

NAMING THE HUMAN ANIMAL: GENESIS 1–3 AND OTHER ANIMALS IN HUMAN BECOMING

by Arthur Walker-Jones

Abstract. Recently the paleoanthropologist Pat Shipman has proposed what she calls the animal connection as the human trait that connects all other traits. Theologians and biblical scholars have proposed many relational, functional, and ontological interpretations of the image of God in humans and human nature, but have generally not included a connection with animals. Genesis 1–3, however, weaves human and animal creation in a variety of ways, and Adam's naming of other species implies they are understood as family or kin. Thus Genesis 1–3 understands a relationship with other animals as integral to human becoming and uses family or kinship as a root metaphor for human–animal relations.

Keywords: Adam animals; Bible; domestication; dominion; human nature; Genesis 1–3; Genesis 1:18–20; Genesis 1:26–28; image of God (*imago Dei*)

The philosopher Jacques Derrida says, in his book *The Animal That Therefore I Am*, that Adam's naming of the animals in Genesis 2:18–20 is an expression of human power over other species that leads to violence in the story of Cain and Abel (2008, 42). Derrida's book is a philosophical contribution to a broader cultural discussion of what it means to be human in the context of the disintegration of the binary distinction between humans and animals, and ethical concerns about the human treatment of other species. Theologians and biblical scholars normally discuss human nature in relation to the meaning of creation in the image of God in Genesis 1:26–28. Centuries of debate have produced multiple interpretations of the image of God, but few consider a relationship with other species integral to human nature and the image of God. Similarly, evolutionary anthropologists identify multiple traits that they consider characteristic of humans. Recently, the paleoanthropologist Pat Shipman has proposed a

Arthur Walker-Jones is United Church of Canada Research Chair in Contemporary Theology and Professor of Biblical Literature, University of Winnipeg, Winnipeg, Manitoba, Canada; e-mail: a.walker-jones@uwinnipeg.ca.

connection with animals as a key human trait that unites other traits into an adaptive package (2010, 519). This article is an exploration of what I as a biblical scholar might have to learn from, and possibly contribute to, a dialogue with Shipman's hypothesis. The exploration discovers that, on the one side, biblical scholars trained in the critical analysis of the contemporary social and ethical function of the interpretation of biblical narratives may have insights into the social and ethical function of the way scientific narratives are told. On the other side, paleoanthropology may highlight aspects of the Hebrew Bible that have been neglected by biblical scholars, or place them in a new light. In this regard, the article argues that the two creation stories in Genesis 1–3 consider a relationship with other species part of the image of God in humanity and that their root metaphor for that relationship is kinship or family.

Both biblical scholars and theologians are far from agreeing amongst themselves on what the image of God is in humanity. The biblical scholar Claus Westermann says “the literature is almost limitless” (1984, 148). The theologian Celia Deane-Drummond notes that “centuries of textual debate have not really resolved what image bearing means” but summarizes the interpretations as ontological, functional, and relational (2014, 11). Ontological interpretations identify image bearing with one or more human traits, such as reason, free will, language, morality, or spiritual capacities or qualities. Functional interpretations understand image bearing as some function humans have in the world. Relational interpretations suggest that image bearing has to do with the human ability to enter into relationships with God and other human beings. Despite the many ontological, functional, and relational interpretations of the image of God, few consider a relationship with other species central to human being and becoming.

Functional interpretations are common among biblical scholars. As J. Richard Middleton notes, a “virtual consensus” has developed among biblical scholars that the image of God represents “the royal office or calling of human beings as God's representatives and agents in the world” (2005, 26–27). This consensus is based on Egyptian and Mesopotamian references to kings being the image of God, and royal imagery and language in Genesis 1, like the verb, translated “have dominion” or “rule” (Hebrew *radah*). Of course, this functional interpretation need not be exclusive because, presumably, a ruler would need various ontological traits and relational abilities in order to rule effectively.

Biblical scholars recognize that Genesis 1–3 contains two different creation stories from two different sources (Gen. 1–2:4a and 2:4b–3). Some argue that the two can be read together because the priestly editors who placed them together intended them to be read together. Others think such source criticism is based on erroneous nineteenth-century literary critical assumptions. In particular, they hold that the meaning and social function

of a text is not determined by the intention of the author or editor, but by the text (Wimsatt and Beardsley 1954) and the reader (Tompkins 1980). This is analogous to the position of canonical critics who hold that the final form of the text is authoritative for theological reflection (Sanders 2005). Thus the philosophers, theologians, and biblical scholars who read the two stories together are justified by literary theory and canonical criticism in doing so. This study recognizes the differences between the two stories, but discusses both stories because both in different ways have influenced subsequent philosophical, cultural, and theological reflections on human nature, both mention animals, and both are, therefore, relevant to a dialogue with Shipman's animal connection hypothesis.

Many biblical scholars agree with Derrida that Adam's naming of other animals in the second creation story (2:4b–3:24) has to do with power over non-human animals and interpret it as an expression of the dominion given to humans in the first creation story (1:1–2:4a). The interpretation of naming as power over others, however, is problematic for environmental ethics and animal rights. The historian of ideas Lynn White Jr. famously argued in a 1967 article in *Science* magazine that Western Christianity bears responsibility for the global environmental crisis, because it has understood the creation of humans in the image of God to mean humans are separate from nature and “no item in creation has any purpose save to serve man's purposes” (White 1967, 1205). Some, like Norman Habel (2000), argue the royal language is an insurmountable problem for any ecological reading, but others argue that *have dominion*, read in the context of Genesis and the Bible, cannot be used to legitimize exploitation (Welbourn 1975, 563–65; Middleton 2005, 272–97). Phyllis Tribble has shown that the play on the Hebrew words for *the human* (*ha'adam*) and *the earth* (*ha'adamah*) indicates the fundamental relationship of humanity with Earth or, as she expresses the Hebrew wordplay in English—the relationship of the *earth creature* with *the earth* (Gen. 2:5, 7; Tribble 1978, 76–77). Although this brings out the connection of humanity to Earth, Tribble also points out that this word, which is often translated *Adam*, cannot be a proper name because it appears with a definite article, and is the Hebrew word for *human*. That the story is about *the human* and a partner whose name is from the root for *life* indicates the story is a symbolic, narrative reflection on human nature. For that reason, the translation *human* will be favored in this article. In addition, the word translated “Earth” (*'adamah*) is not the general Hebrew word for “Earth” (*'erets*) but the word for “arable land” (Hiebert 1996, 34), so the wordplay recognizes the human relationship with, and dependence on, arable land. *Humans* are from the *humus*. Thus biblical scholars have discussed the relationship of humanity to the environment generally, but have not explored the relationship of dominion to the significance of other animals for human nature and becoming.

An exception is Claus Westermann, who asks why only animals are mentioned and suggests this means “that it is the attitude of humans toward other living beings that should characterize the human attitude to the world about them; and this means a markedly personal attitude” (1984, 159). But he does not have much more to say. The anthropological literature on domestication and coevolution with other species may provide a way to reflect on the presence of animals in Genesis 1–3.

