soemini Kasanmoentalib, Susanne Lijmbach, Esteban Rivas, Ruud van den Bos (Assen: Van Gorcum, 1997).

35. See B. Libet, "The Neural Time Factor in Conscious and Unconscious Events," in *Experimental and Theoretical Studies of Consciousness*, rd. T. Nagel, (Chichester, UK: Wiley Publishing, 1993).

36. Bob Bermond, "A Neuropsychological and Evolutionary Approach to Animal Consciousness and Animal Suffering." *Animal Welfare*, volume 10, 2001, 54.

37. Cited in Gallup 1985: 635.

38. See D. Premack and A. J. Premack, "Does the Chimpanzee have a Theory of Mind?" *Behavioral Brain Science*, volume 4 (1978) 515–26.

39. See a discussion of this and related issues in Lawrence Weiskrantz, *Consciousness Lost and Found* (Oxford: Oxford University Press, 1997).

40. For an extended current discussion of this issue one can consult Patricia Churchland, *Brain-wise* (Cambridge, MA: MIT Press. 2002), 134–56.

41. See a discussion of this and related phenomena in Roger Trigg, *Pain and Emotion* (Oxford: Clarendon Press, 1970), 125–42.

42. Antonio Damasio, Daniel Tranel, Hanna Damasio, "Individuals with Sociopathic Behavior Caused by Frontal Damage Fail to Respond Autonomically to Social Stimuli," *Behavioural Brain Research*, 41 (1990) 81–94.

43. Bob Bermond, "Consciousness or the Art of Foul Play" *Journal of Agricultural and Environmental Ethics*, volume 10, 1998, 230.

44. See, for example, William Hirstein and V. S. Ramacandran, "Capgras Syndrome: A Novel Probe for Understanding the Neural Representation of the Identity and Familiarity of Persons," *Proceedings of the Royal Society Biological Sciences*. Volume 264, no. 1380, March 22, 1997, 437–44.

45. J. P. Mahaffy, *Descartes*, (London, 1901), 181, cited in A. Richard Kingston, "Theodicy and Animal Welfare," *Theology*, LXX, no.569, 485.

46. Robert Wennberg. *God, Humans, and Animals* (Grand Rapids: Eerdmans, 2003), 313–14.

47. Immanuel Kant. *Lectures on Ethics*, ed. Peter Heath and J. B. Schneewind, (Cambridge: Cambridge University Press, 2001), 240.

48. Wennberg, *God, Humans, and Animals*, 314, note 3.

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