



ARBS Annual Review of Biomedical Sciences

Theme Topic on “Unraveling Animal Welfare”

pdf freely available at <http://arbs.biblioteca.unesp.br>
2008;10:T1-T14

Why “Good Welfare” Isn’t “Good Enough”: Minding Animals and Increasing Our Compassionate Footprint

Marc Bekoff*

Ecology and Evolutionary Biology, University of Colorado, USA

Received: 17 April 2008; accepted 29 April 2008
Online on 8 May 2008

Abstract

Bekoff M. Why “Good Welfare” Isn’t “Good Enough”: Minding Animals and Increasing Our Compassionate Footprint. ARBS Annu Rev Biomed Sci 2008;10:T1-T14. In this brief essay I take a broad perspective on the notion of unraveling welfare and consider animals living in different conditions ranging from caged individuals in laboratories and zoos to free-living or almost free-living wildlife. I’ll step outside of the laboratory because billions of animals are slaughtered for food in an industry that tortures them on the way to their reprehensible deaths and at the places at which they are slaughtered. Furthermore, government agencies around the world kill millions of free-living and wild animals because they’re supposedly “pests”. This is a different sort of essay but I hope it will stimulate people to rethink what we mean by the phrase “animal welfare” in a broad and constructive ways because the way people interact with animals in laboratories is influenced by how they see animals in other contexts including outside of caged environments. Unraveling animal welfare means unscrambling our interrelationships with other animals by asking difficult questions about who we think we are, who we think “they” are, what we think we know, and what we actually know. I’ll argue that “good welfare” isn’t “good enough” because existing laws and regulations still allow animals to be subjected to enduring pain and suffering and death “in the name of science”, which really means “in the name of humans”. We must do better for all animals and we can do so by taking into account the perspective of the each and every individual who we use for research, education, amusement, and for food and clothing. We must also consider individuals who we house in zoos and move around as if they’re pieces of furniture, for example, when zoos “redecorate” themselves because they need an “ambassador” for a given species or because an individual no longer brings in money. And we must also consider the fate of individuals when we “redecorate nature” by moving animals here and there for our and not their benefit; is it permissible to trade off the life of an individual for the “good of their species”? The emotional lives of animals are not all that private, hidden, or secret and animal emotions and sentience force us to care for them and to protect them from pain, suffering, and death. I conclude that everyone can do more to increase their “compassion footprint” and list ten reasons why animals are asking us to treat them better or leave them alone, and these reasons also bear on the unraveling of animal welfare.

© by São Paulo State University – ISSN 1806-8774

Keywords: cognitive ethology, animal minds, animal welfare, animal emotions, compassionate footprint

* Correspondence

Marc Bekoff. Ecology and Evolutionary Biology, University of Colorado, Boulder, Colorado 80309-0334 USA. E-mail: marc.bekoff@colorado.edu

Websites: <http://literati.net/Bekoff> and <http://www.ethologicaethics.org/>

Table of Contents

1. Unraveling Animal Welfare: A Necessary Undertaking That Is Long Overdue
 2. Animal Welfare and Animal Rights
 3. Avoiding Hierarchical Speciesism
 4. “Good Welfare” Isn’t “Good Enough”
 5. What Do Animals Feel about What Is Happening to Them? Unraveling Sentience
 6. The Public Lives of Animals
 7. Animal Emotions, Uncertainty, and Science
 8. Anthropomorphic Double-Talk: Animals Can Be Happy, But Not Unhappy
 9. The Animals’ Manifesto: Ten Reasons Why Animals Are Asking Us to Treat Them Better or Leave Them Alone
 - 9.1. Because they exist and we share Earth with them
 - 9.2. Because they’re more than we previously thought
 - 9.3. Because this land is their land too
 - 9.4. Because we’re alienated from them
 - 9.5. Because we need to mind animals and look out for one another
 - 9.6. Because we’re so powerful and must be responsible for what we do to them
 - 9.7. Because what we’re doing now doesn’t work
 - 9.8. Because “good welfare” isn’t “good enough”
 - 9.9. Because we need to increase our compassion footprint
 - 9.10. Because we all can do something to make the world a more compassionate and peaceful place for them and for us
 10. References
 11. About the Author
-

1. Unraveling Animal Welfare: A Necessary Undertaking That Is Long Overdue

Our relationships with nonhuman animals (hereafter, animals) are extremely rich and rewarding, but also challenging, complicated, frustrating, awkward, paradoxical, and range all over the place (Bekoff, 2007a). Thus, we often trip over our own feet when we try to explain to non-researchers or non-academics what we mean by the notion of “animal welfare”. When people tell me they’re doing the best they can do and that they love animals and then harm or kill them I always tell them I’m glad they don’t love me. Around the world we observe animals, gawk at them in wonder, experiment on them, eat them, wear them, write about them, draw and paint them, move them from here to there as we “redecorate nature”, make decisions for them without their consent, and represent them in many varied ways yet we often ignore who they are and what they want. Indeed, the lives of most human beings do not depend on the use and consumption of animals but we continue to use and consume animals because it’s so easy to do! In some instances there are increases in animal testing (http://news.bbc.co.uk/2/hi/uk_news/4177200.stm; <http://news.bbc.co.uk/2/hi/science/nature/5210460.stm>; http://ec.europa.eu/environment/chemicals/lab_animals/pdf/staff_work_doc_sec1455.pdf; <http://www.mcgilldaily.com/view.php?aid=7073>) even when non-animal alternatives are available (<http://www.library.ucsb.edu/istl/00-summer/internet.html>; <http://caat.jhsph.edu/>), and it’s been estimated that about 80% of the earth’s surface has experienced a sharp fall in the number of large mammals due to human activities (<http://news.bbc.co.uk/2/hi/science/nature/7161644.stm>).

