RELIGION AND WHICH SCIENCES? SCIENCE AND WHICH COMMUNITY?

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The author addresses ways in which participants in the religion-and-science dialogues avoid ethically sensitive issues involving the scientifically developed subject of nonhuman animals. Using the concept of ethical anthropocentrism, he maintains that the contemporary dialogue is mired in a traditional set of concepts and myopic discourse. The present approach entails serious risks of weakening both religious life and scientific inquiry, including the foundation for an engagement between religion and science. Furthermore, the specific sciences dealing with nonhuman animals should be engaged fully for a number of reasons related to both religious and scientific goals. A further benefit of such an engagement would be promotion of an understanding of community more responsive to the non-anthropocentric ethics found so broadly in religious traditions outside the Abrahamic, and in subordinated portions of the Abrahamic traditions.

One of the more humbling features of human history is the fact that many of the most prized and able thinkers, and indeed at times the entire academy, have avoided and sometimes even denied altogether certain ethical issues, because these subjects have been inconvenient, unpopular, or uncomfortable. Well-known examples include Aristotle’s rationalization of slavery, the failure of liberals in the eighteenth and nineteenth century to include women and people of color in proposed expansions of the vote and other political power, and the all-too-easy accommodation of established religious institutions to a panoply of exclusivisms, including racism, patriarchy, classism, and homophobia.

With this history in mind, I consider here whether something like this is occurring in Christianity’s dialogue with the Western scientific tradition on the subject of the animals outside the humans species. More specifically, I want to engage certain features of the current dialogue as carried out by prominent theologians and scientists, and I will suggest that problems of avoidance and myopia do exist in the current engagement of “theology” and “science” on the issue of “animals.”

What prompts these questions is a baffling phenomenon—the religion-and-science dialogue seems historically to have been dominated by (1) an engagement between theologians and physicists, in particular cosmologists, and (2) a very limited engagement with only some of the implications of Darwin’s ideas. As to the latter, even though Darwin’s ideas deal with the human species’ relationships to all other animals, those theologians who have engaged Darwin seem to have focused on the implications of his work for the design argument or for sociobiology, as well as some of the aggressive claims made in the 1970s by atheist, scientific biologists like Jacques Monod and Richard Dawkins. If one tries to find theological circles where there has been a serious engagement with the more specific biological sciences that have grown out of the Darwinian revolution, especially those that provide highly specific information about the most complex nonhuman animals, one finds few, if any.

The answer to the question of why theologians have concentrated on physics and cosmology, but not on those biological sciences working to discover the realities of nonhuman animals, is not obvious; nor is this a topic about which one can easily generalize. One can say, however, that the trend continues. I take this trend to be the result of a pervasive and influ-
ential bias that begs the question, why is there no sustained attempt to dialogue with those portions of the scientific tradition that include the very specific and well-developed biological sciences in which astonishingly diverse information regarding other animals can be found?

The phenomenon presents some fascinating problems from the vantage point of both ethics and an understanding of religion in the lives of human beings. In this paper, I frame questions in ways that seek to open up minds on this issue. They are not meant to impugn in any way the motives or character of those involved in the current dialogue, for I read the engagement of religion with science as not only one of elegant and imaginative encounters, but also one of laudable intentions. But even if my reading of the intentions is correct, such intentions have not prevented the theologian’s engagement with the scientific tradition from being subject to “conditioned ethical blindness”—that is, good intentions have not prevented the theologian from becoming so accustomed to a particular way of thinking, as to be conditioned not to see its effects or larger implications.6

**Invitation in the form of four questions**

To probe the reasons why this engagement has not taken place, or if it has, why it remains unknown and of little, if any, importance in established theological circles, I pose four specific questions. These are, I suggest, an invitation to engage the spirit of today’s faith-and-science exchanges. As a practical matter, these questions force one to stay in touch with the fundamental features of the overall projects of, respectively, the scientific and the religious traditions.

1. Looking at the scholarship and discourse in the field of “religion and science,” which parts of science, on the one hand, and of religion, on the other, are being fully engaged?

2. Is it possible that there has been a disproportionate emphasis on some sciences and on certain views of religion, such that the results risk being unscientific and perhaps somewhat un-religious (in the sense of being too narrowly and, thus, perhaps misleadingly mired in only one dimension of religious concern)?

3. Does the present state of the science-and-religion dialogue betray a traditional anthropocentrism?

4. Does the current state of the dialogue betray a kind of imperialism as well, focusing on only Western concepts of who and what matter in reality, which beings constitute “persons,” and which animals, human or otherwise, have ethically significant complexities, such as culture, intelligence, or emotional depth?

I venture some preliminary answers to these questions, and along the way suggest that a debilitating narrowness and shortsightedness are involved in the problems I address. If this is true, engaging these problems may well help to uncover some interesting complications flowing from the current form of the religion-and-science dialogue. These complications include the following potential problems.

(a) Scholars’ choices may make them complicit in the broader society’s failure to grapple with certain inherently ethical themes.

(b) Scholars’ choices may minimize opportunities for disseminating information of an eminently scientific nature that can be of the greatest relevance to the most fundamental values of religious traditions.

(c) Scholars’ choices may result in a failure to listen to certain other dialogues, which failure can have an imperialist cast. For example, discussions of the status of nonhuman animals have long gone on, and certainly now occur, even if, in societies that draw their intellectual sustenance from the European intellectual tradition, such discussions have been relegated by the theological tradition to “non-establishment” circles.

(d) Scholars’ choices may keep religious traditions in the complicated position of purporting to opine on the status of other, nonhuman lives. When such opinions continue to be held, even in the face of available and contrary information, the nature of religious affirmations or dismissals of nonhuman life must be assessed.
Beyond the generalities of science: engaging the specific realities of living beings

The issue I am pursuing can be framed by focusing on the specific and difficult set of issues that fall under the theme "religion and animals" (or, using science-based terminology, "religion and nonhuman animals"). Broadly speaking, at least the following themes fall under the religion and animals rubric: (1) learning to see the role of, and work done by, the images of nonhuman animals found so broadly in religious symbolism; (2) assessing how religious traditions have treated or otherwise engaged nonhuman animals, such as through the promotion or prevention of obvious harms to them; and (3) identifying the general role that religious traditions have had as mediators of views of nonhuman animals. In a colloquial manner, one might ask, "Have religions gotten it right or wrong regarding other, that is, nonhuman, animals?"

Regarding this general area, a review of the contemporary discussion between "religion" and "science" suggests three things: firstly, that something like a general tendency to avoid these topics, particularly the ethically charged issues, characterizes the work of those contemporary scholars now at work in the religion-and-science dialogue; secondly, that such avoidance occurs in spite of otherwise laudable intentions; and, finally, that one can learn from this recurring tendency something about the place of ethics in individual lives.

So let me again state the general question, although this time in a more specific form: Does the failure to engage nonhuman animals, particularly as it is reflected in the scholarship and discourse of those in the academy who now promote the religion-and-science dialogue, betray a traditional anthropocentrism that is in some ways both unscientific and unreligious?

Given that even a little research shows easily that the importance of nonhuman individuals is not a new theme (it is both an ancient concern and one still central in indigenous cosmologies), the conclusions of this article suggest that (1) there is in the Western academy currently a profound failure to deal with this subject, (2) this failure is the product of a continuing, and debilitating, anthropocentrism in ethical reflection, (3) this failure is part of a tendency to assume that mainline ethical reflection is the whole of ethical reflection, rather than merely one of the many historically and culturally conditioned options available, and (4) a failure to change this tendency will perpetuate exclusivist values that now imbalance the living and thinking of humankind.

Ethical questions: central and daily

Posing inquiries about other animals in a forum where religion is discussed is a delicate matter; it uncovers certain extremely contentious issues about the nature of human ethical abilities, and it reveals some important differences between and among religious traditions. The ethical questions are inevitable, because all human cultural traditions that are explicitly religious foreground a claim that this life is a deeply moral matter. Yet, despite a consensus that human beings have spe-
cial abilities to care about others, religious traditions differ in startling ways over the identities of such "others" and, in particular, over the significance of nonhuman animals. Such differences betray a profound disagreement over the most basic features of human moral abilities. For example, only some forms of religious life make the question of nonhuman animals an ethical question of the first order. The Buddhist and Jain traditions' first precept, recited daily by millions, is a moral undertaking that commits believers to avoid killing (which is, of course, paralleled by the Hindu traditions' commitment to ahimsa). The affirmation of nonhuman lives implicit in this ethical precept stands in stark contrast to certain claims found broadly in the Abrahamic traditions. An example, though one by no means fully representative of each and every aspect of these complex of traditions, is set forth in the Roman Catholic Church's recently revised Catechism:

Animals, like plants and inanimate things, are by nature destined for the common good of past, present and future humanity.8

The differences in these two approaches provide interesting material for those who wish to argue that, in ethical matters, the Abrahamic traditions are more anthropocentric than, say, the traditions of the Indian subcontinent.9

The special abilities to care about others exhibited by humans lead each person, as an individual, to an inevitable set of foundational ethical questions that manifest themselves regularly in our daily lives: "Who are the others about whom we can care? And who are the others about whom we should care?" These questions are existentially relevant, perhaps natural,10 and clearly of central importance to any religious tradition.