Before getting too far into a dialogue between evolutionary anthropology and Genesis 1–3, it may be important to recognize that Genesis has been the locus of a cultural conflict over the relation of science and religion and to say a few words about how Genesis will be interpreted. There has been a tendency in the modern period to read Genesis 1–3 literally, as if it were history or science. Thus Creationists read Genesis as if it were a science textbook, and source critics may focus on logical inconsistencies between the two stories. This is not to say the original writers and their readers did not think of Adam and Eve as literal persons or think they were making literal statements about nature; they may have. But a literal reading misses the literary and metaphorical dimensions of the text. In relation to the discussion of this article about human becoming and relation to other species, ancient writers may have reflected on what it meant to be human and expressed this in the form of narratives with symbolic meaning. For instance, the already mentioned Hebrew meaning of the name Adam, *human*, indicates that Adam is not just an individual but symbolizes all humans. And Adam’s naming of other species may be a story told to say something about the human relationship with other species. The ancient writers would not have known the results of archaeology and the history of domestication, but they probably had more intimate relations with other species than many moderns. The archaeological evidence indicates that Iron Age Israelites, even those living in cities, had walled enclosures for domestic animals adjoining their homes. The ancient Israelites may, therefore, have had a sense of the human relationship with and dependence on other species that may be expressed in the stories they tell. At the same time, if one accepts the arguments of contemporary literary and canonical critics that it is the text and readers that create meaning, then modern readers might have their reflection on the text enriched by evolutionary anthropology, without in any way suggesting that the ancient writers intended or would have had any knowledge of those meanings. In other words, the ancient writers may have had an appreciation of other animals based on their lived experience that is reflected in the stories, and that ancient appreciation may be recognized and enriched for modern readers by insights from paleoanthropology.

Evolutionary anthropologists are also interested in the nature of being human, though their perspective is different. They are interested in the traits that distinguish humans from other species, have given humans

an adaptive advantage, and are evident in the archaeological record. Evolutionary anthropologists have identified a large number of “traits often considered diagnostic of humans and significant in their evolution.” Pat Shipman has recently proposed a new trait that she calls the animal connection and has argued that it is an “equally important and diagnostic behavior of humans” that unites other major traits “into an adaptive package” (2010, 519). In order to present her argument, Shipman organizes the major traits identified by anthropologists into three groups: (1) tool making and use, (2) symbolic behavior, and (3) domestication of other species (2010, 519).

Early responses to Shipman’s hypothesis from evolutionary anthropologists and paleoanthropologists seem favorable. Among the scholars who respond to Shipman’s thesis in *Current Anthropology*, some raise methodological issues but others think she has proven her case and add refinements and support for the hypothesis. Among those who express some reluctance, Manuel Domínguez-Rodrigo of Complutense University, Madrid, Spain, is “hesitant to refer to animal consumption” (Shipman 2010, 527) as an animal connection and points to evidence that stone tools had other uses. Shipman replies that her understanding of the animal connection is not limited to animal consumption and she is not arguing that stone tools were only used to process animals, just that the evidence points to this as one of the uses (Shipman 2010, 513). Travis Raye Pickering of the University of Wisconsin accepts that a relationship with other species catalyzed the invention of stone tools, symbolic behavior, and domestication, but asks how distinctive of *Homo* this animal connection was. He notes that other species have predator–prey relationships—chimpanzees eat some meat, other hominins could have eaten meat, and there is evidence *Homo sapiens* ate meat before the invention of stone tools (Shipman 2010, 530). Shipman responds that chimpanzee meat eating differs in a number of ways, including being much less important and that “what changed (increased) with the advent of stone tools was the ability of hominins to access significant quantities of animal resources, the average size of the animals they exploited, and the ecological and nutritional importance of animal resources in their lives.” In addition, “this new ecological niche would have offered a considerable adaptive advantage to those hominins who increased the attention they paid to the habits of both other predators and prey” (Shipman 2010, 531). Since anthropologists are widely agreed that domestication is a human trait, it seems unlikely Shipman’s thesis will be entirely overturned, but the nature of the animal connection, the extent to which it is distinctive to humans and relates to other traits, will probably continue to be debated.

The other respondents think Shipman has proved her thesis and offer additional support or refinements. Lucinda Backwell and Francesco d’Errico of the University of Witwatersrand, South Africa, think she

provides “good evidence in support of her theory,” but ask whether Shipman’s portrayal of hominin cultural evolution is “too linear” (Shipman 2010, 526). In her reply, Shipman agrees that evolution of human behaviors are seldom linear and regrets that her presentation may have implied they were (Shipman 2010, 531). Mietje Germonpré of the Royal Belgian Institute of Natural Sciences thinks the hypothesis is “accurate” and “very helpful” (Shipman 2010, 527, 528). She argues that the symbolic meaning and ritual uses of other species probably contributed to the animal connection and Shipman agrees the symbolic and ritual uses of other animals is important (Shipman 2010, 531). Richard G. Klein of Stanford University says “no one will dispute that human interaction with other species is distinctive, but we may disagree about whether it is the cause or the effect of other human behavioral distinctions” (Shipman 2010, 528). Sandra L. Olsen of the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania says that “on the basis of the massive volume of evidence, her point that animals played a pivotal role in the daily lives of ancient peoples is difficult to deny” (Shipman 2010, 528) and reiterates and supports Shipman’s hypothesis with specific reference to her own work on horses and research on zoonoses. Shipman’s peers, therefore, seem to think her hypothesis is plausibly argued and worthy of further consideration.

Although all the respondents agree with Shipman’s summary of traits, her list does not include cooperation. Traditional neo-Darwinian theory emphasized competition as the main driver of evolution with cooperation playing a subsidiary role so that competition was often understood as a human behavioral trait. However, recent research in evolutionary biology and anthropology is making a strong case that, while humans sometimes engage in competitive activity, cooperation may often be the primary driver of human evolution (Fuentes 2004; Boyd and Richerson 2009). I would, therefore, add cooperation to the list of major human traits.

The next six sections section of this article—Tools, Symbolic Behavior, Naming, Domestication, Dominion, and Cooperation—will present Shipman’s arguments for an animal connection to each of the other major traits and place them in dialogue with the biblical stories. Cooperation is added to her arguments for an animal connection to tool use, symbolic communication, and domestication, and these are all interspersed with the considerations on naming and dominion that deal with what each of the two stories in Genesis may have to say about human nature and other animals. I will then turn to further evidence in Genesis 1–3 for the relationship of human nature to animals and the root metaphor for that relationship—family.

TOOLS

Tools are briefly mentioned in Genesis 4:22, but strangely absent from Genesis 1–3 and much subsequent philosophical and theological discussion of human becoming. Evolutionary anthropology, however, has long considered tool use a distinctly human trait. Flaked stone tools, commonly called hand axes, appear in the archaeological record about 2.5 million years ago. The fossil record before the invention of stone tools shows that hominins were primarily herbivores and, after the invention of stone tools, became not just carnivores, but super carnivores. Despite the lack of adaptations like claws and speed, hominins regularly killed mammals as large as those killed by lions (Shipman 2011, 48–50). Shipman notes that carnivores that cooperate in the hunt are able to kill larger prey than those who are solitary hunters (Shipman 2015, 49) so, although she does not emphasize cooperation, it is tools and *cooperation* that turn humans into super carnivores. Carnivores live at much lower concentrations than herbivores, and the invention of stone tools corresponds to hominin expansion out of Africa (Shipman 2011, 65). The new diet rich in protein may also have made possible the development of larger brains (Shipman 2011, 59–60). Thus, the use of stone tools that allowed humans to create a new super carnivore ecological niche, to inhabit an expanded geographical range, and to develop larger brains was connected with other animals.

