

Acknowledgment

The author would like to thank Jason Grossman for comments and Fiona Mackenzie for research assistance.

References

- Ankeny, R. A. 2000. Fashioning descriptive models in biology: Of worms and wiring diagrams. *Philosophy of Science* 67(Proc.): S260–S272.
- . 2001. Model organisms as cases: Understanding the “lingua franca” at the heart of the human genome project. *Philosophy of Science* 68(Proc.):S251–S261.
- . 2002. Reconceptualizing reduction: Cystic fibrosis as a par-

adigm case for molecular medicine. In *Mutating concepts, evolving disciplines: Genetics, medicine, and society*, ed. L. S. Parker and R. A. Ankeny, 127–42. Dordrecht: Kluwer Academic Publishers.

Chakrabarty, A. M. 2003. Crossing species boundaries and making human-nonhuman hybrids: Moral and legal ramifications. *The American Journal of Bioethics* 3(3):20–21.

Haraway, D. J. 1997. *Modest_witness@second_millennium.femaleman@meets_OncoMouse™*. New York: Routledge.

Robert, J. S., and F. Baylis. 2003. Crossing species boundaries. *The American Journal of Bioethics* 3(3):1–13.

Rollin, B. E. 2003. Ethics and species integrity. *The American Journal of Bioethics* 3(3):15–17.

The Moral Insignificance of Crossing Species Boundaries

Andrew W. Siegel, Johns Hopkins University

Jason Scott Robert and Françoise Baylis (2003) hypothesize that the source of ethical concern about creating chimeras through the introduction of human cellular material into nonhuman embryos lies in the “inexorable moral confusion” such beings would generate (at least assuming they are allowed to develop postnatally). These novel beings would be “threatening to the social order” because they would force us to “confront the possibility that humanness is neither necessary nor sufficient for personhood [i.e., full moral standing].” Confronting this possibility would produce a state of moral confusion inasmuch as it would

1. leave us with “no clear way of understanding (or even imagining) our moral obligations to these beings”; and
2. compel us to “revisit some of our current patterns of behavior toward certain human and nonhuman animals.”

While Robert and Baylis’s suggestion is intriguing, I think it is doubtful that human-nonhuman chimeras would give rise to the deep moral confusion they describe. Consider first the claim that the existence of such chimeras would challenge our attitudes and actions regarding some of the human and nonhuman animals with which we presently coexist. We can formulate their argument for this claim as follows:

1. The existence of human-nonhuman chimeras would threaten the view that humanness is a necessary and sufficient condition for personhood.
2. If humanness is neither necessary nor sufficient for personhood, we must acknowledge both that some

nonhuman animals might have full moral standing and that some human beings might lack full moral standing.

3. Many of our practices related to human and nonhuman animals trade on the belief that a being has full moral standing if and only if it is a member of the species *Homo sapiens*.
4. Therefore, the existence of human-nonhuman chimeras would place into question many of our practices related to human and nonhuman animals.

There are a number of problems with this argument. One problem is that there is good reason to think that no one really believes humanness is logically necessary for personhood. We have all been presented with the relevant thought experiments, courtesy of Disney, Orwell, Kafka, and countless science fiction works. The results are clear: we regard mice, pigs, insects, aliens, and so on, as having the moral status of persons in those possible worlds in which they exhibit the psychological and cognitive traits that we normally associate only with human beings. Turn any so-called speciesist into a large, cogitating bug, and he will no doubt think it morally impermissible for his family to call the exterminator. Our reactions in such cases do not result from a category mistake about species membership. Rather, the judgments reflect the belief that species doesn’t matter where one possesses other traits that confer moral standing.

Now, the possibility of a chimera actually possessing the cognitive capacities of typical human beings is probably remote, at least for nonprimate chimeras. But the exist-

tence of such creatures would not, *pace* Robert and Baylis, bear at all on our existing relationships with the rest of the animal kingdom. For it is only in the extraordinary instance in which a human-nonhuman chimera displays higher-order cognitive capacities that we have a clear obligation to accord it special respect (which is not to deny that we have other obligations to nonhuman animals with lesser capacities). That some chimeras might command such respect does not entail a shift in how we view animals that do not possess the requisite traits. Hence, creating chimeras poses no challenge to our present relations with nonhuman animals.

Also problematic is Robert and Baylis's suggestion that human-nonhuman chimeras threaten the view that humanness is a sufficient condition of personhood. It is not clear why they think chimeras raise an issue on this front. The fact that nonhuman animals can have full moral standing might seem to entail that being human cannot by itself establish membership in the community of persons. But even if one holds that having certain cognitive capacities is sufficient for personhood, this is no logical barrier to one's holding that being a human is independently a sufficient condition for possessing full moral standing. And there certainly is little reason to think that those who embrace the view that being human is sufficient for personhood will be shaken in their beliefs by the existence of human-nonhuman chimeras. For this view is anchored in a perspective about the sacredness of human life that has weathered trenchant critique and brutal political battles. We ought not expect that this orthodoxy would be unmoored by the presence of a few chatty mice or erudite apes, let alone the far less dramatic beings that we should actually anticipate.

It thus appears that chimeras do not seriously challenge "our current patterns of behavior toward certain human and nonhuman animals." The idea that chimeras pose this challenge is premised on a mistaken account of existing views of personhood. But what about the other puta-

tive form of moral confusion related to chimeras; namely, that we have "no clear way of understanding (or even imagining) our moral obligations to these beings"? This strikes me as clearly an overstatement. Consider two of the dominant moral traditions: Kantianism and utilitarianism. Both operate with principles that track moral features that transcend species boundaries. According to Kant's moral theory, a being has full moral standing if and only if it possesses rationality. On the utilitarian view we must take into consideration the interests of any being that has them. For both traditions there is no conceptual obstacle to understanding the moral status of chimeras. Instead, the only potential impediment is the epistemic one of determining whether chimeras possess the relevant moral properties. While there is controversy over what properties are relevant to moral status, it does not follow that we lack a foundation for comprehending the nature of our obligations to chimeras. Moral controversy is not tantamount to moral confusion. Rather, what the controversy reflects is the existence of several possible foundations for understanding our obligations to chimeras, each of which is coherent on its own terms.

Admittedly, matters might be complicated for those who hold that humanness is sufficient to confer moral standing. What does one who holds this view say about a chimera that has a substantial amount of human cellular material but lacks any higher-order cognitive capacities? I am confident that the authorities on the sanctity of human life will render what they consider a decisive judgment on the matter. But if some confusion remains, we should not assume that it is "inexorable" or undesirable. It is always possible that a given instance of moral confusion marks a stage in the process of moral evolution. ■

References

- Robert, J. S., and F. Baylis. 2003. Crossing species boundaries. *The American Journal of Bioethics* 3(3):1–13.