Answers to these questions have by no means been static across time. Both within and without religious traditions, there has been an expanding circle of protection.11 At present, there are developments that suggest the expansion continues, such that traditional answers within the Western cultural sphere to these core ethical questions are still being revised in, among other places, legal systems.12

In particular, "religion and ecology" discussions increasingly engage these foundational "who are the others?" questions in vibrant ways.13 This dialogue is characterized by non-anthropocentric perspectives that are far broader than the tradition-burdened, human-centered responses that comprise virtually all theologically based ethics in the Western cultural tradition. Yet, even in this extraordinary new development, there remain subtle ways in which the dialogue obscures "animals" as an ethical issue.14 As discussed below with regard to the work of several theologians and scientists who participate in the current religion-and-science dialogue, present conceptual schemes (such as the trilogy, God and humans and nature) may be counterproductive for the important purpose of addressing the current marginalization of nonhuman lives. Nonetheless, the inclusivist spirit and concepts of the new religion-and-ecology inquiry, along with that of interfaith dialogue and social justice movements, push one to put analogous challenges to the contemporary dialogue between religion and science: Who are the recognized "others"? Which sciences are part of the engagement? Do exclusivist notions handed down blindly as "tradition" still hold undue control? Are theologians handicapped by, and can they get beyond, traditional exclusions and narrow discourse? Or does the dialogue energize and open minds, thereby pushing participants to think in inclusivist and broader perspectives?

I suggest below that the religion-and-science dialogue remains mired in a self-imposed predicament, and that this situation is clearly a matter of choice. Tragically, such a choice, to the extent that it continues to allow a self-serving, self-affirming, and selfish anthropocentrism to prevail, entails serious risks that threaten the integrity of the dialogue. Indeed, failure to acknowledge these risks is likely to undermine the growth of otherwise laudable efforts to engage the intersection of scientific and religious concerns.

Religion and which sciences?

One way to assess whether the current religion-and-science discussion is stuck in a
narrow place is to ask which sciences are most typically engaged in dialogue by theologians, religious leaders, or believers. Consider first that anyone’s engagement with science always entails an engagement with scientists who practice a specific discipline. It is often assumed that the word “science” does helpful work in descriptions of various problems. With only a little reflection, however, it becomes clear that the term “science” is at times employed carelessly and in a way that suggests that the focus and practice of science is monolithic. Such a claim, whether explicit or implicit, is misleading in the extreme.

Consider a list of some of our contemporary sciences: animal behavior, aquaculture, biochemistry, biotechnology, cetology, cognitive sciences, comparative developmental evolutionary psychology, conservation biology, developmental biology, ecology, ecotoxicology, entomology, environmental sciences, ethology, evolutionary sciences, fisheries, genetics, forestry, horticulture, marine mammal studies, microbiology, molecular and cell biology, neuroscience, nutrition, organismal biology, palaeontology, paleobiology, parasitology, pharmacology, physiology, plant biology, population biology, population genetics, primatology, psychology, systematics, toxicology, zoology. What is noteworthy about this list, which is hardly complete, is that it is composed primarily of the proliferating life sciences, and ignores oft-cited items such as physics, chemistry, astronomy, and mathematics.

Ask science-and-religion dialoguers which of these life sciences are their partners. The most inclusivist answer would likely include ecology, environmental sciences, evolutionary sciences, and psychology. Few, if any, have a deep engagement with those sciences that have developed the most advanced information regarding the most complex animals outside the human species. 15

In casting about for answers to why one sees within the religion-and-science dialogue only certain sciences and not others, one inevitably stumbles across the fact that, in our current culture, not all sciences are created equal. In other words, some sciences are given much more respect than are others. Recall the famous quip by Ernest Rutherford, who said that science is best understood by breaking it up into two fields, “physics and stamp-collecting.” 16 Physics now occupies the position once occupied by theology as the “queen of the sciences.” This is, no doubt, related to the great success of physics and other physical sciences in discovery of some foundational features of physical reality, the universe generally, and especially cosmic origins. It is also related to the fact that the findings of the physical sciences have “delivered,” in the sense of being a foundation for those technologies and industries that supply products for a consumer-oriented society.

The success and prestige of certain sciences, such as physics and chemistry, have dramatically affected the methods and goals of scientists in other fields. A prime example is the aspiration of psychology’s behaviorist camp in the twentieth century to offer explanations more like those of physics and chemistry. 17 And, as evidenced by the discussion between theologians and cosmologists, physics is the science that has caught the fancy of many in the religion-and-science dialogue.

It is, however, worth pausing to consider further why physics, rather some of the life sciences listed above, is the science that has, in the main, engaged theologians. The elegant answers to the profoundly interesting questions of physics, or alternatively those of chemistry or mathematics or astronomy, have almost no purchase on the fundamental, existentially pressing features of our world, issues purportedly engaged by theology. Said in another way, physics, even if it deals in a limited sense with the most basic aspects of human micro- and macro-universes, as it were, has absolutely nothing to with the complexities of handling features of daily life. Given that religion, if it can be said to be “about” anything, is about daily life, there is at least some irony when a theologian or church leader gives so much reflective energy and time to heavily quantified physical sciences about issues that, in an existential sense, impact human beings very little in their immediate, intensely ethical lives.
Further, a preoccupation by theologians with the physics of the origin of the universe is, when it perpetuates ignorance about more immediate surroundings (that is, other living beings impacted by human activity), is potentially tragic. Each religious tradition has its own way of handling the fact that the religious life is about existential and immediate matters, rather than about speculative guesses, informed or otherwise, regarding the overall and most basic structure of the universe. Buddhists, for example, have the Ten Aţyăkatāni, translated variously as “the indeterminates or points not determined [by the Buddha while alive]” or “questions which tend not to edifi-

The anomaly returns to the fore, of Abrahamic theological traditions failing radically to engage the claim that human beings, as moral agents, ought to know about nonhuman animals and then accord them fundamental protections, such as freedom from captivity or other instrumental uses.

cation.” Indeed, the tendency to wander in soteriological irrelevancies is a hallmark of some theology, such that some people of faith repudiate it as useless.

If religion is primarily about the immediate realities of believers’ lives and their need to discern moral norms and then act in moral ways, one might expect that it would be those scientific disciplines exercising the basic humility of patient observation that captured theologians’ imagination. It is, after all, within the observable, nearby surroundings of one’s local world, as it were, that one must act and judge the consequences of one’s finite, daily choices. Said in theological terms, it is in one’s own limited world that one must find God’s presence. In less theological but still explicitly moral terms, religion and its essentially ethical messages about love, compassion, kindness to others, etc., are lived out on a local, daily level, not at the level that physics, chemistry, astronomy, and mathematics engage.

Perhaps the allure of opining on the most basic physical features of the cosmos, including its origin in the remote past, explains the disdainful attitude of some scientists to the “stamp-collecting” work of other scientists, such as ethologists, who patiently, humbly, and honestly describe the realities of nonhuman animals and the surrounding ecosystems. Primatologists, marine mammalogists, and specialists in elephant behavior, for example, do not call upon complex equations, Big Bangs, and subatomic particles to explain the day-to-day lives of the complex animals they study. Such work is, however, crucial in the present environment, given the radical ignorance both within and without the sciences regarding the social, emotional, and intellectual lives of the most complex of nonhuman animals.18 Further, such painstaking and detailed research requires great discipline in order to resist applying traditional stereotypes to the animals being studied. In this sense, this kind of work represents well the humility-spawning features of scientific method.

Dismantling stereotypes of other animals, because they have been underdetermined by day-to-day realities and overdetermined by ignorance-driven bias, is crucial for another, eminently ethical reason. Caricatures of other animals remain powerful images both inside and outside the scientific tradition. Scientists who get beyond caricature and stereotype regarding the daily lives of nonhuman animals may do work that seems humble relative to the macro-level work of astrophysicists. This work is, nevertheless, of crucial importance to the ability of a moral agent to see the world in an informed way. Hence, any responsible moral agent desperately needs such detailed information to understand the impact of human

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actions on previously unknown realities, such as the complexities of nonhuman animals. 19

Religion, theologians, and humility

While religious traditions have much to say about the need for basic humility, a certain kind of humility seems to be lacking in those who, despite unfamiliarity with the actual realities of nonhuman animals, nonetheless attempt to offer opinions relevant to the significance of any and all nonhuman animals. Do some major participants in the religion-and-science dialogue miss entirely the relevance of those sciences dealing with the realities of other animals that are either near human communities or far away from them? Might these be of relevance to the core features of any ethical tradition and, as such, religious traditions generally? Relatedly, why would someone who wishes to say something about the relationship between religion and science focus only on, say, physics and its related sciences? One explanation for such a preoccupation might be that physics in the twentieth century was, in an important political and ethical sense, easy to engage. Engaging twentieth-century questions about the origin of the universe, for example, did not require much speculation about the oppressions that are an integral part of the daily struggles of many people. Someone can be deeply interested in, say, astrophysics or subatomic physics, without ever contemplating the harsh realities just outside the door, realities that provoke some moral agents to be deeply committed to a revolution in cultural, political, and economic values. In fact, if one wanted to maintain the status quo, including present oppressions, one could study physics all day and not in any way affect the patriarchy, classism, racism, or other oppressions of contemporary societies.