It is interesting that the understanding of human becoming in an ancient text like Genesis has similarities to this modern, scientific account. Intelligence comes before becoming carnivores in the Genesis account, but both are present. Before gaining the knowledge of good and bad, humans are herbivores. God gives them “every plant . . . and every tree with fruit . . . as food” (Gen. 1:29).¹ They are not given other animals to eat until after the flood (Gen. 9:5). Carol Newsom has noted that the story of Adam and Eve seems to recognize the relationship between larger brains and pain in childbirth because pain in childbirth is one of the consequences of gaining the knowledge of good and bad (Newsom 2000, 70). Humans have a much more difficult childbirth compared to other primates due to the size of infant skulls relative to the birth canal (Gruss and Schmitt 2015). In addition, there is a movement out of the garden that parallels the movement out of Africa. Thus Genesis has a similar movement from herbivore to carnivore accompanied by greater knowledge and geographical expansion.

Shipman points out that tool use had other consequences. Being a top predator put hominins in competition with other top predators. Many bones at early sites have both the tooth marks of large predators and the cut marks of human tools (Shipman 2011, 58). If hominins killed a large herbivore, they might have had to defend the carcass from other top predators like lions and hyenas. Shipman argues that those hominins who were able to observe and learn the habits and behaviors of prey species they

hunted, and the predator species they were in competition with, would have had an adaptive advantage. So evolution would have selected for hominins who were better at observing and understanding the behavior of other species (Shipman 2011, 56–71).

SYMBOLIC BEHAVIOR

Rashi, Nachmanides, and other Medieval Jewish thinkers identified the image of God in humanity with speech (Aberbach and Grossfeld 1982, 29 n. 10), and many anthropologists identify speech as a human trait. Language is a distinctively human behavior, but it has not left evidence in the archaeological record until relatively late, so Shipman groups language together with other symbolic behaviors that *are* evident in the fossil record, such as pigment use, ritual, personal adornment, and art. These are types of symbolic communication, like language, and may be interrelated with language. While language appears late in the historical record, other symbolic behaviors begin to appear very early. Evidence of personal adornment appears early in the fossil record (McBrearty 2013, 14–17). These adornments are connected to other animals; they are often shells and other animal products. In the contemporary world, clothing quickly communicates a multitude of messages about culture, subculture, gender, race, class, and ethnicity. In contemporary hunter-gatherer societies, the wearing of clothes or personal decorations from other creatures may indicate dependence on, and identification with, those species.

The Genesis account connects God's giving of clothes to the humans with animals by noting they were "garments of skin" (3:21). As in the modern world, clothes in Genesis 3 may have had multiple associations. They have traditionally been associated with sexuality, but Bernhard Batto (1992) has argued that, in the context of ancient Near Eastern creation stories, clothes were a symbolic recognition of human difference from other animals, who do not need clothes, and likeness to gods, who wore clothes in ancient Near Eastern iconography. Indeed immediately after giving the human clothes, God says "the human has become *like one of us*, knowing good and bad" (Gen. 3:22). The Hebrew words I have translated "good and bad" are often translated "good and evil," but the Hebrew indicates knowledge broader than just moral discernment. By specifying that the clothes are "skins," Genesis might offer a recognition of human dependence on other animals. God's giving of clothes to humans, therefore, indicates their knowledge of good and bad, likeness to God and, perhaps, their dependence on other animals.

About 40,000 years ago, amazingly realistic art appears in caves around the world. Art can be considered a type of language with a symbolic vocabulary that stores information and communicates to an audience (Shipman 2010, 524). The art in these caves shows knowledge of "not only gross

morphology but also coat color, posture, behaviors, sexual dimorphism, and mating stances” of other animals (Shipman 2010, 524). Shipman argues that this widespread and intimate knowledge of species arose out of a long history of human observation of other species. While there are many species represented, large prey species predominate, so it seems plausible to me that one of the functions of this art was to teach succeeding generations about the dangerous but essential work of following and killing large prey. Many linguists and anthropologists think that language has a social function, but Shipman suggests that language originally may have had to do with animals (Shipman 2011, 156–73). Groups that used language to organize hunting and foraging and that could communicate knowledge about plants and animals to successive generations would have had an adaptive advantage.

NAMING

It is interesting then that Genesis connects the first human use of language with other species. By asking the human to name the animals, God is asking the human to exercise a distinctively human trait, but that trait is not just about power over, as the reference to Derrida that began this article suggests. Humans certainly have power over domestic animals, and to some extent wild animals, but the human’s naming of other creatures does not only have to do with power over. Naming cannot only have to do with power over in Genesis, because later in Genesis Hagar names God (Gen. 16:13). In this context, naming is clearly an expression of awe and gratitude.

Before discussing the meaning of naming in Genesis, it may be necessary to address a contemporary misconception about this story. Contemporary readers may assume that the need to create a woman means the creation of animals as helpers was a failure. But Hiebert points out that God has just made the human a farmer, so the animals are created to help with agricultural labor. Cattle and donkeys assisted “with the most arduous tasks of plowing, threshing, and carrying loads,” and sheep and goats “provided essential products for the subsistence economy” (Hiebert 1996, 60). As William Brown says, the “animals are left to flourish along with the ‘adam [human]. The garden has become a community” (Brown 2010, 83). The story says “a helper *kenegdo* was not found” (Gen 2:20). The word *kenegdo* is a combination of the prefixed preposition *ke-*, “as,” the substantive, *neged*, “in front, opposite, or corresponding to,” and a pronoun suffix *-o*, “him.” The New Jewish Publication Society version translates it “fitting,” the New Revised Standard Version translates it “as a partner,” and the Revised English Bible translates it as “suitable.” Joseph Blenkinsopp says the word refers to “the more intimate association encapsulated in the expression ‘bone of my bone, flesh of my flesh’ (Gen. 2:23). Usage elsewhere in the

Hebrew Bible occurs in the context of close physical and emotional ties” (2011, 70). At the risk of stating the obvious, male and female versions of a species are necessary for mammals to reproduce. While other animals cannot provide the intimate relationship and help in producing children a human of the opposite sex does, animals did provide indispensable help with agricultural production in ancient Israel.

Aside from power over, naming has at least three other major connotations in the immediate context in Genesis (Ramsey 1988, 24–35). First, several biblical scholars have noted that naming in Genesis is often an act of discernment. When the human gives Eve a name, which is from a Hebrew root for *life*, the narrative says “because she was the mother of all *living*” (Gen. 3:20). The human’s naming of Eve is a discernment and honoring of her role in creating future generations. This sense of naming as discernment is evident in other cases of naming in the book of Genesis (28:19; 32:31; 33:20; 35:7; 35:15). Middleton (forthcoming) notes that God brings every “wild animal” and “bird of the skies” (Gen. 2:19), but human naming adds a third category, “livestock” (2:20). Thus naming appears to have involved the discernment of domestic animals and their roles.

Second, naming is an act of creation in ancient Near Eastern creation stories. In Genesis 1, God names what God makes—“God called the light Day, and the darkness Night” (v. 5). Other acts of creation are followed by the naming of Sky (v. 8), Earth, and Seas (v. 10).

