

BETWEEN THE SPECIES

Issue IX
August 2009
<http://cla.calpoly.edu/bts/>

“Business, science and ethics: a case study in the necessary evolution of methodology.”

Thomas I. White, Ph.D.
Conrad N. Hilton Professor in Business Ethics
Director, Center for Ethics and Business
College of Business Administration
Loyola Marymount University
Los Angeles, CA

“Business, science and ethics: a case study in the necessary evolution of methodology.”

ABSTRACT

Alasdair MacIntyre and David DeGrazia have explored the question of how sophisticated dolphins’ cognitive abilities are, and these thinkers have taken positions based on a flawed methodology that either assert or imply that dolphins fall below humans when it comes to cognitive sophistication and moral consideration. Timothy Fort uses MacIntyre’s characterization of dolphins in his discussion of the value of biology to business ethics. He thereby makes inaccurate and unsupportable claims, and perpetuates a stereotype about dolphins grounded in unintentional speciesism – a stereotype that makes certain unethical treatment of dolphins appear defensible.

There is currently little discussion about the appropriate methodology for studying ethical issues related to the treatment of nonhuman animals in business. This essay aims to encourage such a dialogue by identifying and discussing central weaknesses in the writings of MacIntyre, DeGrazia and Fort and to argue for a more appropriate methodology.

INTRODUCTION

Recent philosophical discussions of nonhumans have shown an increased interest in dolphins. Alasdair MacIntyre and David DeGrazia, for example, have explored the question of how sophisticated dolphins' cognitive abilities are.¹ And these thinkers have taken positions that either assert or imply that dolphins fall below humans when it comes to cognitive sophistication and moral consideration. Neither thinker specifically addresses the ethical issues related to the treatment of dolphins by humans in businesses, but MacIntyre's discussion is used in the business ethics literature in at least one article by Timothy Fort.² This essay argues that the conclusions of MacIntyre and DeGrazia are tainted by a flawed methodology, that their accounts of dolphins are scientifically inaccurate and that a fully informed and objective analysis calls for a more favorable assessment of dolphins. Because Fort's essay repeats MacIntyre's description of dolphins as though it were accurate and implies a moral status to dolphins less than the facts support, Fort compounds the error by advancing inaccurate and unsupportable claims about dolphins and by perpetuating a stereotype grounded in unintentional speciesism.

¹ David DeGrazia, "Great Apes, Dolphins and the Concept of Personhood," *Southern Journal of Philosophy* (1997: 35), pp. 301-20, *Taking Animals Seriously: Mental Life and Moral Status* (Cambridge: Cambridge University Press, 1996), and "On the Question of Personhood beyond *Homo sapiens*," in Peter Singer, ed., *In Defense of Animals: The Second Wave* (Oxford: Blackwell, 2006), pp. 40-53. Alasdair MacIntyre, *Dependent Rational Animals: Why Human Beings Need the Virtues* (Chicago: Open Court, 1999).

² Timothy L. Fort, "A Deal, a Dolphin, and a Rock: Biological Contributions to Business Ethics," *Business, Ethics and Science*, The Ruffin Series, No. 4 (2004), pp. 81-92.

This matter is particularly pressing because, as I have argued elsewhere, an ethical analysis of human/dolphin interaction that is free of the methodological weaknesses of MacIntyre, DeGrazia and Fort (that is, an analysis based on *all* relevant scientific research on dolphins and is also informed by direct contact with dolphins in their natural habitat) reveals that the fishing and entertainment industries engage in the equivalent of murder and slavery of intelligent, self-conscious nonhuman persons who have as strong a claim to moral standing as humans do.³ However, the dominant methodology pervading “animal rights” discussions produces a picture of dolphins that implies that these actions are far less problematic. This essay claims that methodological weaknesses are among the most important reasons that the unethical character of these actions is not more apparent to ethicists. There is currently little discussion about the appropriate methodology for studying ethical issues related to the treatment of nonhuman animals in business. This essay aims to encourage such a dialogue by identifying and discussing some of the current methodological weaknesses and to argue for a more appropriate methodology.

