

# The Dying Animal

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**Abstract** The study of animal death is poised to blossom into an exciting new interdisciplinary field—and one with profound relevance for bioethics. Areas of interest include the biology and evolution of death-related behavior in nonhuman animals, as well as human social, psychological, cultural, and moral attitudes toward and practices related to animal death. In this paper, I offer a brief overview of what we know about death-related behavior in animals. I will then sketch some of the bioethical implications of this emerging field of research.

**Keywords** Animals · Death · Death-related behavior · Grief · Bioethics · Primates · Companion animals · Killing · Thanatology

Bioethics has maintained a studied indifference to animals. One of the many disappointments for those of us who feel the urgency of animal ethics is that moral discussion of animals has remained tepid and oddly abstract. One of the strengths of bioethics is that it remains on the cutting edge ethically by keeping up with scientific advances relevant to the field. Nevertheless, the rapidly accumulating body of empirical science related to animal cognition, emotion, and sociality has been essentially ignored, despite its moral relevance in many areas of bioethical inquiry. Perhaps

it is easier this way, since the new science challenges facile dismissals of animal suffering. But as it is, too many points of contact between animals and bioethics remain unexplored.

One of these points of contact is in the area of death and dying. Ethical issues surrounding human death and dying stand at the core of bioethics. No bioethics course or text would be complete without a thorough exploration of this topic, nor would any well-educated bioethicist lack knowledge in this essential area. But although humans are animals and share with other living creatures the basic biological arc—birth, development, denouement, death—we think little about the dying of other creatures, even despite the fact that we are so often the precipitating hand. As more and more research delves into death-related behavior in animals—as we realize just how much may be going on in the hearts and minds of our kin at the end of life—the possibilities for bioethics grow increasingly compelling. I see animal death as potentially stimulating for bioethics from a number of angles, three of which I outline below and the last of which I am going to focus on in this paper:

- 1) *Therapeutic possibilities of the human–animal bond, particularly at the end of life.* Animals interacting with dying humans can alter the landscape of human death, as for example in hospice pet-therapy programs. Animals, ironically, seem able to “humanize” the dying process. Research also suggests that elderly people with pets stay more active and engaged and rate themselves as happier than their animal-less counterparts.

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- 2) *Comparative work on euthanasia and palliative sedation.* The vast majority of companion animals are euthanized when they get old, ill, or disabled. Euthanasia is viewed as a precious gift that we can offer our beloved companions and is promoted, sometimes aggressively, by veterinarians. Study of animal euthanasia is relevant to the conversation about physician-assisted suicide. The use of euthanasia within veterinary medicine provides an object lesson for human bioethics: Here is a therapeutic discipline with an ethical oath similar in most ways to the Hippocratic Oath, with years of experience deliberately killing patients to end their suffering.
- 3) *Practical implications for animal welfare.* The study of death-related behavior in animals—which we might call animal thanatology, if we want to give it a fancy label—invites us to take a deeper and broader look at animal ethics. And it has the potential to help us improve animal welfare on many levels.

### **Animal Thanatology: Studying Death Awareness and Death-Related Behavior in Animals**

Before talking about ethical issues related to animal death, let's take a brief look at one facet of "animal thanatology": whether and in what ways animals might be aware of death. New scientific research is challenging the long-held assumption that humans alone think about death or have an awareness of death.

Research into animal death is still in its infancy. Available data on death-related behaviors in animals is piecemeal, and much of what we have in relation to wild, domestic, and companion animals is anecdotal. But taken together, the bits and pieces begin to form a fascinating mosaic. A number of different questions arise in relation to animal death: In what ways are animals aware of their own death? In what ways does an animal watching another animal die understand what is happening? What kinds of behavioral and physiological changes occur during the dying process? How should we understand animal grief? For now, I am using "death-related behavior" as a catch-all, because we don't really know enough yet to offer a more nuanced account. I am also using "animal" as a catch-all for nonhuman animals, but it is important to remember that every species is unique, that within species there are sometimes significant variations from one group to

another, and that individual animals have their own personal quirks of personality, life experience, and so forth.