What is religion about, though, if it is not about day-to-day choices? If one were looking for a religion-and-science dialogue that avoids engagement with the daily world, the dialogue of religion with modern physics would probably be the best choice. Simply said, the contemporary engagement of theology with physics has far fewer consequences than would, say, a full engagement with social justice concerns or certain biological sciences, such as the heavily publicized work in primatology and marine mammalogy, or the less prominent work in elephant studies. Is it mere happenstance that few theologians or scholars of religion can tell an African elephant from an Indian one, or a great ape from a lesser one? Or that few religious leaders care to know either that chimpanzee and bonobo great apes share more than 99% of their active DNA with human great apes, or that humans have been referred to as “the third chimpanzee”? 20 This kind of scientific data is ignored, even as there are, literally, hundreds of theological contexts where great attention is paid to the Big Bang, quantum theory, and the Anthropic Principle.

Ethics and the local world

Like religious faith, what is ethics about if not one’s own neighborhood? What one believes deeply is reflected far more fully in how one acts than in what one says of one’s actions. Gandhi once framed this wisdom in a very simple form by saying, “The act will speak unerringly.” 21 This aphorism about what in life discloses a person’s true beliefs frames a particularly important challenge for religious traditions on any issue, including the daily challenges faced by Christian and other religious believers regarding “who the others are.”

Might nonhuman animals be “others” about which human moral agents are concerned, and towards which harmful actions should not be directed, for the same or similar reasons why human individuals should not be harmed? Note what this question entails: namely, discerning whether the nonhuman individuals near the agent can and should be protected. As noted above, nonhuman individuals have indeed been recognized as worthy of protection in some religious traditions, though it is commonly said that the Abrahamic traditions are, ethically speaking, anthropocentric. 22 What are the practical implications of such ethical anthropocentrism? The implications are, it turns out, rather stark.

Generally, any ethical principle, whether religiously framed or not, must be related to the things that an individual is able to do in
ordinary life. As philosophers say, "ought
implies can." Thus, if I say, "you ought to
do this," I have implied that you can do it. That,
of course, involves talking realistically about
your actual situation in the world. What can
people do in their ordinary, ethically-charged
lives, given the actual choices confronting
them as agents capable of morality?

Religious ethics, though, sometimes ex-
hibit an interest in the inverse, namely, that
"can implies ought." Of course, this does not
automatically apply to a wide range of situa-
tions, for just because one can do something,
it does not follow that one is obliged to. But
religious traditions often suggest that we ought
to act just because we can, and particularly so
when the context is morally charged. For ex-
ample, if I can give funds to charity, ought I?
In the matter of nonhuman animals, the paral-
lel question is, if I can care about these others,
ought I? In the ahimsa-driven traditions of
the Indian subcontinent, the answer to the sec-
ond question is "Yes," at least with regard to
preserving other animals' lives.²³ Sometimes,
then, in view of human moral capabilities,
some religious traditions suggest that, with
regard to nonhuman animals, the capacity to
act alternatively creates an obligation not to
kill them. Relying on a foundation of the spe-
cial qualities of human abilities to care about
others, the religious ethics of these traditions
thus exemplify an inversion of the common
philosophical adage, moving from "ought
implies can" to "can implies ought."

Why nonhuman individuals are
relevant to theology and ethics

Note that the claim here is that other ani-
mals matter as individuals, because it is in this
capacity that they have particular relevance
to human beings as moral agents. Why? Be-
cause individual moral agents can treat indi-
vidual animals well. In fact, duties to indi-
viduals contrast nicely with moral duties to
larger realities such as an entire species, an
ecosystem, and the earth. Though of great
importance, treating these larger realities
"well" is made especially difficult by their size,
complexity, and the very generality of the un-
derlying concerns. Individuals, on the other
hand, are situated differently, existing at the
more "local" level of immediate and daily liv-
ing. Here, they can be seen and understood,
as can the direct and indirect effects of human
choices and actions upon them. When spe-
cific inquiry is made in this way, it is easy to
recognize identifiable impacts that human ac-
tions have on individuals, human or otherwise.
As such, these consequences are comprehen-
sible, whereas the impact of human actions
on "the environment" or on the human econiche,
or even on a species as a whole, is
typically much harder to discern. If I run over
or poison an animal, it is that individual who
dies, not the species. If I buy a product that
was a living animal, it is easily comprehended
that the product is more than a resource that I
can consume without ethically-charged con-
sequences. A specific individual with feelings
and a life was impacted because of my con-
sumption. It is, then, simply easier to recog-
nize how to treat an individual animal well, or
to refrain from harming it, than it is to recog-
nize how to treat the environment or a species
or the earth well.

This practical aspect of engaging individu-
als, as opposed to the not-so-easily discerned
impacts on supra-individual realities, is one
feature that suits human beings to inquire
about other individuals. By training children,
for example, to see such impacts, parents de-
velop their abilities as moral agents, helping
them take responsibility for their own acts,
one of the hallmarks of any moral system.
Considering the impact of their acts on other
individuals, human or otherwise, provides all
persons with a very personal way of deciding
how they can and will, through their individual
decisions, live out a moral vision.

Hence, another peculiarity of theology fail-
ing to engage precisely those sciences that tell
the most about the lives of others is the missed
opportunities that such a failure produces. If
religious believers fail to recognize this im-
portant dimension that other individuals (again,
human or otherwise) bring them with regard
to their moral abilities, they may well not de-
velop a full awareness, a comprehensive sense
of responsibility, and related virtues that are
preconditions to a developed moral sense.
What is peculiar is that the Western theological tradition has found many ways to ignore the conclusion that human moral abilities beg the question about other animals. One manifestation of this avoidance seems to be that, in the religion-and-science dialogue, theologians characteristically concern themselves with those sciences that allow them to avoid the inherently ethical questions that logical traditions failing radically to engage the claim that humans, as eminently moral beings, ought to know about nonhuman animals and, upon knowing about them, then accord them fundamental protections, such as freedom from captivity or other instrumental uses.

Note, too, that personal experience shows, generally, that many individuals, human and otherwise, often care about other nonhuman animals. Why have most Western theological traditions marginalized such experiences, especially given the commitments of theology to human ethical abilities? One way to ascertain whether any nonhuman animals are legitimate moral patients (by which I mean that they are to be protected by moral agents on the issue of the fundamentals, such as life and the integrity of their familial and social bonds) would be to inquire into the research findings of the sciences that deal with specifically nonhuman animals’ lives.

The analysis below suggests that, on the whole, the engagement between theologians and the most relevant life sciences remains at best at an undeveloped level, and, hence, unsatisfactory. The consequence of this is that theologians’ resulting analyses all too often perpetuate ignorance, because those analyses are caricature-driven.

**Some theologians**

One way to investigate whether the religion-and-science dialogue is plagued by the risks I describe is to engage a range of dialogue participants who have dealt with the intersection of religion and science. Here I suggest that because certain relevant shortcomings appear in the work of prominent spokespersons involved in the modern dialogue between Christianity and the Western scientific tradition, myopic approaches end up dominating the perspectives taken in that dialogue. Both of these problems promote risks that are oddly in tension with the overall projects of, respectively, religion and science.

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**The realm of nonhuman animals is so internally diverse that to resort to the unqualified categories “nature” or “the world” to describe the many realities and activities of nonhuman animals is positively misleading.**

many life sciences thrust on the caring and informed moral agent. Is this individual in front of me, even though nonhuman, such that my moral sensibilities apply? Since many sciences have shown that other large-brained social animals, such as chimpanzees, orangutans, bonobos, gorillas, elephants, and whales and dolphins, are extraordinary individuals with intelligence of many kinds, emotional complexities, social realities, personal loyalties, even cultures—and certainly the capacity to suffer in mental and physical ways—a close encounter with these sciences would inevitably prompt an ethical inquiry. Do the realities of any other animals’ lives bear on one’s religious life or on one’s obligation to be a moral being? Clearly, the lives of many nonhuman animals’ lives can be protected. Ought they be? Ought the religion-and-science dialogue engage carefully the sciences that bear on this eminently ethical issue? [24]1

What is anomalous about Western theology as a whole, aside from these obvious questions, is that Western theologians have staked out human moral abilities as their prime territory, because theologians of all stripes have been heavily invested in the claim that human beings are capable moral agents. So, the anomaly returns to the fore, of Abrahamic theo-
Wolfhart Pannenberg

I begin with Wolfhart Pannenberg, and take examples from two of his works. The first is Anthropology in Theological Perspective, Pannenberg’s 1985 attempt to wrestle with the theological implications of certain sciences, including biology. The second work is Pannenberg’s 1993 work, Toward a Theology of Nature: Essays on Science and Faith. Both books reflect this influential theologian’s commitment carefully to engage non-theological disciplines, a commitment that pushes Pannenberg to talk about nonhuman animals at certain strategic points.