RECENT DISCUSSIONS: DEGRAZIA AND MACINTYRE

The main philosophical discussions at issue are those of David DeGrazia and Alasdair MacIntyre. DeGrazia has brief treatments of dolphins in his 1996

³ *In Defense of Dolphins: The New Moral Frontier* (Oxford: Blackwell, 2007).

book *Taking Animals Seriously* and his 1997 article “Great Apes, Dolphins, and the Concept of Personhood.” Dolphins come up again in DeGrazia’s 2006 essay, “On the Question of Personhood beyond *Homo sapiens*.” Dolphins receive more focused attention in MacIntyre’s *Dependent Rational Animals: Why Human Beings Need the Virtues*.

Because of the methodological objectives of this essay, and because issues related to dolphins are neither philosopher’s primary focus, it is beyond the scope of the current discussion to rehearse and critique every aspect of DeGrazia’s and MacIntyre’s arguments. (DeGrazia is more concerned with the moral status of nonhuman animals in general than the moral status of dolphins in particular. MacIntyre’s discussion of dolphins arises in connection with his exploration of the relationship between biology and ethics and his argument for the importance of recognizing the place of vulnerability and dependence in human life.) Nonetheless, both thinkers include dolphins in their discussions, they consider a certain amount of scientific evidence related to dolphins, they take positions on what they see as the philosophical implications of this evidence, and MacIntyre’s characterization of dolphins has begun to be used in the business ethics literature. It is appropriate to consider, therefore, whether these particular inferences are warranted.

Moreover, because DeGrazia and MacIntyre conclude that, in comparison to humans, dolphins fall short in a variety of important cognitive abilities, these

two writers' discussions imply that certain questionable human actions towards dolphins could be morally defensible. Because an ethical analysis that is free of the methodological weaknesses of approach these thinkers use reveals the actions of the fishing and entertainment industries to be clearly wrong, DeGrazia and MacIntyre unwittingly provide a defense for morally questionable actions.

Second, I believe that the methodological weaknesses we see in these writings are representative of many discussions in the "animal rights" literature. Accordingly, if I am right, no small number of positions regarding nonhumans regularly advanced by ethicists – positions that typically fall to the disadvantage of nonhumans – are unwarranted.

The number of nonhumans used or affected by human businesses is, of course, huge, and what is at stake is generally the life or death of these beings. Even if we were to limit our consideration only to nonhumans who have demonstrated self-awareness and significant levels of cognitive and affective abilities (albeit a suspect and anthropocentric limitation), thousands of large whales, dolphins, chimpanzees, gorillas and elephants are killed or used as objects every year in the search for profit by a variety of industries. If, as I claim, consideration of the ethical defensibility of the practices at issue is based on a methodology so weak that it virtually guarantees inaccurate results, this is a serious matter indeed.

THE PROBLEM: FAULTY METHODOLOGY

The methodology that we see in DeGrazia and MacIntyre's discussions of dolphins has three specific weaknesses.⁴

- First, philosophical conclusions are regularly based on claims about dolphins that range from doubtful to false.
- Second, the methodology is uninformed by direct observation of dolphin social intelligence in the wild – a critical element in assessing the cognitive and affective capacities of dolphins and, therefore, dolphins' moral status.
- Third, the methodology fails to recognize the philosophical implications of profound differences in the evolutionary history of humans and dolphins – and thereby uses anthropocentric standards in determining the cognitive capacity and moral status of dolphins.

1. POSITIONS BASED ON INCOMPLETE OR QUESTIONABLE EVIDENCE

One of the most basic problems with the positions of DeGrazia and MacIntyre is that they proceed from insufficient familiarity with the relevant scientific literature. As a result, the conclusions about dolphins are based on an

⁴ For a related discussion of serious methodological weaknesses, see my "Menschen und Delfine: Ein Versuch über Anthropozentrismus in der angewandten Umweltethik," *Deutsche Zeitschrift fuer Philosophie*. Band 52 (2004), Heft 4: 603-616.

understanding of dolphins that is incomplete, questionable or false. The following examples are simply four out of many that could be cited.⁵

- a. *Traits of “sound practical reasoners”*: MacIntyre identifies three traits possessed by “sound practical reasoners”: “[the] ability to detach themselves from the immediacy of their own desires, [the] capacity to imagine alternative realistic futures, and [the] disposition to recognize and to make true practical judgments concerning a variety of kinds of good.”⁶ In other words, MacIntyre refers to three abilities that we find in normal adult humans but don’t observe in, for example, cats and dogs: 1) we do things for reasons other than satisfying physical pleasure; 2) we consciously realize that some reasons for doing things are better than others, and we can choose our actions accordingly; and 3) we can project the consequences of our actions into the future.