As ethologists and others who study animals will note, interpreting animal behavior is complex, and we need to be cautious about attributing human emotions, thoughts, or practices to nonhuman animals. Nevertheless, human language is what we have available to describe the behaviors we see and is often quite appropriate (Bekoff and Pierce 2009). Some researchers use scare quotes around "grief," "funeral," "bereavement," and so forth; others do not. In time the scare quotes may drop away as they have, after years of study, for other emotions and behaviors once thought to be uniquely human, such as empathy and fairness.<sup>1</sup>

### **Death-Related Behavior in Primates**

Primatologists have begun to take an interest in death-related behavior. In the spring of 2010, a study by James R. Anderson, Alasdair Gillies, and Louise C. Lock of the University of Stirling reported on observations of a small group of captive chimpanzees in Scotland (Anderson, Gillies, and Lock 2010). The researchers took video recordings of three chimpanzees reacting to the dying of a fourth member of their group, an elderly female named Pansy. The chimpanzees groomed Pansy before her death. Just moments after Pansy finally died, Chippie (the male) jumped onto the platform in an aggressive display, leaped into the air, and brought both hands down and pounded her torso. After her death, the other chimpanzees closely inspected Pansy's mouth and manipulated her limbs, perhaps testing for signs of life. They removed bits of straw from her body. Pansy's daughter Rosie stayed with her mother's body almost continuously on the night after she died. Following Pansy's death, all three chimpanzees slept fitfully. For several days

<sup>1</sup> The case for empathy in nonhuman animals is well-established. See, especially, Preston and de Waal (2002), Bekoff and Pierce (2009), and de Waal (2009). Whether nonhuman animals have a sense of fairness is still very much open to question, but evidence that fairness is a broadly evolved strategy, deployed within a range of animal societies, is beginning to accumulate. Bekoff and Pierce (2009) provided an early discussion of fairness in animals; the journal *Social Justice Research* recently published two special issues on justice in animal societies, chock full of new research on justice in primates, canids, cetaceans, birds, and even fish (there were too many papers to fit into one journal issue). On the appropriateness of using "human" terms such as "empathy" and "fairness," see Pierce and Bekoff (2012).

following Pansy's death, the others avoided the platform where death had occurred, even though the body had since been removed from the enclosure. And for several weeks they were subdued, lethargic, and ate less than normal.

Anderson and colleagues argue that the group's responses parallel, in striking ways, human responses to the death of a close relative: pre-death care, inspection of the body for signs of life, an after-death vigil, cleaning the body, and avoiding the place where death had occurred. Anderson et al.'s report has obvious limitations: It focuses on a tiny group of captive animals, and we cannot be certain that the observed behaviors indicate an awareness of death. Nevertheless, the account is intriguing and generated a great deal of interest, including a flurry of research on primate thanatology (see, for example, Fashing et al. 2011; Cronin et al. 2011; Hosaka et al. 2000). This study is a first step in establishing animal thanatology, and in this particular case "Pan thanatology," as a viable subject of research. (The genus *Pan* includes the common chimpanzee, *Pan troglodytes*, and the bonobo, *Pan paniscus*.)

#### Death-Related Behavior in Non-Primate Species

Elephants are legendary for their interest in the bones and bodies of their dead. Zoologist Iain Douglas-Hamilton believes that elephants have a general awareness of and curiosity about death (Douglas-Hamilton et al. 2006). They will gather around the body of a dead herd member, gently touching the body with their trunks and feet, often standing vigil for days. Elephant researcher Cynthia Moss writes, "Even bare, bleached old elephant bones will stop a group if they haven't seen them before" (Moss 2000, 270). A study of tool use in African elephants found that they will sometimes put food in the mouth of the dead, pack the wounds of the dead with mud, and bury their dead under vegetation (Chevalier-Skolnikoff and Liska 1993). And biologist Joyce Poole writes of elephants, "I have observed a mother, her facial expression one I could recognize as grief, stand beside her stillborn baby for 3 days, and I have been moved deeply by the eerie silence of an elephant family as, for an hour, they fondled the bones of their matriarch" (Poole 1997, 12).