Consider this example from the earlier work. After opening the book with a chapter entitled “The Uniqueness of Humanity,” Pannenberg, as part of his discussion of Herder’s and Scheler’s thought, says, “animals...live wholly in the present moment, ignorant of both future and past.” 26 This claim about nonhuman animals’ lack of a sense of time seems to be a factual assertion, given that Pannenberg cites as support two scientific works from 1937 and 1958.27 But as evidenced by references that he cites later in the book,28 Pannenberg plainly knew of other scientific work that strongly suggested that the cognitive levels of some nonhuman animals (he concentrates most fully on chimpanzees) are such that they do have a sense of future and past, and are, thus, far more cognitively complex than implied by Pannenberg’s dismissive generalization.

More interesting than this misstatement, however, is the fact that Pannenberg was, at that time, clearly aware of the growing body of knowledge regarding the more complex nonhuman animals. Hence, given that he chose to present only evidence supportive of his statement, while ignoring counterfactual evidence, one is tempted to conclude that this otherwise remarkable thinker was, in this work at least, not concerned about his perpetuation of a stereotype of nonhuman animals.

The history of this dismissive stereotype is as long as it is intellectually bankrupt. It has been a prominent feature of philosophers’ and theologians’ uninformed dismissal of the complexities of nonhuman animals since ancient Greek times.29 Through use of a caricature underdetermined by the factual realities of the animals he dismisses, Pannenberg stands in the long line of those who have chosen selectively from available images of nonhuman animals, in order to confirm a preexisting bias. In Pannenberg’s case, the bias takes the form of the proposition that only human beings are complex enough to deserve fundamental moral protections. This is a claim that Christianity’s mainline theological tradition has long underwritten, even though it is not in any way essential to soteriological discourse.

There are substantial risks in Pannenberg’s approach, however, the most obvious of which is that such a wide-ranging dismissal of all nonhuman animals will be contradicted by simple empirical data. Another risk is the charge that the selection of evidence is driven by a pre-existing agenda. Pannenberg’s selectivity regarding evidence begs the question of whether his pre-existing agenda is the mainline Christian theological tradition’s longstanding bias for humans. When this or any other bias replaces a humble exploration of the realities of other animals, to which well-executed scientific methods ideally lead, the resulting claims may well distort the described realities.30 Worse one risks the perpetuation of stereotypes and caricatures.

Consider how Pannenberg does this regarding chimpanzees, closest evolutionary cousins to human beings.31 He contrasts them with human beings, who have past and future...because unlike the animals [that is, any and all nonhuman animals], including even the chimpanzees, they are able “to loosen the bonds imposed by the situation and to distance themselves from it.” 32

As noted above, when Pannenberg made these claims in 1985, much attention was being given to Goodall’s work that showed in many ways that existing perspectives in science regarding chimpanzees were radically inaccurate and inadequate.33 Additionally, the work of Gallup and others regarding the high level cognitive skills and self-awareness of some nonhuman animals had been available for more than a decade and a half.34 Given the mainline Christian theo-
logical tradition's refusal to countenance nonhuman animals generally, Pannenberg's implicit acceptance of the traditional derogation of all nonhuman animals is not surprising. What is troubling, however, is Pannenberg's desire to opine about all nonhuman animals, even when neither science nor the theological tradition had explored many of the more complicated animals in any detail.

Surprising discoveries continue to pour in, such as humpback whales' complex "songs,"

35 elephants' heavy use of subsonic communications, and bottlenose dolphins' self-awareness. At the very least, such reports and, in particular, the pace of new "discoveries" suggest that present perspectives, and surely traditional perspectives, are subject to radical questioning, and that conservative use of dismissive generalizations is in order.

One result of Pannenberg's acquiescence in traditional theological dismissals of any and all nonhuman animals is his uncritical use of the traditional vocabulary regarding nonhuman animals generally. This vocabulary has been dismissive, dualistic, and correspondingly unresponsive. When engaging science, a tradition that counts humans as animals, Pannenberg consistently uses the word "animals" to mean "all nonhuman animals." This habit and others, such as his use of terms such as "lower animals," suggest that Pannenberg was, from the beginning of his project, predisposed to accept data from the scientific tradition that confirm his theological bent, but not to acknowledge or search out counter-factual evidence or to explore the implications of ongoing change and discovery.

The same pattern appears in his 1993 work, Toward a Theology of Nature, although now the discourse is enriched primarily by Pannenberg's desire to work with terms and concepts that are prominent in the developing Western ecological tradition. In this shorter work, as in the longer, Pannenberg never engages detailed studies of any actual animal groups, despite an obvious commitment to engage science realistically ("Our task as theologians is to relate to the natural sciences as they actually exist....") 37.

Taking notice of which sciences Pannenberg engages "as they actually exist," however, and to what extent he engages them, one can see that soaring rhetoric masks a not-so-subtle predisposition to refrain from disturbing the anthropocentrism of the theological tradition in which Pannenberg is working. In other ways, to be sure, Pannenberg is known for challenging traditional and hidden agendas, as when he describes Karl Barth's theology:

The most remarkable example of the theological retreat from a discussion of the scientific description of nature....

Pannenberg's selective engagement with the scientific tradition, however, subjects him to an objection that parallels his own criticism of Barth's decision:

In principle a theological doctrine of creation should not concern itself with scientific descriptions and results. 38

Discussion of the physical sciences, coupled with a one-sided handling of a few biological

Through use of a caricature underdetermined by the factual realities of the animals he dismisses, Pannenberg stands in the long line of those who have chosen selectively from available images of nonhuman animals, in order to confirm a preexisting bias.

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primates, suggest that dismissals of any and all nonhuman animals are agenda-driven rather than reality-responsive.

Because in the life sciences, as Kathleen Gibson summarizes, “All of the human-ape dichotomies so cherished by the anthropologists and psychologists of the early 1960s have fallen,” theoretical work that attempts to make claims about human complexities relative to those of other animals is at great risk of perpetuating caricatures when it steers clear of a full engagement with evidence and perspectives that challenge human uniqueness in areas of consciousness, emotion, social complexity, intelligence, and communication. Hence, when Pannenberg effectively ignores the scientific evidence that would disturb his inherited theological premises, his approach becomes, de facto, not unlike Barth’s dismissal of scientific findings. His claim that theologians must “relate to the natural sciences as they actually exist” should not be allowed to obscure the fact that only some sciences and some evidence are informing his analysis. Failure to engage bodies of work and research that are directly relevant to the theological claims being made subjects Pannenberg’s theological work to many charges, not the least of which is that it is just another overstatement and ignorance-driven claim.

Thus, even when Pannenberg mentions specific work with specific nonhuman animals, his arguments ignore so much of the available evidence that his conclusions, characteristically framed as dismissive generalizations, are positively misleading. An example occurs in Toward a Theology of Nature, when Pannenberg is working with Teilhard de Chardin’s insights:

[T]he fact of consciousness, which, according to our observation, appears clearly only among human beings amidst the entire expanse of nature.

This implicit dismissal of the existence of complex cognitive and emotional abilities in any nonhuman animal flies in the face of available evidence. The evidence was such that Donald Griffin, Harvard University’s respected cognitive ethologist, could, only a few years after Pannenberg wrote, state flatly:

The question of self-awareness is one of the very few areas of cognitive ethology where we have some concrete experimental evidence.

Pannenberg’s broad dismissal, then, especially because it takes place in a milieu of discovery and constant challenges to traditional claims of human uniqueness, are also contrary to the basic humility that science and religion enjoin upon the human seeker. If one asks questions, such as “How well is the entire range of life known?” or “What do cetaceans do underwater with their large brains and complex communication and social systems?”, the answers are, respectively, “Not very well yet” and “We don’t know.” So why opine about a broad subject when the Western tradition has been shown to be, on the whole, so out of touch with and dismissive of realities outside of the human species?

Pannenberg’s engagement with “science” is, thus, not led by a vigorous curiosity when he works with the issue of nonhuman animals. Refraining from any informed, detailed-oriented exploration of the biological creatures that he dismisses, he is badly in error on the issue of some other mammals’ cognitive and existential complexities. In the end, Pannenberg simply does not tarry long enough with any real-world nonhuman animals to see theological and ethical significance in their realities.