MacIntyre, however, makes a series of mistakes when he argues that dolphins lack these abilities. First, MacIntyre’s argument seems to proceed on the questionable belief that if we cannot observe dolphins performing these activities in the same way that is recognizable when humans do them with language, then dolphins lack those abilities.

⁵ In order to keep this paper within a reasonable length, I will give a fairly detailed (although still not exhaustive) account of only one point in the philosophical discussions at issue – MacIntyre’s claim that dolphins lack the traits of “sound practical reasoners.” However, each subsequent point could be illustrated with similar specificity.

⁶ MacIntyre, *Dependent Rational Animals*, p. 96.

Second, MacIntyre offers his conclusions with insufficient knowledge about dolphin capabilities. Whether dolphins possess language or not, there is reason to believe that they do have the three abilities that MacIntyre refers to. To cite just three brief examples.

- ❖ Since the 1980s, a community of wild Atlantic spotted dolphins has sought out human contact in the Bahamas. Their motivation is apparently curiosity about another intelligent species, which strongly suggests that they are capable of acting for reasons that have nothing to do with the normal physical or social life of their species.⁷

- ❖ Dolphins appear to have the capacity to choose to act for different types of reasons. They can act out of self-interest (when they eat). They can act to advance the interest of their coalition or community (when they engage in certain cooperative behavior). They can act to help not only other dolphins, but humans as well (when they perform care-giving behaviors). They even appear to be able to act out of curiosity (when they seek out human interaction). Given what seems reasonable to speculate on the basis of dolphin behavior, dolphins appear to have the abilities MacIntyre is referring to.

⁷ For research on this community of dolphins, see the work of Denise Herzing.

(MacIntyre appears to be referring simply to an ability more advanced than what we see in human children. He writes: “The first step in this transition [to rationality] takes place when a child becomes able to consider the suggestion that the good to the achievement of which it is presently directed by its animal nature is inferior to some other alternative good and that this latter good therefore provides a better reason for action than does the good at which the child has been aiming.”⁸ A simple example that seems to qualify would be when we realize that there are better reasons for treating other people decently than that, if we don’t, they may punish us. I believe that care-giving behavior with no apparent reward to the dolphins giving it suggests that dolphins act for reasons that are better than the self-interest characteristic of human children.)

- ❖ Research by John Gory and Stan Kuczaj on strategies that dolphins use in solving problems suggests that dolphins can imagine the future.⁹

⁸ *Dependent Rational Animals*, p. 56.

⁹ Stan A. Kuczaj II and Rachel S. Thames, “How Do Dolphins Solve Problems?,” Zentall & E. Wasserman (Eds.), *Comparative Cognition: Experimental Explorations of Animal Intelligence*. Oxford: Oxford University Press, 2006. John D. Gory and Stan A. Kuczaj II, “Can Bottlenose Dolphins Plan their Behavior?” Paper presented at the Biennial Conference on the Biology of Marine Mammals, Wailea, Maui, Hawaii, November – December, 1999.

In one experiment, three clear plastic containers were placed in the pool fairly close to each other. In all three of them, when the dolphin dropped a weight into the top, the food compartment opened. In two of the containers, the weight would then fall to the tank floor – where it could be used again to open the food compartment of one of the other boxes. But in the third, the weight would fall into an obviously closed bottom – making it unavailable.

Kuczaj and Gory wanted to see if the dolphins could understand the implication of having both open-bottomed and closed-bottomed containers – that is, to get the maximum amount of fish, use the open-bottom container first. The scientists theorized that if the dolphins understood this, they would plan their behavior accordingly. Bob and Toby were run through six thirty-trial blocks. From the first block onward, both dolphins used the container with the closed bottom last – suggesting that they could solve a problem by projecting the consequences of different strategies into the future.