Birds, too, appear interested in death. Nobel prize-winning ethologist Konrad Lorenz, for example, described grieving in a graylag goose: "A graylag goose that has lost its partner shows all the symptoms that

renowned British psychologist John Bowlby described in young human children ... the eyes sink deep into their sockets, and the individual has an overall drooping experience, literally letting the head hang" (Lorenz 1991, 251). According to a report by the Cornell Lab of Ornithology, yellow-billed magpies react to a death by descending on the carcass and hopping around and squawking (Dickinson and Chu 2007). Ethologist Marc Bekoff observed "funeral behavior" among a group black-billed magpies: "One approached the corpse, gently pecked at it, just as an elephant would nose the carcass of another elephant, and stepped back. Another magpie did the same thing," Bekoff reported. "Next, one of the magpies flew off, brought back some grass and laid it by the corpse. Another magpie did the same. Then all four stood vigil for a few seconds and one by one flew off" (*The Telegraph* 2009, ¶5–¶6).

Numerous reports have been published of cetaceans reacting to death. For example, researcher Joan Gonzalvo has been studying dolphins in the waters off western Greece. He noticed that dolphins reacted differently to the death of a pod member, depending on whether the animal had died suddenly or after a long period of illness. In one case, he observed a mother lifting the corpse of her newborn calf above the water's surface, over and over, as if in an attempt to help it breathe. This went on for two full days. In another case, the pod was observed surrounding a young dolphin who was sick, trying to keep it afloat. As soon as the animal died, however, the pod let the body sink and swam off. Gonzalvo said, "My hypothesis is that the sick animal was kept company and given support, and when it died the group had done their job" (Hooper 2011, ¶2 under "Release From suffering?"). Orcas have been observed carrying dead infants and pilot whales will stop when passing a dead conspecific, and if researchers try to move the pod along they will fight to go back to the dead whale. Because cetaceans have spindle neurons—specialized classes of neurons associated in humans with the processing of emotions, including grief—scientists speculate that cetaceans are capable of feeling grief. (For a general discussion of animal grief, see Alderton 2011.)

#### Death Awareness in Companion Animals

Our greatest supply of information about death-related behavior comes from the animals with whom we live,

particularly dogs and cats. Veterinarian Michael Fox writes in *Dog Body, Dog Mind*: “There can be no doubt that animals possess some understanding of death” (Fox 2007, 86). Sometimes dogs react to death by howling or whining, sometimes by seeming to become depressed and listless, sometimes by searching or standing vigil for the missing companion, sometimes by curling up next to the dead body. But outward appearances, Fox says, can be deceiving. Animals may not outwardly express their grief in ways discernible to us. Sometimes the first response of an animal is acute grief and crying. Some animals show no initial reaction to the death of a companion (human or animal). Later, though, they may begin to search for their loved one, becoming more and more apprehensive and vigilant. Some dogs will show signs of depression, loss of appetite, listlessness. Some will vocalize; others will grow quiet. Some will become clingy; others withdraw.

The Companion Animal Mourning Project (CAMP), carried out by the American Society for the Protection Against Cruelty to Animals, confirms Fox’s observations. The CAMP found that two-thirds of all dogs in the study exhibited four or more noticeable behavioral changes after the death of a canine companion. More than a third of dogs ate less than usual after the death of a canine companion, 11 percent stopped eating altogether, and almost two-thirds vocalized more or less than normal. Many changed the location or pattern of their sleep. Some became more clingy, others more distant (IAAHPC 2012).