There are, of course, lots of ironies in the cursory approach he uses. The editor of this work, Ted Peters, notes in his introduction,

Perhaps the most startling and dramatic contribution of Wolfhart Pannenberg to recent theological discussion has been the initiative he takes in posing theological questions to natural scientists.

But one must again ask, which natural scientists? The major questions one can pose to Pannenberg’s approach to science are, from the vantage point of ethologists, cognitive scientists, or comparative psychologists, questions about its incompleteness. And more, this shortcoming calls into question this work’s
relevance to an informed and vibrant religion-and-science dialogue.

In summary, Pannenberg’s limited engagement undercuts the value of his conceptualization and discourse, and ultimately his theological work. The result, at least on the subject of nonhuman animals, is a work governed by a sterile and anthropocentric agenda that is, upon examination, in tension with many of Pannenberg’s announced themes. That this all-too-obvious agenda is not challenged by his fellow participants in religion-and-science discussions speaks volumes about which of the sciences are deemed relevant to theology and to the religion-and-science dialogue itself.

Gordon Kaufman

A similar attitude appears in Pannenberg’s contemporaries.\(^7\) I shall focus on only a few of the relevant texts, however. Consider some features of A Global Ethic: The Declaration of the Parliament of the World Religions, written by Hans Küng and Karl-Josef Kuschel. In particular, consider how the concept and word “animals” is used. There are but two brief references to nonhuman animals,\(^8\) and these both appear with the word “plants.” In effect, nonhuman animals are given the same status as plants in this document dominated by human-centered interests.\(^9\)

To avoid the conclusion that the Western theological tradition as a whole, or, similarly, that the religion-and-science dialogue generally, is characterized by the patterns appearing in the cited works of Pannenberg, Molmann, and Küng, one could argue that these three giants of modern theology are representative of only a limited part of that tradition, say, the German or European tradition of anthropocentric theological reflection. But I want to suggest that the habits of mind exemplified by them are pervasive in the Western theological tradition, as well as in the religion-and-science dialogue generally. I will do this with examples from the altogether cosmopolitan theologian Gordon Kaufman and his book, In Face of Mystery: A Constructive Theology (1993).

Kaufman’s well-respected work is, from the beginning, dominated by a trilogy of concepts that might best be summarized by this phrase, “God, humanity, and the world.”\(^{10}\) For example, in his opening chapter, “The Question of God,” Kaufman repeated writes of three general categories: God, the human, and all else, referred to by terms such as “the natural order,” “the vast universe,” and “the world in which we live.”\(^{11}\)

This trio of categories is, of course, common in the academy, prevailing especially in the many subdisciplines of religious studies. It is also characteristic of the discourse of politics and many other institutions. Consequently, given its traditional nature and widespread occurrence, its dominance may not appear at first to be problematic in any way. Challenges to it might seem, for many, the work of eccentrics. But some of the very insights that Kaufman himself advances can be used to problematize the trilogy, especially with regard to its underlying generalizations and the ways in which it operates as a covert dualism, that is, as a theo-anthropocentric form dismissal of anything beyond the human realm.

First of all, the concept of God is, as Kaufman and so many other theologians have creatively suggested, not a simple concept. Secondly, in the same way that Kaufman notes that claims about God are problematic and conditioned, he also observes that claims about “human nature” are notoriously plagued by the same problems.\(^{12}\)

Thirdly—and most pertinent to the specific argument being made here—generalizations made about “nature” or “the world” are, like the notions of God that Kaufman openly challenges, so coarse as to be woefully inadequate to describing the complex realities they seek to encompass. The realm of nonhuman animals is so internally diverse that to resort continually to the unqualified categories “nature” or “the world” to describe the many realities and activities of nonhuman animals is positively misleading for any number of reasons. Of relevance to this argument is the fact that the use of “animals” to designate all nonhuman animals is, ethically speaking, particularly

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problematic. The use of such wooden categories obscures realities widely recognized outside the Western theological tradition as having major ethical significance. For example, in the Indian traditions, the especially complex features of elephants’ lives, such as their learning ability and their deep loyalty to their family units (owing to their large brains and capacity for complex emotions) have caused them to be singled out as animals that are recognizably more complicated than most other living beings.53

One of the consequences of constantly assuming that this trilogy operates well as a meaningful description of the essential elements of our experience is that the components of the third category are, subtly and sometimes not so subtly, equated to one another. While human beings are foregrounded in the trilogy, as is God, the complexity of the remainder of this world, though surely recognized, is obscured in some crucial ways. Beyond the fact that plants, econiches, and entire ecosystems (each of which may command an ethical response) are in the “nature” category, consider who and what are contained in the subgroup of “animals”: dolphins and whales, with the largest brains on Earth, exist alongside insects; great apes, sharing 98.4% of their genetic material with human beings, walk alongside slugs, but not with human beings; elephants stand next to creatures so small they cannot be seen without magnification.

With such a potent blurring of extra-human realities, important and ethically significant realities clearly recognized in other major ethical traditions are inevitably obscured. For example, the unique complexities, problems, and challenges of ecological thinking can easily be equated with the altogether distinct issues arising out of the human relationship to, and relations with, nonhuman animals. Thus, even if nuanced uses of the trilogy do in some instances lead to insights and help in countering the astonishing ethical anthropocentrism of the Western intellectual tradition, in many other instances clumsy use of the trilogy clearly affirms the anthropocentric theological heritage, including its meta-message that there are no major entities in “the world” that compete for the centrality given to human beings. In short, terms like “the world” or “nature” fall far short of doing adequate work when they attempt to name, encompass, and account for the many different kinds of lives, ecosystems, and other realities outside the human sphere.

A further consequence of the trilogy being a principal conceptual map is that, like the discourse and theologically-dictated focus of Pannenberg, this map seems to have little room for the sciences that focus on nonhuman animals, or what Kaufman refers to as the “lower animals.”54 Kaufman in the end, though riveted by the existing religion-and-science dialogue, spends no time at all on sciences that carefully engage nonhuman animals.

Consider the underlying conceptual point that Kaufman, a profoundly interesting scholar of the theological tradition, makes when summarizing “Troeltsch’s critical analysis of the concept of ‘essence of Christianity’ itself”:

[H]is massive historical work [showed] that Christian faith, as presented by most modern theologians, was in fact largely a configuration of modern western liberal values. Troeltsch showed that the belief that there is some historically demonstrable ‘essence of

The fields of cetacean studies and primatology, filled with patient observations regarding social, cognitive and other complexities of bottlenose dolphins, chimpanzees, bonobos, orangutans, gorillas, and some other primates, suggest that dismissals of any and all nonhuman animals are agenda-driven rather than reality-responsive.
This statement is, first of all, inaccurate factually. There are some complex animals, for example, the nonhuman great apes, that do "intend and attend deliberately." Furthermore, Kaufman’s use of familiar domestic animals, dogs and cats, loads the case dramatically against nonhuman animals generally. Domestic animals can be domesticated precisely because they have social instincts that allow them to be subordinated to their human companions. Animals that are subordinate to human beings, though important in their own right, hardly represent the many animals that cannot be subordinated. Nor do cats and dogs, relatively less complex mammals, represent well the startlingly rich cognitive abilities of, say, the larger-brained primates, cetaceans, and elephants.

Note as well that Kaufman, perhaps as wide-ranging a theologian as there is, remains extremely narrow when discussing nonhuman animals.

All forms of animal life—and particularly the higher forms—have some sort of "subjectivity" or "awareness." However, although the animal has such feelings, it is not conscious of them as feelings; nor is it conscious of their appropriateness (or inappropriateness) to certain objects in the environment or of the connection with its behavior. This more complex sort of awareness, which I am here calling 'consciousness,' emerges only for the linguistic animal—the human person—who is able to objectify for herself or himself these 'inner states' by means of words which name them.

As noted above, by 1993, when this work was published, there were many accredited scientific studies that confirmed that individuals in a number of other species (including at least bottlenose dolphins, orangutans, bonobos, and chimpanzees) had not only consciousness and complex sorts of awareness, but self-awareness and the ability to comprehend and use various features of human language.

What is even more relevant is the tenor of Kaufman’s comments about the tentativeness of scientific knowledge, which he emphasizes is also a problem with knowledge of the divine. Tentativeness also dominates claims
about many nonhuman animals, above all the more complex social animals. Of equal relevance is the likelihood that "our story" about "them" is likely to continue to change at a rapid pace. Many nonhuman animals simply have not been studied carefully, a by-product of the crass over-generalizations that Western intellectual, ethical and theological traditions, and now indirectly Kaufman in his turn, have used to describe and thereby effectively obscure the varied realities and possibilities of nonhuman animals. Consider, then, how fully relevant Kaufman's insights regarding images of God might be to the impoverished images of nonhuman animals, images that man. There is, however, much in this science-intensive work that implicitly suggests the trilogy will be radically inadequate for tasks central to religious inquiries, the scientific enterprise, and, hence, the religion-and-science dialogue. For example, echoing Aristotle's famous claim that humans by nature desire to know, Peacocke titles his Chapter 2, "What's There?" If, as Peacocke suggests, human beings naturally ask this question, human inquiries should be, in many places and many cultures, rather wide in their range. These inquiries would, in such a case, lead to rich traditions of seeking out the actual realities of, among other things, a wide array of nonhuman animals.