We know a lot about the lives of diverse species and what they want, more than we often give ourselves credit for. Indeed, animals’ lives aren’t all that private, hidden, or secret (Balcombe, 2006; Bekoff, 2002, 2006a,b,c, 2007b,c; Bekoff & Pierce, 2009). We know that animals have a point of view and that they experience deep feelings. When someone says they’re not sure if dogs, for example, have emotions, if they feel joy or grief, I say I’m glad I’m not their dog. The number of skeptics, even among scientists, is rapidly dwindling because of a flurry of research into the emotional lives of animals and

the weight of past prejudice about animals based on misinformed views is decreasing (Bekoff, 2007b,c). Animals aren't diminished human beings. They are who they are.

While people might disagree about whether or not to use nonhuman animals in invasive research that is designed solely to help human animals (or, for that matter, to use animals in any sorts of research) and whether or not sentience is the key criterion that should be used in making such decisions, there is no doubt that some of the treatment to which uncountable animals are subjected cause deep and enduring pain and suffering and often death (as in terminal experiments). It's "bad biology" to rob animals of their cognitive and emotional capacities. Evolutionary continuity, a well-accepted principle of evolutionary biology put forth by Charles Darwin, recognizes that differences among animals are difference in degree rather than differences in kind. So, if we have emotions and experience pain and suffering, so too do other animals (Darwin, 1872). In practice, continuity allows us to connect the "evolutionary dots" among different species to highlight similarities in evolved traits including individual feelings and passions. For example, all mammals (including humans) share neuroanatomical structures (e.g., the amygdala and hippocampus) and neurochemical pathways in the limbic that are important for feelings. Emotions and empathy are keys to survival, without which animals - both human and nonhuman - would perish. That's how important they are. The desperation of science to rob animals of their sentience, despite what science has discovered, is astounding as well as disheartening and nothing more than self-serving anthropocentrism.

The notion of nonhuman animal ("animal") welfare is a hot topic. Unraveling animal welfare is a forward looking idea that will inevitably generate further discussion that is much needed and long overdue. Numerous people, ranging from practicing scientists to those who simply love animals, are increasingly concerned about the use and abuse of animals in a wide range of human activities including research, education, factory farming, entertainment (circuses, rodeos, and zoos), hunting and fishing, conservation projects (Bekoff & Jamieson, 1996; Bekoff, 2001, 2007b,c; Aitken, 2004), testing cosmetics, and manufacturing clothes. This will be a different sort of essay and I hope it will be successful in leading people to unravel the notion of animal welfare. When all of the papers in this important journal are considered a comprehensive picture of where we are at and what remains to be done will be clear. Here, I offer that when we unravel the notion of animal welfare we'll come to see that what many call "good welfare" really isn't "good enough" because existing regulations and laws still allow billions of animals to be treated in extremely inhumane ways. Is it "good welfare" or "the best we can do" to force social animals to live alone in tiny cages, to allow pigs to be castrated without anesthetic, to starve rats, to blind cats, to physically restrain primates and bolt devices that hold electrodes to their head, to allow dolphins and whales to suffer for five or more minutes before dying, or to move animals from one place to another as we "redecorate zoos" or "redecorate nature"?

While at first it might seem that a universal definition of the phrase "good welfare" is highly unlikely, I think there enough points of convergence amongst the diverse human activities in which animals interests and lives are compromised such that people can reach a consensus of when an individual is suffering and would not choose, if indeed they could, to be in the situation in which he (or she) finds himself. I will not limit myself to any particular area of animal use and abuse, but rather make some general points for future discussion. I favor erring on the side of animals and argue that when we are not sure about how a particular activity or treatment influences an individual animal we should not do something that might have a negative effect. Thus, the end result of my ideas about unraveling animal welfare might lead us to conclude that there are things that we currently do to animals that will not be permissible in the future. And even if someone doesn't care about ethics it is known that stress that is experienced by animals influences the quality of the data that are collected (Balcombe *et al.*, 2004; Baldwin & Bekoff, 2007). So, bad welfare can produce bad data, and of course ethical issues cannot be dismissed as if they're unimportant.

2. Animal Welfare and Animal Rights

I begin by offering a few general comments about the notion of animal welfare (for a general discussion of various definitions see other essays in this volume and also Hewson, 2003). While some people believe that it is acceptable to cause animals pain if the research will help humans, there are

others who argue that this should not be done even if humans might benefit from the research. If we want to use animals for testing or research, but this would cause them pain, then we must look for other research methods that do not cause suffering to living beings. People who believe that we are allowed to cause animals pain are not necessarily completely indifferent to animals' suffering. They may insist that we should not to cause them *excessive* or *unnecessary* pain, and argue that if we consider *animal welfare* or well-being, then that is all we need to do. These people are called *welfarists*. Animal welfare is different from *animal rights*. *Rightists* believe that it is wrong to cause animals any pain and suffering, and that animals should not be eaten, held captive in zoos, subjected to painful experiments, or used in most or any research. They believe that animals have certain moral and legal rights that include the right not to be harmed.

According to Gary Francione (1999), if we agree that an animal has a "right" to have its interest protected, then the animal has a claim, or entitlement, to have that interest protected *even if it would benefit us to do otherwise*. Humans would then have an obligation honor that claim for other voiceless animals just as they do for young children and the mentally disabled. For example, if dogs have a right to be fed, you have an obligation to make sure that any dog under your care is fed. If a dog has a right to be fed, then you are obligated not to do anything to interfere with feeding her. Of course, you might prevent her from feeding on garbage or something that might harm her, but this isn't what I'm referring to.

Tom Regan, a professor of philosophy at North Carolina State University, is often considered the originator of the modern animal rights movement. His book *The Case for Animal Rights* (1983) attracted much attention to this area. Advocates who believe that animals have rights stress that animals' lives are valuable in and of themselves, not valuable just because of what they can do for humans or because they look or behave like us. Animals are not property or "things," but rather living organisms, subjects of a life, who are worthy of our compassion, respect, friendship, and support. Rightists expand the borders of species to whom we grant certain rights. Thus, animals are not "lesser" or "less valuable" than humans. They are not property that may be abused or dominated at will. Any amount of animal pain and death is unnecessary and unacceptable.