#### Further Mysteries of Death Awareness

Nonhuman animals may share many of our own experiences of and reactions to death, such as mourning and rituals of farewell. Yet humans have a uniquely complex existential relationship to death, symbolizing death through language and art and through elaborate cultural rituals that go far beyond those observed in nonhuman animals. At the same time, we must remember that nonhuman animals have ways of knowing, understanding, perceiving the world that are totally mysterious to us, and that they may “understand” death in their own unique ways.

Consider Oscar the cat, who seems to be able to “smell” death. Staff at the Steere House Nursing and Rehabilitation Center in Rhode Island began noticing that Oscar, one of the resident cats, would stake out the rooms of particular patients and would jump on the bed

and curl up next to them. These same patients, it turned out, would die within hours. Oscar’s death-predicting behavior was so reliable that staff knew when to call a patient’s family and tell them to come so they could be present when their loved one died. Oscar’s story gained national attention when Dr. David Dosa, a geriatrician at the Steere House, published an account of Oscar’s activities in *The New England Journal of Medicine* (Dosa 2007; see also Dosa 2010). Other nursing homes have reported similar death-predicting abilities in a resident dog or cat.

One theory about how Oscar senses death (if he really does) is that he smells subtle chemical changes in a person’s body, such as the breakdown of carbohydrates. This explanation is consistent with what we know about the acute sensitivity of dog and cat noses. Dogs, for example, can be trained to detect certain cancers by identifying biochemical markers, can sense drops in blood sugar associated with diabetes, and can give a warning when an epileptic is about to have a seizure (McNeil 2006; *Insight* 2006). Police dogs are trained to sniff out cadavers (see, e.g., Lowy and McAlhany 2000). Why not smell when a body is in the process of dying? Of course, understanding how Oscar senses death still does not answer what might be an even more interesting question: Why is he drawn to the dying?

Oscar reminds us that animals may have ways of understanding death that are mysterious and unlike our own means of interacting with the world. Animals have incredibly acute senses—much more developed, in some cases, than ours—and may have access to information that we do not. Perhaps animals have an olfactory awareness of the dying process that we, with our relatively weak noses, cannot easily comprehend.

The growing body of anecdotal evidence about death-awareness and death-related behaviors in nonhuman animals is now beginning to spur more serious scientific interest, and animal thanatology is likely to develop into a rich area of interdisciplinary study. By setting aside the silly but common assumption that animals are too “simple” to understand death, we will open ourselves to new avenues of understanding animal cognition, emotion, and social behavior.

#### Ethical Implications of Animal Death

As research into animal death—and all that it reveals about animal emotions, cognition, and complex forms

of sociality—evolves, bioethicists will need to figure out what exactly this new information about animals means for animal welfare. Here are some preliminary thoughts.

### Taking the Harm(s) of Death and Dying More Seriously

#### *The Harm of Death*

Is death harmful for animals? Looking at animal welfare regulations, we might be led to think, “No, death, itself, is not a moral insult.” For example, among experiments categorized by U.S. Department of Agriculture regulations as Category C (“procedures that cause no pain or distress, or only momentary or mild/slight pain or distress, and do not require the use of pain-relieving drugs”) are included “AVMA-approved euthanasia procedures not involving prior surgical procedures.” In my experience as a member of an Institutional Animal Care and Use Committee, Category C experiments were considered so ethically benign as to require no discussion by the committee. Furthermore, all potentially painful experimental procedures have what is called a “humane endpoint,” when pain or suffering reaches a level considered morally intolerable and at which time we are called upon to do the kind and humane thing: kill the animal and thus erase the pain. Killing animals is construed as an act of compassion and something we can feel good about.

There has been careful discussion among philosophers of whether and why killing animals may be wrong. Scientific advances in understanding animal cognition will need to inform this evolving conversation and may help us elucidate the various ways in which death is harmful. We must also expand the discussion to consider the manner, timing, and quality, and not just the fact of death.