Third, the most common occurrence of naming in Genesis is parents naming children. When the human names the animals in Genesis 2:20, the human uses a form of the typical Hebrew expression for giving a name. The expression includes a form of the verb *call* (*qara*) followed by *name* (*shem*), or in this case the plural *names*, and the prefixed preposition *to* (*le-*). Variants of this naming formula can be found throughout the book of Genesis and the Bible. The words may occur in different orders and either *to* or *name* may be omitted.² Naming formulas occur seventy-three times in the book of Genesis. Of those seventy-three, almost half, thirty-four (34), refer to parents naming children (Gen. 4:25, 26; 5:3, 29; 16:15; 17:19; 19:37, 38; 21:3, 12; 25:25, 26; 29:32, 33, 34, 35; 30: 6, 8, 11, 13, 18, 20, 21, 24; 35:18 (twice); 38:3, 4, 5, 29, 30; 41:51, 52 [thirty-five times if you include 27:36: “Is this not why he was named Jacob?”]). Thus, the context in the book of Genesis gives the human’s naming the strong connotation of a parent naming children. While parents have power over children when they are young, they depend on their children in an agricultural economy as labor and as a social security net. Parents generally recognize that, as they age, they will have to share power and eventually transfer power to their children. In their old age, their children may have power over them and, after death, their name will live on through their children. The various

connotations of naming in Genesis suggest, therefore, that the human exercises power as a discerning, power-sharing parent.

Someone might object that the idea that animals are members of the family is a uniquely modern phenomenon, and aspects of the current trend certainly are, but archaeological and cross-cultural evidence make it clear that humans are distinct in the frequency with which they adopt the young of others species (Shipman 2011, 11–13, 270–76), and at least one story in the Hebrew Bible makes it clear that ancient Israelites may have thought of some of their domestic animals as members of their family. Nathan’s parable to King David tells the story of a poor man who has a ewe lamb that is “like a daughter” (2 Sam. 12:3). The story assumes hearers would find it plausible, even persuasive, that ancient Israelites could feel a ewe lamb was like a member of their family.

DOMESTICATION

Evolutionary anthropologists commonly recognize the domestication of other species as a distinctly human trait. Domestication had a profound impact on human evolution (Diamond 1997). Although domestication obviously involves an animal connection, Shipman emphasizes that domestication would have been made possible by the ability to observe and communicate with other species that had developed in the previous stages of human evolution (Shipman 2010, 525). Dogs were domesticated several millennia before other species, so dogs may have given humans the idea that other species could be domesticated (Wang and Tedford 2008, 153–54). The domestication of sheep and goats provided hair and wool for tents and clothes, and dairy products rich in fat and protein. Cattle provided traction for plowing, threshing, and transport, as well as dairy products. Horses provided the first means of rapid transit. The ability to observe and understand other species would have been important in this later phase of domestication because cattle and horses can be dangerous, even deadly, to keep. Those humans who were better able to understand and form relationships with them would have had an adaptive advantage.

DOMINION

That humans were created to have *dominion* in Genesis has been used to justify treating other species as objects of exploitation. The way dominion language has been used is problematic, but the human impact on the planet is now such that human dominion of one sort or another has become unavoidable. Nobel Laureate Paul Crutzen and Eugene F. Stoermer (2000) coined the term *Anthropocene*, which is now widely used by scientists and other academics to indicate the current era in which humans are *the* major force in shaping Earth’s geology. The increase of the human population from one billion in 1800 to seven billion in 2011, deforestation,

overfishing, species extinction, damming and diversion of rivers, dumping of toxic chemicals, greenhouse gases, and climate warming mean that, barring a major catastrophe, humankind “will remain a major environmental force for many millennia” (Crutzen 2002, 23). Even if humans were to cease keeping domestic animals and return to being herbivores, which might be a good idea to address climate change and other environmental issues, human choices would continue to determine which species went extinct and which species flourished.

The question may not be whether humans should have dominion, but what *type* of dominion they should have. Since *dominion* would have had to do with humans keeping domestic animals, there might be something to be learned from the anthropological literature on domestication. In his now classic essay “From Trust to Domination: An Alternative History of Human–Animal Relations,” the anthropologist Tim Ingold is clear that he is making his argument as a contribution to changing typical narratives in the West about humanity and its relationship with other species. He suggests that, in rewriting the human–animal story, “those who are ‘with’ animals in their day-to-day lives, most notably hunters and herdsman, can offer us some of the best possible indications of how we might proceed” (Ingold 2000, 76). In the article, Ingold characterizes the relationship of pastoralists with domestic species as *domination*, and the relationship of hunter-gatherers to other species as *trust* (2000, 69–76). The Cree and the Ojibway, whom he cites as examples, understand themselves as having a relationship of trust with other species. They do not understand the animals as being chased down and killed, but as offering themselves to the hunter who is at pains to respect that offering and facilitate with ritual the transfer of the animal’s life to another existence. The hunter must treat the animal’s sacrifice with ritual and respect, or other members of the species will not offer themselves, and the people will starve. Hunter-gatherers consider the taking of more than is needed deeply disrespectful to the other species, so it can be argued that hunter-gatherers “practise a conscious policy of conservation” (Ingold 2000, 67).

Ingold’s characterization of the relation of pastoralists with domestic animals as domination may, however, not be entirely accurate. Rane Willerslev, Piers Vitebsky, and Anatoly Alekseyev (2014) argue that pastoralists may also understand themselves as having relationships of *trust*. This is part of their larger argument that cosmology played a role in the domestication of the reindeer. Many of the indigenous peoples of Russia herd reindeer, but some have resisted herding and continue to hunt reindeer. Willerslev, Vitebsky, and Alekseyev argue that, “notwithstanding hunters’ high moral ideals of trust between humans and nonhumans and their elaborate ritual procedures to secure the animals’ rebirth, their killings cannot be carried out non-violently and without bloodshed.” There is a “slippage between hunting as a ‘sacred act’ and hunting as ‘predation’” (Willerslev, Vitebsky,

and Alekseyev 2015, 29). They argue that one reason for domestication was that the sacrificial ritual could be made to come closer to the hunters' ideal of the animal offering itself voluntarily, though the cosmology would also explain why some peoples might remain hunters because they might understand domestication as tricking the animal and thus violating trust (Willerslev, Vitebsky, and Alekseyev 2015, 30).

In his response, Ingold acknowledges that a weakness in his argument was “conflating two quite different models of domination. One is the patriarchal model, applicable to Near and Middle Eastern pastoralism as represented in biblical accounts and associated with the proximate power of ancient kingdoms. The other is the northern circumpolar model, where the control of the pastoralist . . . is not at all like that of a ruler . . . but very much like that of the spirit master over animals which are really just refractions of his own being” (Ingold 2015, 26–27). Ingold uses the word *domination* to indicate that domestication requires the use of force on other, sentient, volitional creatures. The nature and extent of this force can, however, be overstated. Shipman argues, based on her own lifelong experience with horses, that the relationship with a domestic species is more of a mutually negotiated relationship. She says, for instance, that corrals are more of a mutually negotiated enclosure because horses could escape if they really wanted to. She says that anyone who decides to learn to ride a horse soon realizes that a horse can seriously injure or kill its rider, and those who cannot develop the ability to communicate and build a relationship with a horse often quit riding (Shipman 2011, 245). Cattle were more common than horses in the ancient Near East, but like horses are large, potentially dangerous animals, who would require respect and understanding in order to work effectively with them. As Shipman says, “domestication is a continually negotiated agreement between two species, not an enslavement of one by the other. And some species flatly refuse to be domesticated” (Shipman 2015, 5).