By contrast, people who support animal welfare do not think that animals have rights (Francione, 1996). They believe that while humans should not abuse or exploit animals, as long as we make the animals' lives physically and psychologically comfortable, then we are adequately taking care of them and respecting their welfare. Welfarists are concerned with the quality of animals' lives. But welfarists do not believe that animals' lives are valuable in and of themselves, or that it is just because animals are alive that their lives have worth. Welfarists believe that if animals experience comfort, appear happy, experience some of life's pleasures, and are free from prolonged or intense pain, fear, hunger, and other unpleasant states, then they are doing fine and we are fulfilling our obligations to them. If individuals show normal growth and reproduction, and are free from disease, injury, malnutrition, and other types of suffering, they are doing well.

This welfarist position also assumes that it is all right to use animals to meet human ends as long as certain safeguards are used. They believe that the use of animals in experiments and the slaughtering of animals as food for humans are all right as long as these activities are conducted in a humane way. Welfarists do not want animals to suffer from any unnecessary pain, but they sometimes disagree among themselves about what pain is "necessary" and what humane care really amounts to. But welfarists agree that the pain and death animals suffer is sometimes justified because of the benefits that humans derive. For them, the ends justify the means because their use is considered to be necessary for human benefits. Nonetheless, animal welfare groups, such as the Humane Society of the United States, have contributed important efforts to successful campaigns to protect animals. A recent victory occurred in May 2007, when President George W. Bush approved new legislation requiring stronger punishments for those who promote or encourage the brutal practice of blood sports such as dog fighting and cockfighting.

3. Avoiding Hierarchical Speciesism

Although there are significant points of difference between rightists and welfarists, it's important to acknowledge that both agree that in reasoning about moral choices, we must avoid the bias of speciesism

(see Singer, 1990). If we are to succeed in making life better for animals, we humans must find ways of harmoniously resolving our philosophical differences about how best to accomplish the goal.

Human relationships with animals are full of contradictions and ambivalence as well as deep connections and love (Bekoff, 2007a). On the one hand animals are used and abused in a sickening and morally distasteful array of human-centered activities. On the other hand animals are revered, worshipped, and form an indispensable part of the tapestry of our own well-being - they make us whole and they make us feel good. In many situations it's a double-cross - we welcome animals into our lives and then we treat them as if their lives don't count. We slaughter, silence, and squelch sentience with little more than a fleeting thought and with reprehensible indignity. The love-hate relationship that humans have with their animal kin makes life difficult for all. But what is thoroughly unacceptable is that animals are often used to define just who we humans are in the great chain of being, and the chain is then presented as a "hierarchy of beings" in which humans place themselves separate from and above other animals. We're not better than mice or rabbits or dogs or cats. We're not so special that we can do whatever we want to other beings, although we do.

Hierarchical speciesism results in endless harm and is really bad biology. Trumping the interests of animals "in the name of science" for example, really means "in the name of humans." We declare that we are special and better and more valuable than our animal kin and go on to close the door on the lives of other animals. We shut down our senses and our hearts to their pleas that we should take them seriously for who they are and not for what we want them to be in our narrow anthropocentric view of the world. Let us not forget that throughout the world animals have no legal standing. They are merely *property*, like backpacks or bicycles, and humans are their *owners*. Animals can be legally abused, dismissed, disenfranchised, moved here and there, and bartered – harmed and killed. Often this happens "in the name of education, science, entertainment, clothing, or food" once again, self-serving excuses that boil down to "in the name of humans." Shame on us. Animals are not merely property and even young children know they're not (http://connecticutforanimals.blogspot.com/2007/11/hartford-courant-op-ed-7-yo-ct-ar_12.html).

4. "Good Welfare" Isn't "Good Enough"

Existing laws and regulations don't adequately protect animals from intentional and premeditated pain, suffering, and death. Consider these quotations:

"When a normal, naïve dog receives escape/avoidance training in a shuttlebox, the following behavior typically occurs: At the onset of electric shock the dog runs frantically about, defecating, urinating, and howling until it scrambles over the barrier and so escapes from the shock. . . . However, in dramatic contrast . . . a dog who had received inescapable shock while strapped in a Pavlovian harness soon stops running and remains silent until shock terminates . . . it seems to 'give up' and passively 'accept the shock'." (Seligman *et al.*, 1968, p. 256)

"In one set of tests, the animals had been subjected to lethal doses of radiation and then forced by electric shock to run on a treadmill until they collapsed. Before dying, the unanesthetized monkeys suffered the predictable effects of excessive radiation, including vomiting and diarrhoea. After acknowledging all this, a DNA [Defense Nuclear Agency] spokesman commented: '*To the best of our knowledge, the animals experience no pain*'." (from Rachels, 1990, p. 132; my emphasis)

These sorts of research projects continue today. We're only fooling ourselves when we claim that animals are adequately protected from pain and suffering. Over the past five years violations of the federal Animal Welfare Act (AWA) in the United States have increased more than 90% (<http://www.all->

creatures.org/saen/). In 2006 alone there were more than 2,100 violations of the AWA, with the highest level of violations occurring in the areas of Institutional Animal Care and Use Committees (IACUCs; 58%), and veterinary care (25%). It has been estimated that about 75% of all laboratories violate the AWA at one time or another.