Most obviously, if death is harmful for *sentient* creatures—and this is the most common philosophical argument about who or what is harmed by death—then we clearly need to reassess what (or whom) we eat, what (or whom) we use as objects of research, and so forth. It is no longer a question of which animals are sentient. The more pressing issue is which animals are more sentient than others. Which animals have a significant capacity for thought and feeling, and which can we kill with a clean conscience? Unfortunately, the answers to these questions become more and more

difficult to pin down the more we learn about animal behavior. Here are a few recent highlights from animal science: Orangutans love to manipulate an iPad; some pigs are more optimistic than others; chickens can count; fish have a sense of fairness; spiders have unique personalities. I could go on and on and on, but the point is: Given all that we know, are there really any animals for whom we could say “this creature feels nothing and will not be harmed by death”?

To take a more particular example of how advances in understanding animal cognition can inform the moral discourse about animal death, some have argued that it is morally unproblematic to kill something or someone who has no awareness of past or future. And animals, it has long been assumed, are stuck in the present—which is one reason we have also assumed that they have no awareness of death. Yet recent research suggests that at least some species of nonhuman animal have “chronesthesia”—the ability to be aware of one’s past or future. Scrub jays offer perhaps the most compelling case study. These birds anticipate future needs and plan accordingly, without reference to their current motivational state (see, for instance, Raby et al. 2007), something that human children cannot do before age four or five. How, exactly, animals perceive past and future is an area of open debate among scientists—but it is likely that many animals are capable of “mental time travel” or, at the very least, past- and future-oriented behavior.

The question of whether animals have the capacity for part or future-oriented behavior and how this speaks to animal welfare might also cut the other way. Some ethicists have argued—convincing, I think—that if indeed some animals are stuck in the present, we have even stronger obligations to avoid causing suffering. As Bernie Rollin says, and I paraphrase: If animals live only in the moment, then when they experience pain, they *are* their pain. Their entire world is pain, without the mitigating knowledge that sometime in the future the pain may end (see Rollin 1989 and, especially, 2006).

#### *Physical and Psychological Pain*

Not all deaths are painful, but many of them are and pain is part of the landscape of death—for humans and animals alike. We know that nonhuman animals feel pain and suffer from it, just as we do. Although progress has been made in addressing pain



suffered by laboratory animals, we still have a great deal of work to do.

Ironically, we do much better with animal pain in the laboratory, when animals are objects, than we do with our companion animals, whom we claim to love like children or friends. Untreated or undertreated pain is an enormous problem in the population of companion animals. Veterinarian Kevin Stafford, for instance, estimates that some 10 million dogs in the United States suffer from osteoarthritis at any one time and that only a small number of these are actually treated. Of those who are treated, many will be treated ineffectively, with too little pain medicine over too short a time span (Stafford 2006, 126). This means that millions of dogs suffer from untreated chronic pain that may last for years. Good palliative care for pets is, for various reasons, hard to come by, and unfortunately the most common “treatment” for pain is euthanasia (Pierce 2012). Sometimes, perhaps, death is an appropriate choice. But most of the time, much less draconian responses are available.

One other important point about pain: We are learning that the taxonomic distribution of pain is surprisingly broad. For example, research shows that fish feel pain and feel it very much the same way as humans (Braithwaite 2010). This information has important ethical implications, both for the millions of fish used in laboratory research and also for the billions of fish killed each year for food (not to mention the number hooked or killed for sport).

It is the obvious physical marks of pain that tend get our attention—the incisions, the electrodes implanted in brains, the massive tumors that contort and deform the animal body. What gets far less attention are the psychological components of animal pain—the emotional disfigurements. This is the nebulous realm of suffering that animal welfare guidelines simply label “distress.” What we know for sure is that animals *do* suffer psychological and not just physical pain, and that emotional maltreatment and suffering may be even more widespread and pernicious than physical suffering.