A case could be made that ancient Israelites had a relationship of trust and their religion attempted to navigate the ethical ambiguities of taking the life of other sentient beings. From an evolutionary perspective, some domestic species have done fairly well by coevolving with humans. Wolves (*Canis lupus*), who were once a dominant predator across the temperate regions of Europe, Asia, and North America, have been reduced to a few remnant populations, while their domestic descendants, dogs (*Canis lupus familiaris*), have increased in numbers and are found in many regions of the world. Aurochs (*Bos primigenius*) went extinct in the seventeenth century, but their domestic descendants, cattle (*Bos taurus*), have increased in numbers and are also found in many regions of the world. There is, of course, the difficult ethical issue of the quality of life of domestic animals. In the modern world, many cattle and sheep are raised for meat. They are raised in pens or cages and killed at around one year, or the age at which

the maximum meat is produced for the minimum food and water input. By contrast, the quality of life of sheep, goats, and cattle, the primary domestic animals in ancient Israel, may have been much better. Aharon Sasson (2010) provides extensive zooarchaeological and anthropological evidence that Iron Age Israel did not have a market economy that raised animals for export, but a subsistence economy. Domestic animals were not raised primarily or solely for meat in the ancient Near East. Ethnographic studies show that in traditional, premodern economies meat and dairy products provided an important source of high-quality fat and protein, not readily available from plants, *but* only made up 5–17 percent of the calories in a human diet (Sasson 2010, 117). Cattle were kept primarily for plowing and were not used for labor until they were three or four years old (Sasson 2010, 56), so would have lived fairly long lives characterized by a mixture of work, grazing, and rest. Israelite religion even required domestic animals be allowed to rest on the Sabbath (Exod. 20:11; Deut. 5:4). Similarly, sheep and goats were kept for wool, hair, and dairy products. About 15 percent of sheep and goats die young from natural causes, and young males of about one year old would be culled to maintain the size of the herd within the sustainable carrying capacity of the land (Sasson 2010, 41). Females and a few breeding males would live five to six years, at which time productivity tends to decline and they might be culled for meat. Herds were kept below the minimal (bad year) carrying capacity of the land to avoid wild fluctuations in the population (Sasson 2010, 40–41). Although humans became one of the major causes of death for domestic animals, keeping herds below the maximum carrying capacity of the land would reduce suffering from starvation and disease for both humans and animals. And it would allow for larger populations of humans and domestic animals in the land.

Modern readers may be offended by animal sacrifice, but the anthropologist Mary Douglas points out that the treatment of animals may be better than the horrors of the modern slaughterhouse (2001, 67) and factory farm. The amount of meat eaten in ancient Israel was less than in modern times, and the animals were valued and treated with respect. The sacrificial laws often specify those animals (young males) that would typically be culled, so the sacrificial system was part of maintaining the flourishing of the land. People give to God what they value most, so the sacrifice of domestic animals was a recognition of their value for ancient Israelites. And, like hunter-gatherers, they probably treated that sacrifice with respect. The law said the Israelites were not to eat the blood of another animal because the blood is “its life” (Gen. 9:4; Lev. 17:14). This suggests ancient Israelites, like hunter-gatherers, may have understood the sacrifice not as killing, but as transferring the blood/life of the animal to another realm with God. In contrast to the modern treatment of other species as objects, and overexploitation of the land, the ancient Israelite treatment

of other species may have had the advantage of functioning to maintain the mutual flourishing of humans and other species and recognizing other species as living beings worthy of respect.

COOPERATION

As has already been noted, neo-Darwinian accounts of human evolution have emphasized competition, but recent research stresses the importance of sociality and cooperation as adaptive for humans. Among the various theories of how domestication came about, most anthropologists agree that humans coevolved with other species, but they disagree about the level of human control and the extent to which other animals were subjects with agency in a mutual and cooperative process. Some emphasize human control over the process of domestication (Clutton-Brock 1981; Shipman 2011); others emphasize the agency of other animals, even arguing that they domesticated humans (Hare and Woods 2013) or domesticated themselves (Coppinger and Coppinger 2001); and yet others take a middle position arguing for a mutual process of domestication (Zeder 2012a, 2012b).

Because dogs were domesticated millennia before other species, they are central to the early domestication debate. In Chauvet cave, which has cave art that is 32,000 years old, there are fossilized footprints of an eight- to ten-year-old child that are 26,000 years old, and beside those footprints is the footprint of a large canid. An international team led by Mietje Germonpré did a statistical analysis of the fossilized canids from Chauvet and other caves and determined these large canids were unlike either modern dogs or wolves. Radiocarbon dating of one of these “wolfdogs” from Chauvet placed it at approximately 31,700 years ago (Germonpré et al. 2009). This may represent the beginnings of domestication, though current dogs (*Canis lupus familiaris*) may have diverged from wolves (*Canis lupus*) at a later date; the genetic research continues to be debated and refined. But it is becoming increasingly clear that domestic dogs diverged from wolves while humans were still hunter-gatherers during the last ice age (Larson et al 2012). Some, like Shipman, think domestication began when humans began raising wolf puppies, and humans across cultures do raise the young of other animals (Shipman 2011, 11–13, 270–76). This may have been part of the story, but Raymond and Lorna Coppinger, who have extensive research experience with wolves and other wild dogs, think this unlikely as wolf puppies are difficult to raise, remain wild, and may return to the wild, and it seems highly unlikely that Stone Age hunter-gatherers would have the idea or ability to keep the population of one-hundred wolves that would be necessary to start a breeding program (Coppinger and Coppinger 2001, 39–68). It is possible that friendly wolves began to follow humans and the selective pressures of this new ecological niche favored smaller, friendlier wolves. Some think that hunter-gatherers would not

have enough left overs for wolves to benefit from following them but, if dingoes scavenge at the camps of Aborigines in an ecosystem with the meager food resources of the Australian outback, then wolves could scavenge at the camps of those ancient hunter-gatherers who were killing massive woolly mammoths (*Mammuthus primigenius*) in large numbers or following large herds of ungulates. Some think wolves would not have been willing to hunt cooperatively with humans but, if Dorobo hunters in Africa can follow lions and steal from their kills, then ancient hunter-gatherers could have done the same with wolves. Both humans and wolves are adapted to life in family groups and are capable of sophisticated communication to coordinate cooperative hunting. And if the people of Harar can develop relationships with some families of hyenas (Baynes-Rock 2015), then ancient hunter-gatherers could have, over the millennia, learned to cooperate with wolves in hunting and integrate smaller, friendlier wolves into human society.

I do not have the expertise or room in this article to argue for a theory of domestication. My expertise is in stories and how they ground ethics, especially environmental and animal ethics. Thus I am interested that some evolutionary anthropologists and biologist are beginning to tell stories of human coevolution and cooperation with other species that treat those species as subjects with agency rather than as objects. Such stories may provide better resources for developing more ethical relationships with other species. While Shipman's suggestion that humans used animals as tools may be part of the story, I want to suggest that it would also be possible to connect domestication to the human propensity for sociality and cooperation. Whether it was in raising wolf puppies, sharing leftovers, cooperating in the hunt, or driving off intruders, humans and wolves learned to communicate and cooperate. In brief, constructions of early domestication and coevolution that include wolves as agents may provide better resources for contemporary ethical reflection.