What some scientists call “good welfare” really isn’t “good enough”. “Good welfare” and allowable research according to existing regulations permit mice to be shocked and otherwise tortured, rats to be starved or forced-fed, pigs to be castrated without anesthetics, cats to be blinded, dogs to be shot with bullets, and primates to have their brains invaded with electrodes. Only about 1 percent of animals used in research in the United States are protected by this legislation, and the legislation is sometimes amended in nonsensical ways to accommodate the “needs” of researchers. The desperation of science to rob animals of their sentience produces distortions that open the door for egregious and reprehensible abuse. For instance, here is a quote from the federal register, volume 69, number 108, Friday June 4, 2004: “We are amending the Animal Welfare Act (AWA) regulations to reflect an amendment to the Act’s definition of the term *animal*. The Farm Security and Rural Investment Act of 2002 amended the definition of *animal* to specifically exclude birds, rats of the genus *Rattus*, and mice of the genus *Mus*, bred for use in research.” It may surprise you to hear that birds, rats, and mice are no longer considered animals, but that’s the sort of logic that epitomizes federal legislators. Since researchers are not “allowed” to abuse animals, the definition of “animal” is simply revised until it only refers to creatures researchers don’t need. And now we even know that mice are empathic beings who feel the pain and suffering of other mice, yet this scientific fact hasn’t entered into discussions about the well-being of mice (and other animals).

5. What Do Animals Feel about What Is Happening to Them? Unraveling Sentience

“If we conclude that chimpanzees are conscious, we must then confront the ethics of our treatment of such animals in captivity and in the remaining wild.” (Jolly, 1991)

Unraveling animal welfare also means that we also need to unravel different views on animal consciousness and animal sentience. While I cannot go into details here, let me present four different views on these matters, the details of which can be found in Allen and Bekoff (2007).

“We submit that it is this very goal of investigating animal consciousness that, although grand and romantic, falls far outside the scope of a scientific psychology that has struggled for the better part of the past century to eschew such tantalizing, but ultimately unsubstantiable, analyses of subjective mental experience.” (Blumberg & Wasserman, 1995, p. 133)

“[I]t doesn’t matter really how I know whether my dog is conscious, or even whether or not I do ‘know’ that he is conscious. The fact is, he is conscious and epistemology in this area has to start with this fact.” (Searle, 1998, p. 50)

“It really is something of a scandal that people’s intuitions, in this domain, are given any weight at all.” (Carruthers, 2000, p. 199)

“It’s important to blend ‘science sense’ with common sense. I maintain that we know that some non-human animals feel something some of the time, just as do human animals. It’s nonsense to claim that we don’t know if dogs, pigs, cows or chickens feel pain or have a point of

view about whether they like or don't like being exposed to certain treatments. Who are we kidding? Frankly, I think we're kidding ourselves." (Bekoff, 2006a, p. 33)

As the quotations above show, scientists and philosophers can be found on both sides of the question of animal consciousness. The only fact on which all these authors apparently agree is that the issue is controversial. They differ, of course, on where the blame for the controversy lies. Clearly, I favor the view that we can indeed study animal consciousness and animal sentience and that we know that many animals, including those who are used in all sorts of human activities, suffer at the hands of humans.

Mice in the sink. Let's consider mice, beings who are not protected by the federal Animal Welfare Act in the United States. First, a story, and then some scientific facts about these amazing rodents. CeAnn Lambert, director of the Indiana Coyote Rescue Center, witnessed a small act of heroism in a sink in her garage. Two baby mice had become trapped in the sink overnight, unable to scramble up the slick sides. They were exhausted and frightened. CeAnn filled a small lid with water and placed it in the sink. One of the mice hopped over and drank, but the other seemed too exhausted to move and remained crouched in the same spot. The stronger mouse found a piece of food. He picked it up and carried it to the other. As the weaker mouse tried to nibble on the food, the stronger mouse moved the morsel closer and closer to the water until the weaker mouse could drink. CeAnn created a ramp with a piece of wood and the revived mice were soon able to scramble out of the sink.

What happened in the sink? Did one mouse actually understand that the other mouse was in trouble and find a way to help? Did the tiny creature display a kind of empathy? It's tempting to write stories of this sort off as an overexcited imagination reading far too much intention and emotion into the behavior of animals. Yet it is also possible to read too little into the animals we watch. Perhaps mice have the capacity to feel sorry for another mouse in distress, and to offer help.

In addition to numerous stories, there's mounting scientific evidence that animals, even rodents, have the capacity to feel empathy. In June of 2006, researchers reported in the journal *Science* the first unequivocal evidence for empathy between adult, non-primate mammals. Dale Langford, of McGill University, and her colleagues demonstrated that mice suffer distress when they watch a cage-mate experience pain (Langford *et al.*, 2006). Langford and her team injected one or both members of a pair of adult mice with acetic acid, which causes a severely painful burning sensation. The researchers discovered that mice who watched their cage-mates in pain were more sensitive to pain themselves. A mouse injected with acid writhed more violently if his or her partner had also been injected and was writhing in pain. Not only did the mice who watched cage-mates in distress become more sensitive to the same painful stimuli, they became generally more sensitive to pain, showing a heightened reaction, for example, to heat under their paws. The researchers speculated that mice probably used visual cues to generate the empathic response, which is interesting since mice normally rely most heavily on olfactory communication.

Other researchers were quick to note the importance of these unanticipated findings. Renowned primatologist Frans de Waal (2006) said of Langford's research, "This is a highly significant finding and should open the eyes of people who think empathy is limited to our species." These data confirm that empathy is an ancient capacity, probably present in all mammals. Neuroscientist Jaak Panksepp (2006) similarly remarked, "If it turns out that the 'empathetic' effect in mice is mediated by the same brain mechanisms as human empathy, then the evidence would be truly compelling that Langford's model actually reflects evolutionary continuity in a pro-social mechanism among many different mammalian species." (in Ganguli, 2006)

We *can* use science to make some improvements in animal welfare but science is not the only way to do this. It *is* a scientific question to ask about an animal's point of view - what they like and what they do not like. Of course, it is also a matter of common sense and intuition that is supported by solid evolutionary biology. Once again, this is something that Colin Allen and I (2007) discussed in our paper on animals minds, cognitive ethology, and ethics. We noted that there are four different strategies for dismissing the skeptics: *The socio-political strategy*: To dismiss the doubts as the product of scientists'

vested interest in experimenting on live animals for their livelihoods. *The burden-shifting strategy*: To maintain that those who wish to deny mental states to animals bear the burden of proof against common sense. *The demon-dodging strategy*: To suggest that such skepticism sets a standard of proof that is too high for any empirical science to meet. *The progressivist strategy*: To claim that scientific scruples about animal minds are the result of an undue influence of (old-fashioned) positivistic philosophy of science on behaviorism.