- b. *Undeveloped brain capacity*: DeGrazia's discussion of research on dolphin linguistic abilities reveals the highly questionable assumption that dolphins who have not received language training in human

scientific studies possess an “undeveloped capacity” which, if developed, will dramatically increase the complexity of their mental life. That is, DeGrazia appears to suggest that for 15 million years, the dolphin brain contained cognitive potential that remained untapped until dolphins began being studied by humans. Given how biologically expensive the brain is for mammals to support, DeGrazia’s interpretation is highly unlikely. Unfortunately, DeGrazia ignores the research on the social intelligence of wild dolphins, which provides impressive evidence for sophisticated cognitive abilities that are fully developed. This includes evidence for a sophisticated communication system among Hawaiian spinner dolphins discovered by marine scientist Kenneth Norris.¹⁰

- c. *Dolphin brain research*: Particularly troubling is the failure by either philosopher to consider the implications of research on the dolphin brain. Certain differences in the evolution and structure of human and dolphin brains, and empirical measures such as the encephalization quotient of the dolphin brain undercut the idea that dolphin cognitive abilities are as limited as DeGrazia and MacIntyre suggest they are.¹¹

¹⁰ Kenneth S. Norris, *Dolphin Days: The Life and Times of the Spinner Dolphin* (New York and London: W. W. Norton, 1991).

¹¹ On the dolphin brain, see, in particular, the work of Lori Marino. For example, Lori Ann Marino, “Brain-Behavior Relationships in Cetaceans and Primates: Implications for the Evolution of Complex Intelligence,” Ph.D. Dissertation, State University of New York at Albany, 1995; “Convergence of Complex Cognitive Abilities in Cetaceans and Primates,” *Brain, Behavior and*

Indeed, dolphin brain research suggests considerable cognitive and affective potential.

2. LACK OF DIRECT OBSERVATION OF WILD DOLPHINS

The second weakness of the current methodology is that DeGrazia and MacIntyre have not observed dolphins in the wild. By never acquiring the perspective that comes from observing dolphins in their own habitat, these two philosophers lack a critical perspective that would let them, for example, evaluate the significance of published scientific research. Not having this perspective puts one in an intellectual position roughly equivalent to someone studying Plato who cannot read Greek and must rely on translations. Moreover, the cognitive and affective capacities of dolphins are much more evident (and far richer) in the wild than in captivity. By observing dolphin social behavior in the wild, one acquires an indispensable perspective that helps frame the results of scientific studies and to form one's sense of the type of beings that dolphins are – and what their moral status should be.

To cite just one example of how familiarity with wild dolphins would have influenced DeGrazia's and MacIntyre's philosophical positions:

- Both thinkers discuss the significance of Louis Herman's work with two dolphins on the comprehension of an artificial language.

Evolution (2002) 59:21-32; and Patrick R. Hof, Rebecca Chanis and Lori Marino, "Cortical Complexity in Cetacean Brains, *The Anatomical Record* (2005) Part A 287A:1142-1152.

However, because DeGrazia and MacIntyre have had no direct exposure to wild dolphins, they are insufficiently familiar with the social intelligence of wild dolphins. As a result, these philosophers fail to recognize that the most important fact about the performance of Herman's dolphins is that it occurred in what marine scientist Denise Herzing calls a "foreign cognitive environment."¹² That is, when one views Herman's results against the backdrop of 1) the complexity of dolphin social intelligence in the wild and 2) the absence of any close parallel to human language among wild dolphins, the performance of Herman's dolphins suggests a degree of cognitive flexibility that is not only remarkable, but far beyond the cognitive limits that DeGrazia and MacIntyre ascribe to dolphins.

3. ANTHROPOCENTRISM: BRAINS, LANGUAGE AND INTELLIGENCE

Humans and dolphins have very different evolutionary histories. Failure to understand the significance of this difference, however, leads thinkers like DeGrazia and MacIntyre to use anthropocentric standards in assessing the capacities of dolphins.