Terms like "the world" or "nature" fall far short of doing adequate work when they attempt to name, encompass, and account for the many different kinds of lives, ecosystems, and other realities outside the human sphere.

continue to dominate industrialized societies, mainline religious institutions, and the religion-and-science discussions.

As Kaufman suggests regarding images of the divine, I suggest that the constructed, self-serving features of cultural and theological imagery of other animals need to be unpacked. Such archeology on our own views, using Kaufman's emphases on imaginative construction, mystery, humility, and serendipity, could, if applied to the complexities of nonhuman animals, provide much food for theological thought.

**Arthur Peacocke**

The same divine/human/world trilogy dominates the work of Arthur Peacocke, one of the major scientists participating in the religion-and-science dialogue. The trilogy is, for example, announced in the subtitle of his important *Theology for a Scientific Age: Being and Becoming—Natural, Divine and Hu-

History, unfortunately, does not suggest that this has been the case. The Buddhist tradition, for example, "on the whole... shows little interest in questions of natural science." In the Western intellectual tradition, for prolonged periods of time, human learning traditions, despite Aristotle's elegant claim about human curiosity, were mired in the *ancitores* tradition of passing along inherited information regarding nonhuman animals, rather than seeking out confirmation in nearby empirical realities.

Peacocke himself seeks to engage biological sciences extensively. Of the intellectually influential debate over sociobiology, Peacocke writes,

Clearly this whole development is of theological concern. For, by thus encompassing in one theory human culture and the non-human biological world (especially in its genetic aspects), sociobiology must inevitably influence our thinking about what human beings are.

Peacocke recognizes that an engagement with science has crucially important limits, since worshipping the god called Science, so to speak, is just as idolatrous as worshipping other false idols.
The tendency to imperiousness in our intellectual and cultural life has been dubbed ‘scientism’—the attitude that the only kind of reliable knowledge is that provided by science, coupled with a conviction that all our personal and social problems are ‘soluble’ by enough science. 69

But even if a fascination with science has its limits and risks, Peacocke clearly privileges much scientific discourse. When he talks of biology, 70 for example, Peacocke emphasizes the need to work creatively with standard biblically-based views, such as the claim that death is a consequence of human acts. Because of this emphasis on getting beyond traditional formulations and their debilitating and misleading tendency to anthropocentrism, one might expect Peacocke to be free of any form of unscientific anthropocentrism. But the central role of the same trilogy one finds in Kaufman, especially in light of its obscuring of nonhuman animals, suggests that Peacocke’s analysis is still dominated by the pre-scientific ethical anthropocentrism that has dominated the Christian tradition out of which Peacocke comes. This exclusivism, so often ignorance-driven, is simply inadequate for the ethical tasks that are at the center of any soteriological tradition. Further, it is arguably contrary to the open-minded spirit of the scientific enterprise. It can hardly, then, be the basis of a healthy, open, and humility-driven religion-and-science dialogue.

Ian Barbour

Ian Barbour’s lucid and synthetic corpus dealing with religion and science, a good example of which is Religion and Science, 57 reflects similar language and mental habits regarding nonhuman animals. In that the scientific tradition’s recognition of human kinship with nonhuman animals is fully honored by Barbour, this work exemplifies the need for informed engagement. But because the discourse reflects the peculiar tradition of treating all nonhuman life as a single sphere which is radically separate from humankind in crucial theological and ethical ways, a dualism is inadvertently advanced. 71 What makes the dualism most noticeable is that Barbour himself 72 discusses the shortcomings of dualistic thinking, even as he uses the inextricably dualistic conceptuality, “humans and animals.” Barbour offers an important historical lesson: “every group tends to absolutize itself.....” 73 This observation is eminently applicable to the well-known human phenomenon of the marginalization of one or more individuals by the action of a group, but it is equally relevant to some societies’ and religious traditions’ marginalization of all nonhuman life.

John Polkinghorne

Before concluding with John Polkinghorne’s recent and valuable introduction to general issues in the religion-and-science dialogue, Science and Theology: An Introduction, it must be noted that it does not, as a logical and psychological matter, follow that an emphasis on the humilities of religion or science, or even talking of humans as within the animal sphere, would eliminate the propriety of references to human dignity or a uniquely human place in the world. But these humilities do suggest that it is not accurate to talk of all other animals “leading up” to humans. In fact, such a framing of our relationship to other living animals is not at all Darwinian (a revolution that Polkinghorne says is to be reckoned with). Chimpanzees are, like human beings, a current end-point of the evolutionary process, not a “lower” form from which human beings evolved. Like other life forms, people and chimpanzees are co-companions at today’s stage of evolutionary development, as are all other living beings. Human beings did not evolve from any of them; they evolved, along with chimpanzees, from a common ancestor. In one sense, both species are equally “evolved.”

Polkinghorne suggests that science, like so much of religion, counsels a fundamental humility when searching the world. A commitment to non-arrogance, as it were, creates opportunities for both openness and inclusiveness. It can be supported, at least psychologically, by the all-too-frequent revelation that in the past many claims of “knowledge” have proven wrong. 74
What is of concern in this work by a leading participant in the religion-and-science dialogue is the scientifically inaccurate claim that humans alone possess self-consciousness. This is an odd assertion, given both the available evidence when this text was written and what Polkinghorne himself says about the nature of science. For many reasons, science is, according to Polkinghorne, dogged by uncertainties, and thus must be practiced with a certain humility. Polkinghorne’s own claim about humans alone possessing self-consciousness violates a number of basic scientific canons, not the least of which is that an absence of evidence hardly equates to evidence of absence. It also violates the spirit of his observations about the many reasons supporting the need for humility. He explicitly cites the clouding up of our vision by the extraordinary complexity of what is going on in the natural world, the fact that sciences are not particularly adept at judgments regarding what happens everywhere and at all times, the long history of radical revisions in various sciences across time, and the fact that science is practiced in communities dominated by “ways of thinking which are all the more influential for being tacit rather than explicit.”

All of this applies fully to what the Western intellectual and scientific traditions have claimed about human beings relative to nonhuman animals (as noted above). Humility, whether theologically or scientifically driven, suggests that participants in the religion-and-science dialogue ought to be, at the very least, conservative on dismissing nonhuman animals’ complexities.

Two qualifications

There are, to be sure, many other works within the Western theological tradition that are far less informed about and less sympathetic to either science generally or nonhuman animals. Examples include works within liberation theology and liberal theology. Even the work of Andrew Linzey, the foremost advocate of the obligation of theology to concern itself with nonhuman animals, fails to engage contemporary science or the relevance of empirical investigation generally.

As Kaufman suggests regarding images of the divine, I suggest that the constructed, self-serving features of cultural and theological images of other animals need to be unpacked. Such archeology on our own views, using Kaufman’s emphases on imaginative construction, mystery, humility, and serendipity, could provide much food for theological thought.

Another important qualification is that there are important exceptions in the religion-and-science dialogue to the general trend to ignore nonhuman animals. A very bright spot, for example, is the work of Thomas Berry. This “geologian” is very comfortable with explicit inclusion of nonhuman animals within ethical boundaries, a feature of his work that may be a result of the fact that he studied non-Abrahamic traditions extensively early in his career. Another example of inclusion is the work of Brian Swimme.

Science and which community?

I have suggested above that the term ‘science’ misleads if it is employed in ways that suggest that the scientific tradition is univocal, dominated by a single method, or value-free. Because science is diverse, the scientific tradition has, regarding nonhuman animals, diverse resources upon which one can draw when participating in any religion-and-science dialogue. Of further relevance to the possibilities of the religion-and-science dialogue is the fact that some scientific experimentation, especially as it is practiced today,
is complicit in the modern academy’s and industrialized societies’ dismissal of nonhuman animals. The use of nonhuman animals in biomedical experiments, as sources of replacement body parts for human transplantation, and in industrial testing of non-essential consumer goods is rampant. This results, sociologically at least, in scientific institutions having a vested interest in nonhuman experimental subjects being denied the kinds of moral rights and protections that would prohibit them from being used as scientific tools.

While such denials may have the approval of some religious institutions, the phenomenon as a whole is driven by secular realities and values. Hence, one of the reasons that the modern religion-and-science discussion has not addressed the significance of other animals is science-driven and not directly related to the Western theological tradition’s shortcomings regarding nonhuman animals. Simply said, scientists and scientific establishments have, for their own reasons, often ignored nonhuman animals as subjects worthy of ethical concern.