In our essay we had little to say about the socio-political strategy, which we think is unlikely to change the minds of skeptical scientists. Similarly, we think the burden-shifting strategy is, in its general form, unlikely to prove persuasive, for common sense has a poor track record when pitched against scientific progress. Appeals to common sense may reinforce popular support, but they will not gain the respect of the many scientists whose opinions remain influential when decisions materially affecting the lives of billions of animals get made. As long as scientific consensus on these matters remains elusive, skeptical attitudes are likely to harden if critics fail to appreciate the intellectual underpinnings of the skeptical position. The demon-dodging and progressivist strategies are more promising insofar as they engage scientists with issues that are central to their enterprise. Questions about the limits of empirical investigation and about the meanings of theoretical terms are central to the history and philosophy of comparative psychology and ethology and prominent in the training given to students entering these fields. By and large, however, participants in the debate about animal minds (including ourselves in earlier writings) have failed to acknowledge the diversity of approaches within different scientific traditions. It has been easier to stereotype those coming from other perspectives as “behaviorists” or “mentalists” and reject the respective approaches in general outline than to engage with the specific details. Our goal in the paper was to try to provide enough of an account of the origins of cognitive ethology to help ethicists to gauge for themselves how to balance skepticism and credulity about animal minds when communicating with scientists.

6. The Public Lives of Animals

We know that many animals have rich and deep emotional lives (Balcombe, 2006; Bekoff & Jamieson, 1991; Bekoff 2006a,b,c, 2007b,c,d) and that fish show fear responses (Sneddon, 2003; *Diseases of Aquatic Organisms*, special issue, 2007; *AAVS Magazine*, Spring, 2008). What an individual feels is extremely important for making decisions about their welfare. Prestigious scientific journals now publish essays on joy in rats, grief in elephants, and empathy in mice, and no one blinks. In fact, the paradigm has shifted to such an extent that the burden of “proof” now falls to those who still argue that animals don’t experience emotions. A majority of scientists agree with what seems like common sense to everyone else - many animals have rich and deep emotional lives. Biocentric anthropomorphism - anthropomorphism from the animal’s point of view - is no longer a problem (Bekoff, 2007b,c; Horowitz & Bekoff, 2007; see also Burghardt, 1997) and neuroscientific research supports behavior studies that support the argument that emotions in nonhuman animals and humans are evolved adaptations or phenotypes (Panksepp, 2005; Bekoff, 2007b,c). For example, spindle cells, which were long thought to exist only in humans and other great apes, have recently been discovered in humpback whales, fin whales, killer whales, and sperm whales in the same area of their brains as spindle cells in human brains. This brain region is linked with social organization, empathy, and intuition about the feelings of others, as well as rapid gut reactions. Spindle cells are important in processing emotions. It’s likely that if we seek the presence of spindle cells in other animal we will find them. Mirror neurons help explain such feelings as empathy. Research on mirror neurons supports the notion that individuals can feel the emotions of others. These neurons allow us to understand another individual’s behavior by imagining ourselves performing the same behavior and then mentally projecting ourselves into the other individual’s shoes. To what degree various species share this capability remains to be seen, but there is compelling evidence that humans are not alone in possessing it (Bekoff & Pierce, 2009).

In a landmark paper in *Nature* magazine titled “Elephant Breakdown”, Gay Bradshaw and her colleagues (2005) showed that elephants are very sensitive beings and that social trauma can affect their physiology, behavior, and culture over generations. Indeed, some elephants might suffer from post-traumatic stress disorder (PTSD) that leads to chronic stress and undermines socialization. In

support of ethological discoveries about the social and emotional lives of animals, functional magnetic resonance imaging (fMRI) has shown that elephants have a huge hippocampus, a brain structure in the limbic system that's important in processing emotions. On the positive side of things for these magnificent beasts, in 2006 the *New York Times* reported that "The Bronx Zoo... announced that upon the death of the zoo's three current elephant inhabitants, Patty, Maxine and Happy, it would phase out its elephant exhibit on social-behavioral grounds, an acknowledgment of a new awareness of the elephant's very particular sensibility and needs." Zoos in Detroit, Chicago, San Francisco, and Philadelphia are following suit.

Animals are constantly telling us how they feel and much recent research in animal behavior, cognitive ethology and especially noninvasive neuroscience support the view that many animals are feeling, sentient beings, their minds and feelings aren't really all that private. While animals can't consent to how they're being treated, they surely protest publicly when they're suffering. Their pain is easy to see and is all too often ignored. Evidence of joy in animals is already so extensive that it should hardly need further proving. At a meeting on animal sentience that I attended in 2005, John Webster, a distinguished professor of animal husbandry at the University of Bristol, said, "Sentient animals have the capacity to experience pleasure and are motivated to seek it... You only have to watch how cows and lambs both seek and enjoy pleasure when they lie with their heads raised to the sun on a perfect English summer's day. Just like humans."

The problem of "private minds" is not an impediment to understanding how animals feel and think. Animal minds aren't all that inaccessible or private, as cognitive ethology and social neuroscience make abundantly clear. We already know a lot about animal minds and what goes on in them, and we're discovering more and more each day. Second, and perhaps even more important, we are ourselves animals and our experiences of pain, joy, envy, compassion and love are probably very much akin to these same emotional states in other animals. Data suggest that there is enough continuity in physiology and psychology to safely infer significant experiential common ground. And finally, we must remember that human minds are private, too. We can never crawl inside the skin or brain of another person and "know" their subjective experiences. Yet this doesn't stop us from understanding and reacting to their thoughts or emotions, most of the time quite accurately and without conscious effort. The so-called privacy of mind problem is overused and is little more than a poor excuse for ignoring much ongoing research and retaining the *status quo*.