Veterinarian Frank McMillan (2003) argues that emotional harm can actually hurt animals more than physical harm. Several scientific studies suggest that animals will “choose” physical suffering over emotional suffering, if forced to pick. McMillan cites an experiment in which an electrified grid was placed between a puppy and a person to whom the puppy was socially attached. The puppies crossed the grid, despite being

shocked the entire way, to be reunited with their social contact. In another electrified grid experiment, mother rats were separated from their infant pups. The mother rats consistently chose to cross the grid and retrieve their pups, one by one, and return them to the nest—despite being shocked the whole way there and back. One mother rat crossed the grid 58 times before researchers terminated the test. McMillan also mentions the well-publicized case of a cat named Scarlett who ran into a burning building five times to rescue her kittens, despite severe burns to her face and head. These animals are willing to suffer physical pain to alleviate emotional suffering.<sup>2</sup>

What kinds of psychological harm might animals experience? At a minimum, animals suffer from fear, loneliness, boredom, and the anxiety of being separated from companions or family members. Solitary confinement of human prisoners is considered by many psychologists and physicians to be a form of torture (see Gawande 2009). When a highly social animal such as a dog, a chimpanzee, or a rat is placed in a cage alone, we inflict the same kind of psychological punishment. Animals in captivity suffer from profound boredom and from the agony of mental and physical confinement. At the same time, they may also live in a “climate of fear,” with unpredictable threats preventing them from experiencing a sense of security. Many captive animals suffer from overpressuring, where we make excessive demands or exert pressure to perform and achieve. Think of the very common “forced swim test” and the psychological trauma such an experimental protocol can exact upon animals. (Waterboarding jumps to mind as a close human parallel.) Even experiments that may seem utterly benign to us may have emotional costs to animals. For example, biological anthropologist Brian Hare (2012) has noted that some social animals experience extreme fear when taken away from their fellows, even for research that involves nothing more than playing cognitive “games.” Research that we might assume to be totally noninvasive and not at all harmful can in fact cause emotional

<sup>2</sup> Here are the original studies cited by McMillan. On puppies: Scott, J.P. 1967. The development of social motivation. In *Nebraska symposium on motivation*, ed. D. Levine, 111–132. Lincoln: University of Nebraska Press. On rats: Weisner, B.P., and N.M. Sheard. 1933. *Maternal behavior in the rat*. Edinburgh: Oliver & Boyd. And the news report on Scarlett the cat: Sigesmund, B.J., and T. Namuth. 1996. Kitty badge of courage. *Newsweek*, April 15: 59.

suffering (Hare 2012). We could be far more sensitive to the various kinds of psychological and emotional distress that might be related to death (e.g., fear of impending death, the possible trauma of watching or hearing or smelling companions or kin being killed).

### *Social Harms of Death*

The reaction of fellow chimpanzees to Pansy's death reminds us that death is a critically important social event. Indeed, one of the conclusions drawn by Anderson and his colleagues was that dying chimpanzees ought to remain with their group throughout the dying process. (This is how death generally proceeds in the wild, too.) Sociality is utterly basic to many species of animal, and we must be sensitive to the fact that animals form social attachments, not only to kin, but also to "friends" (cage-mates, experimental partners).

Animals who are dying should not necessarily be removed from their enclosures; the animals with whom they are housed should perhaps witness death and be allowed to perform death rituals. It may be better for the dying animal, too, to die in the presence of her companions rather than alone. One of the key goals of animal welfare regulations is to allow animals to express their full behavioral repertoire, and this should include natural behaviors related to death and dying—which implies the need for careful study of what, precisely, these natural death-related behaviors might be. In particular, we need to pay attention to social attachments and relationships, as these are vitally important to the psychological well-being of animals in our care (Bekoff 2007).