This emphasis in evolutionary anthropology on human sociality and cooperation has similarities to divine and human relationality in recent interpretations of Genesis 1–3 (Westermann 1984; Fretheim 2005). In both creation stories, God is relational. In the first creation story (Gen. 1:2–2:4a), God does not create alone but engages other parts of creation. God has the earth bring forth vegetation and fruit trees (1:11–12), has the sun and moon rule day and night (1:16), has the water bring forth aquatic species (1:20), has the earth bring forth animals and birds (1:24–25), and creates humans to rule on God's behalf (1:26–28). In the second creation story (Gen. 2:4b–3:24), God asks the human to name the other animals (2:18–20). By doing this, God shares what has, until this point in the story, been a divine prerogative. Tribble sees God here “not as the authoritarian controller of events but as the generous delegator of power” (Tribble 1978, 93). “From the beginning,” says Terence Fretheim, “God chooses not to

be the only one who has or exercises creative power . . . God establishes a power-sharing relationship with humans” (2005, 345–46).

It follows that the humans created in the image of a relational God would also be relational, and that is the case in both creation stories. Human relationships and cooperation are assumed in the first story because humans are created male and female, and relationality extends to other creatures as dominion over them. Human relationality is fundamental to the second story because both animals and Eve are created as helpers. The human relationship with other creatures may be less hierarchical, as helpers rather than as subjects of a king. That two creation stories that many biblical scholars think are from different sources, geographical locations, and perhaps periods in Israel’s history point to the relationality of God, humans, and other animals is evidence that Israelite culture had a deep and abiding perception of the relationality of humans that extended to other creatures.

ANIMALS IN GENESIS 1–3

Genesis shows other evidence that ancient Israelites recognized the importance of other species in human becoming. The creation stories in Genesis express the importance of the human relationship to other animals in a number of ways. First, Genesis’ creation stories pay more attention to non-human animals than other well-known, ancient Near Eastern creation stories. The Mesopotamian story of creation, *Enuma Elish*, covers the creation of the world, including humans, but not the creation of other creatures. *The Gilgamesh Epic* mentions world and human creation, but not the creation of other creatures. It does reflect on the relationship of humans to other creatures by having Enkidu begin his life living in the wilderness, eating, drinking, and running with wild animals. There is also a plant that can give eternal life and a snake that steals it, but the stories do not dwell on other creatures to the same extent as Genesis 1–3.

Which leads to the second point. Both the first and second creation stories in Genesis spend considerable space on other creatures and weave their creation together with the creation of humans. The first creation story (1:1–2:4a) dedicates three verses and an entire day to the creation of birds and all the creatures of the oceans (Gen. 1:20–22). Humans share the sixth day with other land animals and the literary structure weaves their creation together. The account begins with two verses that describe the creation of terrestrial creatures (1:24–25) and ends with provisions for their feeding (1:30). God’s provision of food suggests God values and cares for these creatures. These verses describing the creation and feeding of terrestrial species surround the verses about the creation of humans and provision for their feeding (1:26–29). Humans are not given other animals as food; this only comes much later in Genesis as an accommodation. The

humans are created to “have dominion,” and interpretation has focused on the meaning of “dominion,” but in this context note that this closely relates human creation to a relationship with other animals. Thus Genesis indicates the importance of the relationship with other creatures in human becoming by spending considerable time and space on other creatures and weaving together the creation of humans and other land animals.

Two connections to other species in the second creation story (Gen. 2:4b-3) have already been mentioned. First, Genesis connects language and the human relationship with other animals by having the human name them. Second, personal adornment with animal products appears early in the archaeological record and is a symbolic language. Similarly, the second creation story culminates with God giving Adam and Eve clothes made of animal “skin” (2:21). Both naming and clothes, therefore, connect human becoming to other species.

But the connection to other species in the second creation story goes beyond naming and clothes and includes a central character in the story—the snake. Christian tradition has interpreted the story as the fall of humanity, a concept from Greek philosophy, and understood the snake as Satan, a fallen angel and evil personified. While this traditional interpretation highlights one side of this character, the snake in the story is a more ambiguous, cyborg or trickster-like figure (Walker-Jones 2008). In the story, the snake is not a fallen angel, but one of the “wild creatures that God had made” (3:1). Yet this is no ordinary snake. Its knowledge and use of language, usually considered human characteristics, blur the boundaries between humans and other species. The serpent also seems to have more knowledge than the humans, because he knows that they can gain the knowledge of good and bad by eating the fruit.

The story says the serpent is more *'arum* than any other wild animal. Translators sometimes use an English word with negative connotations—“most crafty” (NRSV)—but the meaning of the word in Hebrew is ambiguous. It is sometimes used negatively as crafty or shrewd (Job 5:12; 15:5), but more often in the wisdom literature it is used positively meaning sensible or prudent (Proverbs 12:16, 23; 13:16; 14:15, 18; 22:3; 27:12). The Septuagint translates it with the Greek word for practical wisdom or prudence (*phronimos*). This connects the word to the classical tradition of character ethics (Sandoval 2016a). While this is a tradition from a different culture, it may be evidence of the perception of animals in the pre-modern period and evidence that the translators of the Septuagint understood the Hebrew word as a reference to practical wisdom. That the serpent has more practical wisdom than other wild animals suggests that the other wild animals may have at least some practical wisdom too. And there are passages in Proverbs that assume animals have practical wisdom. Proverbs 1:17 and 6:5 assume birds and gazelles can exercise practical wisdom to escape hunters. Proverbs says ants, badgers, locusts, and lizards are the “wisest of the wise”

(30:24–28 TNK) and gives examples of their practical wisdom (Sandoval 2016b). The snake may, therefore, represent an ancient understanding of the wisdom of other animals.

Much traditional Jewish interpretation and recent ecofeminist interpretation has interpreted the story, not as the story of the fall, but as a story of human maturation (Niditch 1985; Meyers 1988). According to this interpretation, the serpent helps the humans gain the knowledge they need to become fully human. The humans are created by God in the story to “serve and protect” the land (2:5, 15; 3:23). The Hebrew verbs here are often translated “till and keep,” but are common verbs with the broader meanings “serve and protect.” Many theologians and philosophers consider moral reasoning an essential element of what it means to be human. Similarly, moral reasoning is implied in the knowledge the humans gain from the tree, but the Hebrew here suggests something broader than just moral reasoning, perhaps better translated as “the knowledge of good and bad.” If this knowledge is essential to being human and necessary to “serve and protect” the land, then the serpent is a central character and plays an essential role in Adam and Eve becoming fully human and fulfilling their destiny. This makes it a story not just about a static human nature, but about human maturation and becoming. Symbolically, then, the ability to gain practical wisdom and knowledge from other species is characteristic of human maturation and becoming.