7. Animal Emotions, Uncertainty, and Science

Studying animal emotions raises a number of big questions concerning how science is conducted and what we do with data that are collected. Many skeptics feel that we are so uncertain about whether not other animals any sort of emotional life that they prefer to put off weighing in until we know more. For some, this really means waiting until we are sure. But science is never as certain as many would like it to be, and climate change researcher Henry Pollack says it well in his book *Uncertain Science... Uncertain World*: "Because uncertainty never disappears, decisions about the future, big and small, must always be made in the absence of certainty. Waiting until uncertainty is eliminated is an implicit endorsement of the status quo, and often an excuse for maintaining it... Uncertainty, far from being a barrier to progress, is actually a strong stimulus for, and an important ingredient of, creativity."

Concerning animal sentience, which of course includes emotions, veterinarian John Webster at Bristol University notes in his book *Animal Sentience and Animal Welfare* (2006): "The nature of science is that it never (well, hardly ever) yields answers that are complete and unequivocal, but the consensus among scientists is that most, if not all the animals that we use for our own purposes, whether for food, for fun or for scientific procedures, are sentient. The simplest definition of animal sentience is 'Feelings that matter.'" I believe Webster is correct.

8. Anthropomorphic Double-Talk: Animals Can Be Happy, But Not Unhappy

Over the years I've noticed a curious phenomenon. If a scientist says that an animal is happy, no one questions it, but if a scientist says that an animal is unhappy, then charges of anthropomorphism are

immediately raised. Like the dissonant personal beliefs of scientists this “anthropomorphic double-talk” seems mostly aimed at letting humans feel better about themselves.

Inappropriate anthropomorphism is always a danger, for it is easy to get lazy and presume that the way we see and experience the world must be the only way. It is also easy to become self-serving and hope that because we want or need animals to be happy, they are. In fact, the only guard against the inappropriate use of anthropomorphism is knowledge, or the detailed study of the minds and emotions of animals.

Many researchers now recognize that we must be anthropomorphic when we discuss animal emotions but that if we do it carefully, what I call *biocentrically*, we can still give due consideration to the animals’ point of view. Being anthropomorphic is doing what comes naturally. No matter what we call it, most agree that animals and humans share many traits including emotions. Thus, we’re not inserting something human into animals, but we’re identifying commonalities and then using human language to communicate what we observe.

Anthropomorphism is a much more complex phenomenon than we would have expected. It may very well be that the seemingly natural human urge to impart emotions onto animals - far from obscuring the “true” nature of animals - may actually reflect a very accurate way of knowing. And, the knowledge that is gained, supported by much solid scientific research, is essential for making ethical decisions on behalf of animals.

9. The Animals’ Manifesto: Ten Reasons Why Animals Are Asking Us to Treat Them Better or Leave Them Alone

Animals want to be treated better, with more dignity and respect, and we can make their lives much more comfortable and easier by paying close attention to what they’re asking for. Like us, other animals have a point of view and normally seek pleasure and avoid pain. Here are ten overlapping reasons why animals deserve far more than we’ve been giving them. I offer them to stimulate discussion, not because they’re the only reasons why we need to unravel animal welfare and treat animals with more respect and dignity.

9.1. Because they exist and we share Earth with them

Animals all over the world appear to be desperate and confused. Look at their eyes and their faces and their general demeanor. A seriously abused monkey once threw his arms around the experimenter because he had no other friends. I wonder what it is like to wake up to discover that a portion of your brain is gone or that you can no longer see or hear. Animals deserve considerably more dignity and respect and we *must* coexist with them.

9.2. Because they’re more than we previously thought

Animals are smart, adaptable, curious, and creative. They’re emotional, empathic, and have a point of view. They feel. They have culture. Animals are smarter than we think (<http://ngm.nationalgeographic.com/2008/03/animal-minds/virginia-morell-text>). Birds make and use complex tools, in some cases they are more skilled than primates (<http://www.sciencemag.org/feature/data/crow/>). Fish are known to display fear and to feel pain and to display different personalities (http://www.canada.com/vancouver/features/going_green/story.html?id=544db9ed-0571-4fb8-a409-5171272aa636&k=84534). Coral reef fish spend weeks scouting out a new neighborhood before they move in, just like human house buyers do (http://news.bbc.co.uk/2/hi/uk_news/scotland/edinburgh_and_east/7280867.stm).

Even insects are important to consider. Consider the words of philosopher Peter Carruthers (2007): “This paper argues that navigating insects and spiders possess a degree of mindedness that makes them appropriate (in the sense of ‘possible’) objects of sympathy and moral concern. For the evidence suggests that many invertebrates possess a belief-desire-planning psychology that is in basic respects similar to our own. The challenge for ethical theory is find some principled way of demonstrating

that individual insects do not make moral claims on us, given the widely held belief that some other ‘higher’ animals do make such claims on us.”

9.3. Because this land is their land too

We need to get outside of the closed doors of the laboratory and also be more careful and caring when we redecorate nature, including landscapes, water (Brakes *et al.*, 2004), and the atmosphere. We must remember that our land is their land too, and that in many instances, we have actually taken over their land for our purposes and that countless animals have been exploited and killed in these activities.

9.4. Because we’re alienated from them

Globally, people feel alienated from nature and other animals. As the renowned biologist E. O. Wilson says, we are living in the “Age of Loneliness” (<http://raysweb.net/specialplaces/pages/wilson.html>). Because of the way in which we treat animals, our own hearts are dying.