Keep in mind, however, that there is an enormous difference between Pansy's death from natural causes and the kind of violent death humans inflict upon animals. The profound sociality of animals can work in the other direction: For animals to witness the killing of offspring, companions, or conspecifics can be profoundly distressing. Consider some tidbits of animal behavior science: (1) Numerous studies indicate that rats show increased heart rate and blood pressure (both stress responses) when watching other rats being decapitated, and when a paper towel with dried blood from a decapitated rat is placed atop their cage (Balcombe, Barnard, and Sandusky 2004). (2) These so-called "witnessing effects" have also been documented in mice, monkeys, and of course humans and are likely to be present in all animals with a capacity for

empathy. (3) Ethologists studying elephants believe that these highly sensitive animals sometimes suffer from posttraumatic stress disorder after witnessing their family members or herd-mates being slaughtered by poachers (Bradshaw et al. 2005). Protocols for killing should be sensitive to the welfare not only of the animal at hand, but also of those animals who are watching, smelling, hearing, or otherwise sensing what is happening.

## **Revising Welfare Standards Related to Death**

### *Improving Killing Practices*

Killing animals well—without protracted suffering, pain, distress—is actually quite challenging. It requires attention to detail, competence in particular methods of killing, knowledge of species-specific biology and physiology, and lots of practice.

Opinions about which methods of killing are least distressing and most effective continue to evolve. The American Veterinary Medical Association's guidelines on euthanasia are considered the gold standard for animal killing, whether by veterinarians, laboratory researchers, or slaughterhouse workers (AVMA 2013). These guidelines are revised periodically to reflect the most up-to-date research. It can be a bit disconcerting when the humaneness of a method of killing long considered *de rigueur* in the lab is called into doubt.

Consider, for example, the so-called "wave of death" research. To address the question of whether decapitation is a humane method of euthanasia, researchers took awake, un-anaesthetized rats and decapitated them, all the while recording the EEG of the rats' brains. About 50 seconds after decapitation, high amplitude slow waves were recorded from the (now bodiless) brains. This "wave of death" is proposed as the ultimate border between life and death (van Rijn et al. 2011). Subsequent research suggests that the wave of death may not actually signify death, because the process is theoretically reversible (Zandt et al. 2011). According to these researchers, a more appropriate name for this phenomenon is "cerebral anoxic depolarization." Given how long consciousness seems to persist, decapitation may, in time, fall into the category of unacceptable methods of killing.

As distasteful as it might be, continued research into what animals experience as they die—and as we kill

them using particular methods or instruments—is important. Refining our understanding of what animals experience at death can help us make these deaths more humane. Yet it seems morally bizarre, does it not, to kill animals simply to study how to kill them better?

Although technical skill and training are paramount, the humaneness of our killing practices is also proportional to the compassion of those doing the killing. And this, of course, is deeply ironic. As euthanasia expert Doug Fakkema said to me, “If you want to be doing this work, you shouldn’t be doing it.” The difficulty becomes obvious: The work of killing animals is very hard on compassionate people and there is something inhumane about asking people to do work that is so emotionally damaging.

### Refining Our Language

The AVMA Guidelines use the term “euthanasia” to cover the whole range of deliberate killing of animals, from gassing unwanted dogs in shelters, to pithing frogs in a classroom, to decapitating mice in a laboratory, to crushing the brains of cows in a slaughterhouse with a captive bolt gun. The word “euthanasia” is asked to do too much, to obscure far too much moral nuance, since only a small portion of animal deaths could really be considered good and merciful. The language of animal death—our moral vocabulary—is too thin. I propose that the word “euthanasia” be used in relation to animal death only when it reflects a truly “good death,” carried out as an act of mercy to relieve suffering at the end of life. We euthanize a beloved companion animal to end her suffering.