For example, these two thinkers' discussions of dolphin "intelligence" give considerable attention to the question of whether dolphins demonstrate an exact parallel to human language. MacIntyre and DeGrazia make linguistic

¹² Denise Herzing and author, "Dolphins and the Question of Personhood," p. 75.

abilities central to their assessment of the intellectual capacities – and, by implication, moral status – of dolphins. (DeGrazia, for example, contends that only the acquisition of language allows for the “complexity of thought” necessary for personhood, so he relegates dolphins to the category of “borderline persons.”) However, such an attitude fails to consider the possibility that human language is a product of the coevolution of the brain and hand.¹³ Such a theory means that the evolution of the cetacean brain took a different path than the human brain did. Evidence of advanced cognitive abilities in dolphins, then, would surface in something that probably would not exactly parallel human language but would nonetheless perform the same functions (e.g., communication and analytical and creative thought) in the life of these marine mammals. Indeed, at least two prominent dolphin researchers consider it quite possible that dolphins do in fact employ something similar to language.¹⁴

¹³ Frank Wilson, *The Hand: How Its Use Shapes the Brain, Language and Human Culture*, (New York: Random House, 1998); David F. Armstrong, William C. Stokoe, and Sherman E. Wilcox, *Gesture and the Nature of Language* (Cambridge/New York: Cambridge University Press, 1995); W. H. Calvin, W. H., “The Unitary Hypothesis: A Common Neural Circuitry for Novel Manipulations, Language, Plan-ahead, and Throwing.” In Gibson & Ingold, eds, *Tools, Language and Cognition in Human Evolution*. Cambridge: Cambridge University Press, 1993. Pp 230-250.

¹⁴ On the basis of Denise Herzing’s ongoing, 21 year study of a community of wild Atlantic spotted dolphins, she believes that wild dolphins “employ a capacity (the details of which have yet to be identified) that is equally as cognitively complex as the human capacity for language without being analogous in structure and form.” (“Dolphins and the Question of Personhood,” *Etica & Animali*. Special Issue on Nonhuman Personhood. 9/98, p. 75.) Dolphin brain specialist Lori Marino expands on this possibility when she notes, “I think that it is entirely possible that dolphins have something akin to language and that part of the reason why they have such large brains is because they have a very complex communicative system. The reasons I think this is because it provides an explanation for their prodigious artificial language abilities. Also, I think a complex social life may require a language-like system. Additionally, the fact that we are having a difficult time decoding the dolphin communication system hints that there is more there than meets the eye. For instance, the fact that we cannot find a strict correlation between most dolphin

Similarly, appreciation of the difference in the environments in which humans and dolphins evolved raises the possibility that there may even be a significant difference between our two species in the concept of the “self.” Harry Jerison, a specialist in the evolution of the human brain and intelligence, has proposed that dolphins might have evolved a sense of self that is qualitatively different from what we experience as humans – and one that is fundamentally social.¹⁵

The failure of DeGrazia and MacIntyre to directly engage the significance of the different evolutionary histories of humans and dolphins leads them unintentionally to apply a human standard to a very different species. That is,

whistles and context suggests there could be the property of displacement. To date, no one has figured out what the unit of information is in dolphin whistle repertoires or even if they perceive their whistles in that way. Brenda McCowan has applied information theory to dolphin whistle repertoires and has uncovered interesting evidence that there is more structure there than in many other mammal repertoires.” Private communication.

¹⁵ Jerison writes, “In the human species, the most remarkable of the constancies created by the brain may be the constancy of the self as observer. For us, the self is the firm, permanent object to which external events are referred. There is integrity of the body image, and only rarely (in the absence of neuropathology) is there a serious question of what is and is not part of the self The self is constant in time as well as space: We change as we age, of course, and yet we ‘know’ that we remain the same. This and other intuitions about the self are so strong that it is difficult to imagine a creature with information processing capacity comparable to ours, equal to us in intelligence, as it were . . . , that has a differently constructed self. However, if we accept the constructed nature of the self, and the likelihood that it is this kind of construction that is one of the benefits of (and explanations for) an enlarged brain, we should consider the possibility that it might be on such a dimension of a model of reality that other large brained species might have evolved significantly. Unless there were remarkably parallel evolution, it is also on such a dimension that dolphins are most likely to be dramatically different from us, because they are likely to use their processing capacity in species-typical ways, just as so much of the processing capacity of the human brain is used in controlling species-typical human language.” Harry J. Jerison, “The Perceptual World of Dolphins,” in *Dolphin Cognition and Behavior: A Comparative View*, eds. Ronald J. Schusterman, Jeanette A. Thomas and Forrest G. Wood (Hillsdale, NJ: Lawrence Erlbaum Associates, 1986), p. 148.

these thinkers unintentionally apply anthropocentric criteria to cetaceans – a move that, not surprisingly, leaves dolphins coming up short.