FAMILY

The anthropologist Annabelle Sabloff (2001) argues that Western, urban culture has three root metaphors for the human relationship with other animals. *Kinship* or family is the root metaphor in the domestic sphere. Pets are considered members of the family. *Object* or tool is the root metaphor in the spheres of the factory farm and the laboratory. *Citizenship* is the root metaphor in the rhetoric of animal rights. Each of these is open to criticism and some have argued for the development of new lived relationships and new metaphors. Human dominion over creation has been used to support Sabloff’s second root metaphor, animals as objects. What is less commonly recognized is that the other two metaphors are also present in Genesis 1–3. Dominion assumes a royal or monarchic metaphor in which humans are rulers and other species their subjects. This means that the animals as citizens metaphor of animal rights is present in Genesis. Modern readers who live in democracies rightly find the monarchic language problematic. Yet in the Anthropocene, human governance of other species is unavoidable and, unfortunately, that governance looks a lot more like a monarchy than a democracy. The only question really is not whether humans should understand themselves as rulers, but what kind of dominion humans should have, whether they could become more democratic and

compassionate, and what kind of citizenship rights other species should have. I have already suggested that the image of God in Genesis 1–3 is of a power-sharing, relational God, and humans created in the image of that God should also be power-sharing and relational.

But most important to note is the presence of Sabloff's first metaphor, kinship. In fact, it could be argued that kinship is the root metaphor of Genesis 1–3. I have already argued above that the human's naming of other species strongly implies a kinship metaphor. Others have pointed out other places where the kinship metaphor is present. Mark Brett says that "generations" (*toledot*) formulas assume the world is a giant family (2000, 82). Genesis 1 has similarities to ancient Near Eastern theogonies, stories of the universe being created by the unions of pairs of gods. In these stories, pairs of gods who are also parts of the universe, like Heaven and Earth, give birth to pairs of gods, who are other parts of the universe, like Sun and Moon, until all parts of the cosmos have come into being. The "generations" (*toledot*) formula—"these are the generations of the heavens and the earth when they were created" (Gen. 2:4)—are evidence of the relationship to theogonies and assume the world is a giant family.

The creation of humans in the "image of God" is normally understood as royal language, but a family metaphor may be present too. The same language is used of the relationship between a parent and son not too far away from Genesis 1:26–28 in Genesis 5:3. Adam's child Seth is born "in his likeness, as his image" (Gen. 5:3). The pronouns are different and the words are in the reverse order, but the Hebrew words translated "likeness" and "image" are the same as God's creation of humans "in our image, as our likeness" (Gen. 1:26). Royal and family metaphors may overlap, as kings in the ancient Near East could be considered adoptive sons of a god (Ps. 2:7), so "image of God" may allude to both a royal and a family metaphor. In any case, the family metaphor is prevalent enough in the creation stories that it could be considered the root metaphor. Humans are part of a large family that extends to all creation.

As a metaphor for ethical reflection, *family* is not without its problems. Contemporary societies are patriarchal and families are the locus of too much physical and psychological abuse, especially of women and children. Still, the fact that many in the LGBTQ community want the right to be married suggests to me that many want to redefine *family* rather than do away with it. Sabloff thinks we need to create a new metaphor in order to develop more biocentric metaphors (2001, 149, 170), but Erica Fudge thinks the development of new lived relationships may come before new metaphors. She hopes that noting the contradictions and ethical ambiguities in our current arrangements—the difference in our treatment of the meat on the table and the pet under the table—might spur new lived relationships out of which would come new metaphors (Fudge 2002, 12, 22). Until new lived metaphors develop, it may help to remember that animals

in Genesis 1–3 are not objects, but fellow citizens and family members. According to Genesis 1–3, then, a relationship with other species as fellow citizens and family members is central to what it means to be human and made in the image of God.

CONCLUSION

This article has shown that Genesis 1–3, like evolutionary anthropology, considers a relationship with other species part of what it means to be human and created in the image of God. Genesis 1–3 pays more attention to other animals than other ancient Near Eastern creation stories. A whole day is dedicated to the creation of birds and aquatic species. Humans share a day with other land animals and are surrounded by those animals in the narrative. The creation of humans “to have dominion” closely ties human nature to a relationship with other animals. The creation of humans in the image of God to have dominion has been used to justify exploitation and the treatment of animals as objects, but the God in whose image humans are created is portrayed as relational and power-sharing. Moreover, dominion is unavoidable in the Anthropocene, and dominion implies other animals are citizens and might, as animal activists suggest, have rights as citizens. The question then becomes what kind of dominion humans created in the image of a relational, power-sharing God will have, and what kinds of citizenship rights other animals will have. Since dominion probably referred to domestication in its ancient context, anthropological discussions of domestication are useful for deepening reflection about better relationships with other creatures. Anthropological and zooarchaeological evidence suggests ancient Israelites may have understood themselves as having a relationship of trust with other species and their animals as having a better quality of life than those in modern societies. The human’s naming of species implies kinship, and “a wild animal that God created” shares practical wisdom and knowledge that is essential to humans in maturing and fulfilling their purpose “to serve and protect” Earth. In the quest to develop more ethical relationships with other species, it may be helpful for theological and ethical reflection to recognize that the metaphor of citizenship is also present in Genesis 1–3, and the root metaphor for the relationship of humans to other animals is family.

ACKNOWLEDGMENTS

I am grateful for the Templeton Foundation’s support for the Human Distinctiveness Project lead by Celia Deane-Drummond and Agustin Fuentes of the University of Notre Dame, which made possible the research for this article.

NOTES

1. The English translations are the author's unless otherwise noted.
2. Tribble makes a distinction between the forms with and without *name* (*shem*) (1978, 133), but the two are interchangeable as can be seen, for instance, in Genesis 2:19–20.