9.5. Because we need to mind animals and look out for one another

We know that compassion begets compassion. When we care for animals we care for ourselves and when we demean animals we demean ourselves (<http://www.csmonitor.com/2008/0411/p09s01-coop.htm>). We and other animals are consummate companions in that we “complete” one another. And, we need them more than they need us and we’ll miss them more than they’ll miss us, except for companion animals.

Humane education is essential - we need to teach the children well. We know there’s a close connection between cruelty to animals shown by children and later violence against humans (<http://www.psyeta.org/sa/sa10.4/raupp.shtml>). The Humane Society of the United States has a program devoted to learning more about this connection called “First Strike” (http://www.hsus.org/hsus_field/first_strike_the_connection_between_animal_cruelty_and_human_violence/). Numerous studies during the last 25 years have demonstrated that violent offenders frequently have childhood and adolescent histories of serious and repeated animal cruelty (http://www.petabuse.com/pages/abuse_connection.php). Some of the best evidence for a link between animal cruelty and human violence is found in the case histories of many of the 20th century’s most infamous criminals. Studies of prison inmates reveal that as many as 75% of violent offenders had early records of animal.

9.6. Because we’re so powerful and must be responsible for what we do to them

As humans, we’re here, there, and everywhere and at the same time we need to be more caring, sharing, and ethical. We need to stop causing intentional harm and, for example, stop activities such as riding sharks in aquariums (http://www.ajc.com/opinion/content/opinion/stories/2008/02/13/whaleed_0214.html) and not allow animals to be torn to pieces by lions, the spectator sport that China doesn’t want you to see (http://www.dailymail.co.uk/pages/live/articles/news/worldnews.html?in_article_id=506153&in_page_id=1811). Obviously there are major welfare issues with which to be concerned.

9.7. Because what we’re doing now doesn’t work

We experiment on, eat, wear, confine in captivity, and control countless animals. In a recent survey 600 people were asked to list their top five social issues. The top three included health insurance, living wages and animal welfare. Animal testing is on the rise (http://groups.google.com/group/soc.culture.british/browse_thread/thread/ba250bb23750c5a5; <http://www.mcgilldaily.com/view.php?aid=7073>) but there are some attempts to decrease the use of animals at least in toxicity testing (<http://www.sciam.com/article.cfm?id=feds-agree-to-toxicity-test>). In addition, there is growing evidence that animal testing does not make significant contributions to biomedical science (http://www.animalconsultants.org/consultants/knight_andrew.htm; <http://lib.bioinfo.pl/pmid:17970631>).

9.8. Because “good welfare” isn’t “good enough”

Existing laws and regulations don’t adequately protect animals. Even scientists wonder if animals should be kept in captivity (<http://www.nytimes.com/2007/01/13/science/13shark.html>).

9.9. Because we need to increase our compassion footprint

We need to make peace with animals and to increase the amount of compassion on earth. The best way to make the world a more compassionate and peaceful place for all animal beings, to increase our compassionate footprint, is to “mind them.” “Minding Animals” means two things - first we must recognize that animals have active and deep minds and feelings and second we must “mind” them as their caretakers in a human dominated world in which their interests are continually trumped in deference to ours.

9.10. Because we all can do something to make the world a more compassionate and peaceful place for them and for us

“Good welfare” isn’t “good enough” because what is allowed by existing regulations and laws till seriously compromises the welfare of individuals and we can and must do better. But showing how the lives of other animals are rich in thought and passion is only part of the story. We also need to act on their behalf because so often their cries for help go unheard. When we aren’t sure about whether some treatment or act is “good enough” we should err on the side of the animals.

We can always add more compassion to the world. It’s important that we make every attempt to coexist peacefully and gracefully and it’s a win-win situation to make every attempt to do so in the most compassionate ways possible. For compassion for animals will make for more compassion among people and that is what we need as we journey into the future. Each of us can make positive changes for all beings, for the greater good, by weaving compassion, empathy, respect, dignity, spirituality, peace, and love into our lives.

I wasn’t sure where my essay thoughts and feelings would go as I considered the notion of unraveling animal welfare, but clearly they’ve gone in many different directions. It’s not important whether we all agree about what unraveling animal welfare means, but what is critically important is that we all agree that we can do better than we have and that ethics is central to any discussion about how humans interact with and use other animals. Animals and future generations will surely thank us for our efforts.

10. References

- Aitken G. A New Approach to Conservation: The Importance of the Individual through Wildlife Rehabilitation. Burlington, Vermont: Ashgate Publishing Limited, 2004.
- Allen C, Bekoff M. Animal minds, cognitive ethology, and ethics. *J Ethics* 2007;11:299-317.
- Balcombe, J. Pleasurable Kingdom: Animals and the Nature of Feeling Good. London: Macmillan’s, 2006.
- Balcombe JP, Barnard ND, Sandusky C. Laboratory routines cause animal stress. *Contemp Top Lab Anim Sci* 2004;43(6):42-51.
- Baldwin A, Bekoff M. Too stressed to work. *New Sci* 2007;194(2606):24.
- Bekoff M. 2001. Human-carnivore interactions: adopting proactive strategies for complex problems. In: Gittleman JL, Funk SM, Macdonald DW, Wayne RK, editors. *Carnivore Conservation*. London, New York: Cambridge University Press; 2001.
- Bekoff M. *Minding Animals: Awareness, Emotions, and Heart*. New York: Oxford University Press, 2002.
- Bekoff M. Animal emotions and animal sentience and why they matter: blending ‘science sense’ with common sense, compassion, and heart. In: Turner J, D’Silva J, editors. *Animals, Ethics and Trade*. London: Earthscan Publishing; 2006a.
- Bekoff M. *Animals Passions and Beastly Virtues: Reflections on Redecorating Nature*. Philadelphia, Pennsylvania: Temple University Press, 2006b.
- Bekoff M. The public lives of animals: a troubled scientist, pissy baboons, angry elephants, and happy hounds. *J Conscious Studies* 2006c;13:115-31.