An examination of scientific practices suggests that there is an implicit moral community within any modern scientific circle. As a practical matter, it has been human beings alone who have been identified as the living beings deemed moral patients and thus entitled to protections. Thus, the “community” so honored by many scientists is often extremely narrow, and the assumptions, generally speaking, have not been challenged by the mainstream theological traditions of the Abrahamic religion.

A fascinating, even if dismaying, chapter of our intellectual history, and certainly one relevant to the likely content of any religion-and-science dialogue that goes forward in Western intellectual circles, is that both scientific and religious groups speak similarly regarding humans and other animals. Note the functional equivalence, as well as the vocabulary similarity, between (1) the following scientists’ comments and (2) the comment on animals in the 1994 Roman Catholic Catechism. The catechism reads as follows:

Animals, like plants and inanimate things, are by nature destined for the common good of past, present and future humanity.

Peter Gerone, a biomedical scientist who directs the Tulane Regional Primate Research Center, was asked several years ago why he supports the view that human beings are exempted from experiments, while all other animals are not. Gerone replied:

In my own mind, it comes down to the question of which do I want to help the most, animals or people.

Similarly, the respected brain research scientist Stuart Zola-Morgan justified his invasive, harmful experiments on nonhuman primates in this way:

I think a human life is more valuable than an animal life.

As noted above, the “human and animal” dichotomy is eminently unscientific; it also is as plagued by logical problems as would be the phrase “people and Englishmen.”

A broader view of religion and science

In the complex, internally diverse spheres of religion and science, there has been, historically speaking, no single answer to the question, “Who are members of our community?” When one considers the wide range of ecological visions found in the sciences and the religious traditions, especially across time and place, it becomes obvious that religious believers have often included within the moral “community” many living beings not currently so recognized in the institutionalized practice of science today. Because some religious traditions readily include nonhuman life, while others do not, the continuing anthropocentrism of the religion-and-science dialogue is baffling. Perhaps it can be explained as the result of the prevalence of a one-sided interpretation of the Abrahamic traditions. It is well documented, however, that religious traditions have extraordinary resources for other, nonanthropocentric views. For example, in the Christian theological tradition, there are vast resources in the sacra-
mental and creation theologies for affirmation of nonhuman realities, as well as tremendous investments in praxis/ethical concerns and development of human individuals’ abilities for compassion and love. Hence, in the Islamic, Jewish, and Christian traditions, one can easily find individuals who treat nonhuman animals with great compassion. It is also well known that in other religious traditions there are at least as many “conceptual resources.” Included would be fewer dualistic divisions, more ethics-driven compassion, and less emphasis on rationality as a distinguishing characteristic.

**Remaining questions**

Questions might be asked about the adequacy of conceptual approaches, such as the divine/human/world trilogy mentioned above, that are, I suggest, fundamentally ethical in nature. As such, these questions will quite naturally be a matter of the deepest concern to religious traditions.

- Which religious traditions and subtraditions should have a “voice” of relevance in this matter? Which sciences?
- What is the relevance of the actual realities of nonhuman animals’ lives?
- How does one recognize and deal with the fact that the methods and choices of the practitioners of various individual sciences promote, on the issue of the extent of community, one religious view over other religious views?
- Should religious traditions work to correct imbalances and biases for anthropocentric views that have, historically, dominated science as practiced?

**Conclusion**

Although the theme of the importance of nonhuman individuals is not a new theme, there is a profound failure to deal with this subject in the current religion-and-science dialogue. A principal cause of this failure is a continuing anthropocentrism in mainline or traditional ethical reflection, which is often assumed to be the whole of ethical reflection rather than merely one of the many historically and culturally conditioned options available. The continued failure of dialogue participants to address creatively the findings of the sciences that study nonhuman animals threatens to perpetuate the exclusivist values that now dominate the dialogue. The same anthropocentrism, in its ecological forms, has imbalanced many people’s way of living and thinking in the modern, industrialized world. Additionally, the approach to nonhuman animals presently dominating the religion-and-science dialogue is imperialist, in the sense that it continues the long tradition of obscuring alternative views found in the lifeways of the people whose worlds, lives, cultures, and minds were colonized, catechized, and destroyed by the missionaries of European culture.

The manner in which a range of alternatives to traditional ethical anthropocentrism can promote truer, richer community is relevant to how religious believers and theologians can engage the sciences generally and, more specifically, those sciences dealing with nonhuman animals. Foregrounding the explicit and implicit features of the exclusivist recognition of humans as the only biological beings deserving of fundamental ethical protections can help participants in the religion-and-science dialogue see fundamental features of which religions, which sciences, and which communities they have been engaging, as well as those they can engage in the future. It can also help them be more responsive to the shortcomings of anthropocentric ethics found so broadly in contemporary discussions regarding religious, scientific, and secular stories of the universe. A continuing failure to challenge the prevailing tendency to ethical anthropocentrism will lead to a progressive impoverishment of the religion-and-science dialogue and a perpetuation of the exclusivist values that now imbalance human life and thought. These consequences, I submit, will be contrary to, and counterproductive for, the most basic values of any religion or science.
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Endnotes:

1. See, for example, Politics I, 5, 1254b20-21.

2. Consider, for example, the support given by John Locke, who otherwise advanced the cause of natural rights, for slavery under the constitution of South Carolina. See Hood, pp. 147 and 188.

3. There is rich, scholarly work on racism in the western tradition; see Hood, for example. The patriarchy materials are profoundly developed and plentiful. On classism, see the insightful work of Gorringe. On homophobia in some portions of the Christian tradition, see Bawer and Bruce.

4. These three terms are in quotes because the subject matter each raises is, upon examination, extremely complex. There are many theological traditions, and they are extraordinarily diverse. The comments in this article are directed toward what may generally be called the mainline Christian theological tradition. Science, too, is far from monolithic; it is, rather, an ever growing forest of sciences and subdisciplines. The word “animals” is, in ordinary discourse, used primarily to mean “all animals other than human beings,” because even though human beings are known to be animals, daily discourse is allowed to work as if they are radically distinct from other animals. Although the phrase “humans and animals” is pervasive and influential, I intentionally avoid this unscientific and illogical practice for the agenda-driven purpose of suggesting that the biological community can be thought of holistically and without harsh, tradition-driven dualisms.

5. See, respectively, Monod, and Dawkins. Of the theologians and scientists mentioned in this article, Kaufman, Peacocke, Polkinghorne, and Barbour mention Monod and Dawkins in the works discussed here.

6. I first heard this term used by Peter Singer, now of Princeton University, in an August 1994 meeting at The Hague.

7. A foregrounding of ethical concerns is so typical of religious traditions that the comparativist Ninian Smart, when creating categories for approaching religious traditions, includes the category “ethical” as one of the six principal dimensions of religious traditions. See Smart, for example. The other categories are ritual, mythology, doctrine, and the social and experiential dimensions of life.

8. Catechism of the Catholic Church, § 2415.

9. The most debated statement along these lines is White’s essay, “The Historic Roots of Our Ecologic Crisis.” White argues that the Christian tradition’s anthropocentrism was a principal factor in the origin and support of instrumental attitudes toward nature as a whole. While White’s analysis has been forcefully challenged in many different ways as to its accuracy, on the distinct issue of the Western tradition’s ethical anthropocentrism relative to nonhuman animals, the thrust of his thesis remains largely unrebutted. Similar points regarding the orientation of various religious traditions to ethical issues involving nonhuman animals are made in my reviews of Subverting Hatred: The Challenge of Nonviolence in Religious Traditions. See "On Breadth and Exclusion in Concepts of Nonviolence," "The Question of Nonviolence in Hinduism and Other Traditions," and "On Peace and the Extent of Community."

10. An argument for the “natural” qualities of such questions can be found in Wilson.

11. The classic argument for the expanded circle thesis is Lecky. See also Singer.

12. See Waldau, “Will the Heavens Fall?”

13. The most complete set of discussions in this area is, without doubt, the “Religion and Ecology” series at Harvard University’s Center for the Study of World Religions directed, by Mary Evelyn Tucker and John Grim from 1997-1999.

14. See, for example, Waldau, “Beyond Praise of the ‘Declaration of the Parliament of World Religions.’”

15. There is also virtually no engagement with the ancient, non-scientific traditions that have much to offer about specific nonhuman animals.

17. For an account, see Rollin, especially pp. 67-75 and 97-106.

18. Consider that primatologists now routinely use the word "culture" for chimpanzee learning traditions. See, for example, Wrangham et al.

19. What, for example, is the actual impact of captivity upon eminently social animals like gorillas, dolphins, or elephants? Is this something a moral agent should care about? Would exposure to elephant individuals in their families suggest more than would intimate familiarity with all that has been said about elephants in, say, European, or Asian or African, languages?


21. I am indebted to John Hick for this quotation, cited in Chatterjee, p. 73. The original quotation is from Desai, pp. 111-12.