Implications for business ethics: Timothy Fort

As mentioned at the outset of this essay, even though neither MacIntyre nor DeGrazia relates his conclusions about dolphins to any issue in business, their positions have important implications for business ethics. In fact, MacIntyre's characterization of dolphins is used in Timothy Fort's "A Deal, a Dolphin, and a Rock: Biological Contributions to Business Ethics." Thus, MacIntyre's error is already being compounded.

Fort's essay is a response to Paul Lawrence's Ruffin Lecture. Fort's general aim is "to reinforce the reasons for welcoming . . . scientific findings to the field of business ethics."¹⁶ He introduces dolphins into his discussion via his claim that "in order to optimally integrate biology [to business ethics], . . . and to address the notion of how one balances various biological drives . . . , we should also remember to draw upon the dolphin in each of us, that part that takes pleasure in doing moral acts."¹⁷

Fort is largely concerned with the contributions of biology to the problem of "the extent to which human beings are able to consciously balance the four drives [identified by Lawrence: Acquisition, Bonding, Learning, and Defending]

¹⁶ Fort, "A Deal, a Dolphin and a Rock," p. 81.

¹⁷ Fort, p. 81.

and, in particular, the appropriate level for comparing evolutionary notions to organizational theory.” Dolphins are cited as “highly intelligent creatures with a sophisticated means of communication” whose hunting practices lead them to experience “pleasure and pride.” “The dolphin,” writes Fort, “in some way, emotionally connects with the rule of behavior beneficial to the dolphin and its school. The sentiment is reinforced by a ‘feedback’ mechanism of food itself. What is important, it seems, is that prelinguistic communication of information and of feelings of emotion are present in highly intelligent animals.” Speculating that “perhaps our biological nature is attuned to certain sentiments that human brain wattage is able to translate into notions of duty and obligation,” Fort concludes that there is “a need to attend to the dolphin in us and to nourish communities that provide the flesh and blood experience that refines sentiments into virtues.”¹⁸

There are three problems with Fort’s comments about dolphins.

- First, his characterization of dolphins is based on the uncritical acceptance of MacIntyre’s inaccurate account, and this leads him to make inaccurate and unsupportable claims. Fort repeats MacIntyre’s assertion that dolphins are “prelinguistic” and therefore lack the ability “to provide reasons for what they do.”¹⁹ Citing MacIntyre’s application of *Aristotle*, not a marine scientist, Fort then portrays

¹⁸ Fort, pp. 83, 89.

¹⁹ Fort, p. 89.

dolphins as beings whose most significant trait appears to be experiencing pleasure from performing complex tasks that benefit the group – that is, that they “take pleasure in doing moral acts.”²⁰ Claims about the internal emotional states of marine mammal, however, are largely unsupportable – even if they’re suggested by Aristotle. The additional claim that the pleasure comes from “moral acts” – not simply “acts that benefit other members of the community” – raises so many problems that the statement must be discarded from Fort’s discussion. Precisely what are the traits of “moral acts” in this context? Do we mean “moral acts” from a human perspective? From a dolphin perspective? Are they one and the same? Different?

- Second, the contrast between what scientific research has revealed about dolphins and Fort’s portrayal of them cannot be overstated. At best, Fort’s characterization of dolphins is so incomplete and unflattering that it is like describing humans as beings whose chief virtue is that we feel pleasure when we cooperate with others to cook a meal. Sadly, I believe that it is more accurate to say that Fort’s characterization of dolphins is not unlike the purportedly objective and scientific accounts that “proved” the inferiority of women,

²⁰ Fort, p. 89. MacIntyre writes that “like human beings, dolphins take pleasure in those activities which are the exercise of their powers and skills. When Aristotle says that there is pleasure in all perceptual activity and that the pleasure supervenes upon the completed activity, what he asserts seems to be as true of dolphins as human beings.” MacIntyre, *Dependent Rational Animals*, p. 26, n. 13.