When we kill animals in a research setting, we should be frank about what we do. “Sacrifice” is morally dishonest; “put down” is overly euphemistic and blunts the moral point; “dispatch” is perhaps getting us closer, but has an eerie coldness to it. Some animal activists like to apply the term “murder,” but this clearly puts too much moral spin on our description. Perhaps “kill” says it best.

### Which Animals?

One final thing that a focus on the dying animal can offer is a corrective to the tendency of welfare standards, and the ethical discussion of animals more broadly, to focus moral attention on a very narrow range of animals.

Animal thanatology, as well as the much broader span of research into animal cognition and emotion, tells us one thing very clearly: All animals deserve protection, not just the so-called “cognitive elite.” Our long-held assumptions of which species of animal feel pain, which might be aware of death, which ones have the capacity to feel sorrow, fear, or joy, which ones are most intelligent, are often incorrect and do not stand up to empirical scrutiny. Even considering the relatively narrow span of species used within the context of medical and pharmaceutical research, some rethinking needs to occur. The United States is the only country in the world whose animal welfare regulations still exclude from the category of “animal”—and thus from legal protections—rats, mice, birds, and fish. Of the approximately 26 million animals used in research in the United States each year, 25 million of these are rats, mice, fish, and birds. The regulations also exclude cold-blooded creatures like reptiles and amphibians.

There are many other categories of animal beyond those who fuel the medical research juggernaut, and our relationship to these creatures also has relevance within bioethics. Why, for example, shouldn’t bioethicists engage the issue of meat-consumption, which has such profound implications for animal suffering, not to mention public health? Let us put the 26 million animals used annually in research into some perspective: Somewhere between 23 million and 26 million chickens are killed *every day* for consumption by U.S. consumers; about 112 million pigs are killed each year for food, compared to 7,600 used in research. Every day, some 27 million people in the United States will stop in to a McDonald’s restaurant for a burger and some fries. Excessive meat consumption is one of the driving forces behind the epidemics of heart disease and obesity and has been rated by some physicians as more dangerous than cigarette smoking. Domesticated animals, such as the chickens and pigs killed for food, also serve as vectors of potentially catastrophic diseases such as bird and swine flu. Bioethicists could do a great service to animals—and to the people who eat them—by extending moral discussion about animal ethics to cover agricultural animals.

Not only that, bioethics might give more attention to our so-called “companion animals.” The dogs and cats and sundry other creatures whom we invite into our homes and with whom we form deep bonds of love and loyalty have a great deal to teach us about who animals are and what it is like to usher them through the dying



process with compassion and attention to detail. Veterinarians and pet owners with dying animals face many of the same issues as physicians and family members caring for dying human loved ones. How do we judge the quality of life for someone who cannot communicate in language? When, if ever, is it appropriate to hasten death, or even deliberately end someone's life? Is natural death ethically preferable to euthanasia? These questions desperately need attention: Too many companion animals are killed prematurely because adequate palliative care is unavailable and because euthanasia is so deeply entrenched in the cultural narrative of pet ownership. Aging is a dark time for most companion animals, and euthanasias are often far more terrifying and painful—for animals and human owners alike—than they need to be. Our care of companion animals could be vastly improved through attention to the rich resources available in bioethics on successful aging, quality of life, hospice care, and palliation (Pierce 2012). These issues are relevant and important and arguably within the purview of bioethics, and bioethicists have important knowledge and experience to share with veterinarians and pet owners.

### Conclusion: Bioethics and Animals

Bioethics desperately needs to move beyond the narrow focus on animals in research to consider the full range of human–animal relationships and how these affect human and animal well-being. As it is, animals maintain a tenuous grip on our moral attention; we mostly ignore their lives and, especially, their deaths. The emerging research into death awareness and death-related behavior in animals offers a wonderful point of contact for bioethics, which as a field has long grappled with ethical issues in death and dying.

Bioethics should strive to deepen its encounter with our nonhuman kin, and a good place to start is with the dying animal.

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