22. Note that the claim here is that the Abrahamic traditions are ethically anthropocentric. Some claim that these traditions are theocentric. Whether or not one subscribes to this term as helpful, the fact remains that in ethical matters, most of those who claim that theocentrism is a valuable concept remain overwhelmingly anthropocentric when answering the question "Who are the others?" (That is, human beings are the animals who get the most fundamental protections when human interests are at stake.) One noteworthy exception is the work of Andrew Linzey. See, for example, Animal Theology.

23. There are important qualifications, since domestication of animals was, and still is, widely practiced in a way that involves extremely harsh realities. For example, regarding elephants, see Waldau, "Buddhism and Animals Rights." Generally, however, the injunction not to kill is very inclusivist.

24. One risk to foreground here is what philosophers like to call "the naturalistic fallacy." This occurs when, solely on the basis of some fact, someone contends that moral agents ought to do so and so. But here that problem is avoided, since I have assumed something beyond the mere fact of these complex nonhuman animals' existence. I have also assumed that human beings have the profoundly important ability to care about, recognize as distinct individuals, and then interact with these other, nonhuman animals as beneficiaries or moral equals—that is, as individuals deserving the basic moral protections human beings offer to those they consider within their "moral circle." So, the question becomes this: If human beings are both (1) moral agents and (2) capable of caring about these other animals (that is, they include them in their moral circle), ought they to do so?

25. I refer here to the well-known fact that many indigenous peoples lived in respectful relation to the nonhuman animals in their econiche. For a contemporary example of ethics-driven reasoning in favor of human caring about some nonhuman animals, see Cavalieri and Singer. Note also that caring about some nonhuman animals cannot automatically be equated with knowing and caring about each and every living being, as the latter is not feasible given that human beings are not able to recognize some nonhuman organisms as individuals.


27. Ibid., p.62, n. 54.


29. The respected classicist Richard Sorabji, in Animals Minds and Human Morals, describes the vibrant debate among classical Greeks and Greco-Roman thinkers. He argues that Augustine effectively shut down the debate by siding with the Stoics in their denial of nonhuman animals' cognitive abilities and, thus, their moral significance.

30. Regarding values that appear during scientific work, there is the important distinction between (1) science being driven by various avoidable agendas, and (2) all science inevitably having unavoidably value-and theory-laden features (for a detailed discussion of the latter, see Barbour, pp.106-110). Both features are the subject of a substantial body of work, including sophisticated critiques from, among others, feminists, animal rights advocates, and environmentalists.
31. It was discovered in the mid-1980s that human beings and chimpanzees are extraordinarily similar in terms of genetic material. This was first reported by Sibley and Ahlquist. The figures usually given are 98.4% for human/chimpanzee similarity, and 97.7% for human/gorilla similarity. Subsequent work has suggested that the similarity in the active parts of the genetic coding mechanism is over 99%.

32. Pannenberg, op. cit., p. 32.

33. See, for example, Goodall, *In the Shadow of Man: The Chimpanzees of Gombe*, and *Through a Window*. A good sampling of contemporary literature can be found in a recent work calling for the extension of legal rights to two nonhuman great ape species (bonobos and chimpanzees); see Wise.

34. See Gallup, for example.

35. A good summary appears in Payne, ch. 4.

36. Reported in, respectively, Payne, Langbauer and Thomas; Marten and Psarakos; and Parker, Mitchell, and Bocchia.


38. Ibid., p. 32.

39. This is Pannenberg’s description in *Toward a Theology of Nature*, p. 50.

40. Gibson, p. 97.

41. Pannenberg, op cit., p. 49.

42. Ibid., for example, pp. 45-49, where Pannenberg shows familiarity with some evolutionary thinking; or in *Anthropology* (see, for example, pages 142-3 and 354-6), where he addresses various features of the ethology work of Konrad Lorenz.

43. Ibid., p. 139.

44. At the time Pannenberg included this claim in his 1993 work, there was extraordinarily detailed information available regarding consciousness, self-consciousness, and self-awareness in some nonhuman animals. See, for example, Griffin’s books, *The Question of Animal Awareness*, and *Animal Minds.*


49. See Waldau, “Beyond Praise.”


51. Ibid., p. 12.

52. Darwin remarked that he had collected over twenty claims regarding uniqueness of humans, “but they are almost worthless, as their wide difference and number prove the difficulty, if not the impossibility, of the attempt.” Quoted in Radner and Radner, p. 8. Gorringe makes very interesting comments on the ways in which elitist groups have used the notions of human nature and natural law to advance their own agendas.

53. See Waldau, “Buddhism and Animals Rights.”

54. Regarding Kaufman’s thoughts on human continuity with the “lower animals,” see pp. 146, 163f, 203, 230f.

55. Ibid., p. 24, note 9.

56. Summarized well in Wise.


58. Ibid.

59. See Byrne, passim, especially pp. 124-44. Both anecdotal and systematic evidence is available in Fouts; Savage-Rumbaugh and Lewin; and Cavalieri and Singer.

60. Clutton-Brock, and Serpell


Kaufman focuses is entirely human. Yet these very concepts, and especially the intuitions and critiques advanced by interfaith dialogue regarding the shortcomings of exclusivist tendencies, translate readily into insights about the exclusion of nonhuman realities. Further, how inclusivists can interfaith dialogue be if it excludes the nonhuman world so richly recognized outside the Abrahamic traditions?

63. The most developed theological thinking regarding nonhuman animals is that of Andrew Linzey, best exemplified in Animal Theology.


65. Schmithausen, p. 95.

66. For information as to how auctores (literally, “originators”) in the Hellenistic world, and then later, passed along inherited views, rather than a commitment to empirical investigation, as the criterion regarding nonhuman animals, see *Bestiary*, pp. 7-8.

67. See, for example, the detailed chart in Peacocke, pp. 216-17, and the heavy emphasis on cognitive sciences on pp. 223-36.

68. Ibid., pp. 226-27.

69. Ibid., pp. 7-8.

70. Ibid., pp. 221-22.

71. This distinguished scholar has a very interesting set of vocabularies for this topic. While he uses the word “animal” in ways that acknowledge that human beings are animals (for example, Barbour, p. 58), the overwhelming tendency is to use the term as a reference to all nonhuman animals (as at pp. 58, 59, 60, 74, 254-5, 259, 270, 278, and 280). A similar discourse habit appears (at p. 60, for example) when primates are discussed: “between humans and the highest apes.” What makes this odd is that human beings are, scientifically speaking, members of the ape family. At p. 74, when Barbour talks of the “the similarities between humans and animals,” he seems fully comfortable with this artificial division as if it was part of nature, or a helpful description because it is reflective of the order of things.

72. Ibid., p. 259.

73. Ibid., p. 270.

74. William Paley noted at the end of the eighteenth century, “Nothing is so soon made as a maxim; and it appears from the example of Aristotle, that authority and convenience, education, prejudice, and general practice, have no small share in the making of them; and that the laws of custom are very apt to be mistaken for the order of nature.” (Paley, p. 32.) Paley was discussing Aristotle’s view of non-Greeks as slaves.

75. Polkinghorne, p. 49.

76. Ibid., pp. 9ff.

77. See, for example, Linzey’s analysis (chapter 4) of liberation theology’s shortcomings regarding nonhuman animals.

78. See, for example, Waldau, “Shortcomings in Isolated Traditions of Ethical Discourse.”


80. See, for example, Swimme’s *The Hidden Heart*. At p. 50, Swimme speculates, “If an orangutan could speak, it too would regard the stars as far above, up in the sky; if it were lying on its back on a field of grass at night, it too would think it was looking up at the stars.” The point here is not the accuracy of the statements, but the willingness to get beyond the standard dismissals of all nonhuman animals. On the extraordinary intelligence and other abilities of orangutans specifically, see Galdikas, and Cavalieri and Singer. For more on Swimme’s thought, see *The Universe is a Green Dragon*, and Swimme’s joint effort with Berry, *The Universe Story*. In the latter, there are abundant references to many different animals and plants, as well as references to the more mentally complex nonhuman animals: at p. 144, the text mentions the gibbon, chimpanzee, orangutan, gorilla; and at p. 272, the timeline mentions many animals, including whales, apes, cats, dogs.

81. Views from different religious traditions are discussed in Regan.

82. As always, qualifications are important. There have been, and continue to be, human subjects in biomedical experiments. See Lederer, for example. In addition, some non-
human animals have been exempted from the harshest features of experimental realities. Britain and New Zealand have had, respectively, administrative and legislative bans since the late 1990s; while in the U.S., there are less extensive limitations. See, for example, National Research Council/ILAR Committee on Long-term Care of Chimpanzees.

83. Catechism, p. 516.
84. Quoted in Blum, p. 137.
85. Ibid., p. 78.
86. See, for example, Linzey; and Habgood, pp. 47-52.
87. See, for example, Callicott and Ames, pp. 17-21.

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