- Bekoff M, editor. *Encyclopedia of Human-Animal Relationships: a Global Exploration of Our Connections with Animals*. (Vol 1-4). Westport, Connecticut: Greenwood Publishing Group, 2007a.
- Bekoff M. *The Emotional Lives of Animals: A Leading Scientist Explores Animal Joy, Sorrow, and Empathy - and Why They Matter*. Novato, California: New World Library, 2007b.
- Bekoff M. *Animals Matter: A Biologist Explains Why We Should Treat Animals with Compassion and Respect*. Boston, Massachusetts: Shambhala Publications, 2007c.
- Bekoff M. Aquatic animals, cognitive ethology, and ethics: Questions about sentience and other troubling issues that lurk in turbid water. *Dis Aquat Org* 2007d;75:87-98.
- Bekoff M, Jamieson D. Ethics and the study of carnivores. In: Gittleman JL, editor. *Carnivore Behavior, Ecology, and Evolution*. Ithaca, New York: Cornell University Press; 1996.
- Bekoff M, Pierce J. *Wild Justice: Reflections on Empathy, Fair Play, and Morality in Animals*. Chicago: University of Chicago Press, 2009.
- Blumberg M, Wasserman EA. Animal Mind and the Argument from Design. *Am Psychol* 1995;50:133.
- Bradshaw GA, Schore AN, Brown JL, Poole J, Moss C. Elephant breakdown. *Nature* 2005;433:807.
- Brakes P, Butterworth A, Simmonds M, Lymbery P, editors. *Troubled Waters: A Review of Welfare Implications of Modern Whaling Activities*. WSPA 2004. http://www.wspa.org.uk/Images/080304_173035_TroubledWatersWhaleReport_tcm9-2729.pdf
- Burghardt GM. Amending Tinbergen: a fifth aim for ethology. In Mitchell RW, Thompson NS, Miles HL, editors. *Anthropomorphism, Anecdotes, and Animals*. Albany, NY: SUNY Press, 1997.
- Carruthers PM. *Phenomenal Consciousness*. Cambridge: Cambridge University Press, 2000.
- Carruthers PM. Invertebrate minds: a challenge for ethical theory. *J Ethics* 2007;11:275-97.
- Darwin C. *The Expression of the Emotions in Man and Animals*. New York: Oxford University Press, 1872/1998.
- Francione GL. *Rain Without Thunder: The Ideology of the Animal Rights Movement*. Philadelphia: Temple University Press. 1996.
- Francione GL. *Introduction to Animal Rights: Your Child or the Dog?* Philadelphia: Temple University Press. 1999.
- Ganguli I. Mice show evidence of empathy. *The Scientist*. 2006; June 30. <http://www.the-scientist.com/news/display/23764/>
- Hewson CJ. What is animal welfare? Common definitions and their practical consequences. *Can Vet J* 2003;44:496-9.
- Horowitz AC, Bekoff M. Naturalizing anthropomorphism: behavioral prompts to our humanizing of animals. *Anthrozoös* 2007;20:23-36.
- Jolly A. Conscious chimpanzees? A review of recent literature. In: Ristau CA, editor. *Cognitive Ethology: The Minds of Other Animals, Essays in Honor of Donald R. Griffin*. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers; 1991.
- Langford DJ, Cragger SE, Shehzad Z, Smith SB, Sotocinal SG, Levenstadt JS, Chanda ML, Levitin DJ, Mogil JS. Social modulation of pain as evidence for empathy in mice. *Science* 2006;312(5782):1967-70.
- Panksepp J. Affective consciousness: core emotional feelings in animals and humans. *Conscious Cogn* 2005;14:30-80.
- Rachels J. *Created from Animals: Moral Implications of Darwinism*. New York: Oxford University Press, 1990.
- Regan T. *The Case for Animal Rights*. Berkeley: University of California Press, 1983.
- Searle J. *Animal Minds*. *Etica & Animali* 1998;9:50.
- Seligman MEP, Maier SF, Geer JH. Alleviation of learned helplessness in the dog. *J Abnorm Psychol* 1968;73:256-62.
- Singer P. *Animal Liberation*. New York: New York Review of Books, 1990.
- Sneddon LU. The evidence for pain in fish: the use of morphine as an analgesic. *Appl Anim Behav Sci* 2003;83:153-62.
- De Waal F. Message from mouse to mouse: I feel your pain. *New York Times* 2006;July 4.
- Webster J. Animal sentience and animal welfare: what is it to them and what is it to us? *Appl Anim Behav Sci* 2006;100:1-3.
- Webster J. *Animal Welfare: Limping towards Eden*. Oxford: Blackwell Publishing, 2005.

11. About the Author

Dr. Marc Bekoff is a former Professor of Biology at the University of Colorado, Boulder, and co-founder with Jane Goodall of Ethologists for the Ethical Treatment of Animals (www.ethologicaethics.org). He has won many awards for his scientific research including a Guggenheim Fellowship, and is a prolific writer with more than 200 articles as well three encyclopedias to his credit. The author or editor of numerous books, including the *Encyclopedia of Animal Rights and Animal Welfare*, *The Ten Trusts: What We Must Do to Care for the Animals We Love* (with Jane Goodall), the *Encyclopedia of Animal Behavior*, and the *Encyclopedia of Human-Animal Relationships*, other books include *The Smile of a Dolphin*, *Minding Animals*, *Animal Passions and Bestly Virtues: Reflections on Redecorating Nature*, *The Emotional Lives of Animals*, *Animals Matter*, *Listening to Cougar*, and *Wild Justice: Reflections on Empathy, Fair Play, and Morality in Animals* (with Jessica Pierce). In 2005 Marc was presented with The Bank One Faculty Community Service Award for the work he has done with children, senior citizens, and prisoners.