REFERENCES

- Aberbach, Moses, and Bernard Grossfeld. 1982. *Targum Onkelos to Genesis: A Critical Analysis Together with an English Translation of the Text (Based on Sperber's Edition)*. Denver, CO: Center for Judaic Studies, University of Denver.
- Batto, Bernhard F. 1992. *Slaying the Dragon: Mythmaking in the Biblical Tradition*. Louisville, KY: Westminster John Knox Press.
- Baynes-Rock, Marcus. 2015. *Among the Bone Eaters: Encounters with Hyenas in Harar*. University Park: The Pennsylvania State University Press.
- Blenkinsopp, Joseph. 2011. *Creation, Un-Creation, Re-Creation: A Discursive Commentary on Genesis 1–11*. London, UK: T & T Clark.
- Boyd, Robert, and Peter J. Richerson. 2009. "Culture and the Evolution of Human Cooperation." *Philosophical Transactions of the Royal Society B* 364:3281–88.
- Brett, Mark. 2000. "Earthing the Human." In *The Earth Story in Genesis*, edited by Norman C. Habel and Shirley Wurst, 73–86. Sheffield, UK: Sheffield Academic.
- Brown, William P. 2010. *The Seven Pillars of Creation: The Bible, Science, and the Ecology of Wonder*. Oxford, UK: Oxford University Press.
- Clutton-Brock, Juliet. 1981. *Domesticated Animals from Early Times*. Austin: University of Texas Press.
- Coppinger, Raymond, and Lorna Coppinger. 2001. *Dogs: A New Understanding of Canine Origin, Behavior and Evolution*. Chicago, IL: University of Chicago Press.
- Crutzen, Paul. 2002. "The Geology of Mankind." *Nature* 415:23.
- Crutzen, Paul, and Eugene F. Stoermer. 2000. *IGBP Newsletter 41*. Accessed November 11, 2015, from <http://www.igbp.net/news/opinion/opinion/havewenteredtheanthropocene.5.d8b4c3c12bf3be638a8000578.html>
- Deane-Drummond, Celia. 2014. *The Wisdom of the Liminal: Evolution and Other Animals in Human Becoming*. Grand Rapids, MI: William B. Eerdmans.
- Derrida, Jacques. 2008. *The Animal That Therefore I Am*. Edited by Marie-Louise Mallet and translated by David Wills. New York, NY: Fordham University Press.
- Diamond, Jared. 1997. *Guns, Germs, and Steel: The Fates of Human Societies*. New York, NY: W. W. Norton.
- Douglas, Mary. 2001. *Leviticus as Literature*. Oxford, UK: Oxford University Press.
- Fretheim, Terence. 2005. *God and World in the Old Testament: A Relational Theology of Creation*. Nashville, TN: Abingdon.
- Fudge, Erica. 2002. *Animal*. London, UK: Reaktion.
- Fuentes, Agustin. 2004. "It's Not All Sex and Violence: Integrated Anthropology and the Role of Cooperation and Social Complexity in Human Evolution." *American Anthropologist* 106:710–18.
- Germonpré, Mietje, Mikhail Sablin, Rhiannon Elisabeth Stevens, and Viviane Despres. 2009. "Fossil Dogs and Wolves from Paleolithic Sites in Belgium, the Ukraine and Russia: Osteometry, Ancient DNA and Stable Isotopes." *Journal of Archaeological Science* 36: 473–90.
- Gruss, Laura Tobias, and Daniel Schmitt. 2015. "The Evolution of the Human Pelvis: The Changing Adaptations to Bipedalism, Obstetrics and Thermoregulation." *Philosophical Transactions of the Royal Society B* 370:20140063. <https://doi.org/10.1098/rstb.2014.0063>
- Habel, Norman C. 2000. "Introducing the Earth Bible." In *Readings from the Perspective of Earth*, edited by Norman C. Habel, 25–37. Sheffield, UK: Sheffield Academic.
- Hare, Brian, and Vanessa Woods. 2013. "We Didn't Domesticate Dogs. They Domesticated Us." *National Geographic News*. <http://news.nationalgeographic.com/news/2013/03/130302-dog-domestic-evolution-science-wolf-wolves-human.html>

- Hiebert, Theodore. 1996. *The Yahwist's Landscape: Nature and Religion in Early Israel*. New York, NY: Oxford University Press.
- Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling, and Skill*. London, UK: Routledge.
- . 2015. "From the Master's Point of View: Hunting Is Sacrifice." *Journal of the Royal Anthropological Institute* 21:24–27.
- Larson, Greger, Elinor K. Karlsson, Angela Perri, Matthew T. Webster, Simon Y. W. Ho, Joris Peters, Peter W. Stahl et al. 2012. "Rethinking Dog Domestication by Integrating Genetics, Archeology, and Biogeography." *Proceedings of the National Academy of Sciences of the United States of America* 109:8878–83.
- McBrearty, Sally. 2013. "Advances in the Study of the Origin of Humanness." *Journal of Anthropological Research* 69:7–31.
- Meyers, Carol. 1988. *Discovering Eve: Ancient Israelite Women in Context*. Oxford, UK: Oxford University Press.
- Middleton, J. Richard. 2005. *The Liberating Image: The Imago Dei in Genesis 1*. Grand Rapids, MI: Brazos.
- . Forthcoming. "From Primal Harmony to a Broken World: Distinguishing God's Intent for Life from the Encroachment of Death in Genesis 2–3." In *Earnest: An Interdisciplinary Work Inspired by the Life and Teachings of Benjamin Titus Roberts*, edited by Andrew Koehl et al. Eugene, OR: Pickwick.
- Newsom, Carol. 2000. "Common Ground: An Ecological Reading of Genesis 2–3." In *The Earth Story in Genesis*, edited by Norman Habel and Shirley Wurst, 60–72. Sheffield, UK: Sheffield Academic.
- Niditch, Susan. 1985. *Chaos to Cosmos: Studies in Biblical Patterns of Creation*. Chico, CA: Scholars Press.
- Ramsay, George. 1988. "Is Name-Giving an Act of Domination in Genesis 2:23 and Elsewhere?" *Catholic Biblical Quarterly* 50:24–35.
- Sabloff, Annabelle. 2001. *Reordering the Natural World: Humans and Animals in the City*. Toronto, ON, Canada: University of Toronto Press.
- Sanders, James. 2005. *Torah and Canon*. 2nd ed. Eugene, OR: Cascade.
- Sandoval, Timothy. 2016a. Oral Presentation at the Human Distinctiveness Project. University of Notre Dame, Notre Dame, IN, June 3.
- . 2016b. "Presentation at the Human Distinctiveness Project." University of Notre Dame, Notre Dame, IN.
- Sasson, Aharon. 2010. *Animal Husbandry in Ancient Israel: A Zooarchaeological Perspective on Livestock Exploitation, Herd Management and Economic Strategies*. London, UK: Equinox.
- Shipman, Pat. 2010. "The Animal Connection and Human Evolution." *Current Anthropology* 51:519–38.
- . 2011. *Animal Connection: A New Perspective on What Makes Us Human*. New York: W. W. Norton.
- . 2015. *The Invaders: How Humans and Their Dogs Drove Neanderthals to Extinction*. Cambridge, MA: Harvard University Press.
- Tompkins, Jane P., ed. 1980. *Reader Response Criticism: From Formalism to Post-Structuralism*. Baltimore, MD: Johns Hopkins University Press.
- Trible, Phyllis. 1978. *God and the Rhetoric of Sexuality*. Philadelphia, PA: Fortress Press.
- Walker-Jones, Arthur. 2008. "Eden for Cyborgs: Ecocriticism and Genesis 2–3." *Biblical Interpretation* 16:263–93.
- Wang, Xiaoming, and Richard H. Tedford. 2008. *Dogs: Their Fossil Relatives and Evolutionary History*. New York, NY: Columbia University Press.
- Welbourn, F. B. 1975. "Man's Dominion." *Theology* 78:561–68.
- Westermann, Claus. 1984. *Genesis 1–11: A Commentary*. Translated by John J. Scullion. Minneapolis, MN: Augsburg.
- White, Lynn, Jr. 1967. "The Historical Roots of Our Ecologic Crisis." *Science* 155:1203–07.
- Willerslev, Rane, Piers Vitebsky, and Anatoly Alekseyev. 2014. "Sacrifice as the Ideal Hunt: A Cosmological Explanation of the Origin of the Reindeer." *Journal of the Royal Anthropological Institute* 21:1–23.
- , ———, and ———. 2015. "Response: Defending the Thesis on the 'Hunter's Double Bind.'" *Journal of the Royal Anthropological Institute* 21:28–31.

- Wimsatt, W. K., and Monroe C. Beardsley. 1954. *The Verbal Icon: Studies in the Meaning of Poetry*. Lexington: University of Kentucky Press.
- Zeder, Melinda A. 2012a. "The Domestication of Animals." *Journal of Anthropological Research* 68:161–90.
- . 2012b. "Pathways to Animal Domestication." In *Biodiversity in Agriculture: Domestication, Evolution, and Sustainability*, edited by Paul Gepts, Thomas R. Famula, Robert L. Bettinger, Stephen B. Brush, Ardeshir B. Damania, Patrick E. McGuire, and Calvin O. Qualset, 227–29. Cambridge, UK: Cambridge University Press.