African-Americans or any group that has been the target of serious discrimination. In effect, Fort's characterization of dolphins perpetuates what is actually a stereotype grounded in anthropocentrism. Dolphins are not simple, happy, playful mammals who are the equivalent of "Lassie of the sea." The scientific evidence is now strong enough to support the claim that dolphins are, like humans, self-aware, intelligent beings with emotions, personalities and the capacity to control their actions. Dolphins should be regarded as "nonhuman persons" and valued as individuals.

- Third, because Fort is unfamiliar with the relevant scientific literature on dolphins, he fails to recognize that there are much better examples about dolphins that he could use to advance his argument without the disparaging stereotype of dolphins. Fort is looking for an important example among nonhumans of consciously balancing the drives of acquisition, bonding, learning, and defending. The appropriate examples for this in the lives of dolphins, however, lie in arenas that more fully demonstrate a very sophisticated level of social intelligence: helping behavior, communication, problem solving, child rearing, division of labor, the management of conflict, political alliances, nourishing relationships, etc.²¹

²¹ *In Defense of Dolphins*, passim.

By repeating MacIntyre's inaccurate account of dolphins, Fort not only unintentionally perpetuates a stereotype grounded in species bias, he also tacitly endorses a fatally flawed methodology in business ethics. Ethical evaluations that involve nonhumans must be based on, at the very least, personal familiarity with all of the relevant scientific literature – not on the uncritical acceptance of a secondary authority who is not even a scientist.

CONCLUSION: SUMMARY AND RECOMMENDATION

Fundamental weaknesses in the discussions of DeGrazia and MacIntyre, then, are: that these philosophers consult much less scientific research than they should; that they lack a perspective that exposure to wild dolphins would give them; that a lack of appreciation of the significance of the different evolutionary histories of humans and dolphins leads these two philosophers unintentionally to apply anthropocentric standards in their evaluation of dolphins' cognitive abilities; and that, as we've seen in the case of Timothy Fort's essay, they can serve as a basis for perpetuating inaccurate and disparaging characterizations of dolphins. As a result, DeGrazia, MacIntyre and Fort advance conclusions that attribute an inferior status to dolphins and reinforce a picture of dolphins that not only is scientifically and philosophically inaccurate, but implies that the deaths, injuries and captivity of dolphins that go on each day in the fishing and

entertainment industries are less ethically questionable than an analysis free of these weaknesses would demonstrate.

Unfortunately, these methodological weaknesses are not limited to the discussion of dolphins. Martha Nussbaum, for example, includes a rare discussion of the proper method for investigating the ethical claims of nonhumans in her recent *Frontiers of Justice*.²² However, she identifies only “theory and imagination” as critical elements. That is, she fails to discuss the importance of a strong scientific foundation for philosophical investigations.

The solution that I would recommend for the problem this paper describes is, no doubt, clear – philosophers, ethicists in general and business ethicists in particular who explore issues related to nonhumans need much greater familiarity with the relevant scientific literature and direct exposure to the species under study in its natural habitat. However, it is important to recognize the far-reaching implications of following such a recommendation. Realistically, this means that research on the ethical implications of the scientific research on nonhuman animals is no longer just an “armchair” enterprise. This means that ethicists should participate, at least as observers, in scientific field-work. This means closer contact with scientists that has been traditional – to the point that ethical inquiries should be informed not only by published research, but also by

²²Martha C. Nussbaum, *Frontiers of Justice: Disability, Nationality, Species Membership*. Cambridge, MA: Harvard University Press, 2006.

relevant, ongoing scientific investigations.²³ Admittedly, ethical research of this sort will be more difficult to do than in the past, and it will take more time than has traditionally been the case to bring philosophical inquiries to fruition. I trust, however, that I have illuminated the hazards involved in *not* adopting such a rigorous methodology. In view of the fact that the contact between humans and nonhumans in business activity regularly involves the death of the nonhumans, I also hope that the *importance* of adopting an appropriately rigorous methodology is clear.

²³ Gory and Kuczaj's extremely important findings on dolphin cognitive abilities are a case in point. It is true that when DeGrazia published his earlier work (1997) and when MacIntyre published *Dependent Rational Animals* (1999), Gory and Kuczaj's work was not yet published. Their first paper was 1999. However, their preliminary findings were known among marine scientists. My hope is that, in the future, philosophers working on issues related to nonhumans would establish lines of communication that would allow such research to come to their attention.