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12-1-2015

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Recommended Citation

Bernard E. Rollin, Beyond Pain—Controlling Suffering in Laboratory Animals, *BioScience*, Volume 65, Issue 12, 01 December 2015, Pages 1113–1114, <https://doi.org/10.1093/biosci/biv148>

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Beyond Pain—Controlling Suffering in Laboratory Animals

BERNARD E. ROLLIN

Although researchers have taken steps to reduce the pain suffered by experimental animals over the past 30 years, to reduce animal suffering more comprehensively, they must make a possibly harder change. They will have to abandon what has become the prevailing metaphysical outlook of science—the view that only what is reducible to physics and chemistry is ultimately real. This change does not necessitate abandoning reason. A well-developed, common-sense metaphysics first articulated over 2000 years ago by Aristotle can accommodate enlightened science and a better understanding of suffering.

Undoubtedly, we have learned a lot about pain in animals. In 1980, after my colleagues and I had drafted what was legally encoded as the 1985 amendments to the Animal Welfare Act—which, among other things, mandated pain control in laboratory animals—we were asked by Congressman Henry Waxman to prove that there was a need for such a law. We did a literature search on “research animal analgesia” and found nothing except for one paper affirming that there ought to be papers and another affirming that very little was known (Rollin 2006a).

Also in that year, I was asked at a conference to respond to a pain researcher who claimed that the fact of differing electrochemical activity in the cerebral cortex of dogs from that of humans showed that dogs could not be said to feel pain in any sense we could understand. I pointed out to him that he did pain research on dogs and from that extrapolated the results to humans—so either his claim was false or his life’s work was!

This scientist was expressing commitment to what I have called “the

common sense of science” or “scientific ideology,” a positivistic dogma affirming that everything legitimately part of science must be *empirically verifiable*, or reducible to physics and chemistry, and therefore talk of ethics or animal consciousness is scientifically meaningless—merely an expression of emotion and not something on which policy could be based (Rollin 2006b).

Two years ago, I redid my literature search on pain control in animals and this time found 12,000 papers. Certainly, things are far better than they were. Physical pain, of the sort subject to control by analgesics, is no small thing. The pain-centered approach to animal ethics is laudable, but upon close examination, reveals itself to be difficult if not impossible to implement. For example, it is extremely difficult to see how one weighs emotional pain against physical pain. An animal can suffer from the threat of a beating as much as from an actual beating. How does one score the former in comparison to the latter? How does one score fear? How does one count the emotional pain of a cow whose baby is removed from her immediately upon birth when we know that, under normal extensive conditions, she will not wean the calf for 7 to 9 months?

Enter metaphysics—that is, the view of what reality is. Common sense finds that objects in the world are qualitatively different—beautiful and ugly, good and bad, green and yellow, hot and cold, living and nonliving, wet and dry. However, there are no words in physics and chemistry to describe the qualitative distinctions taken for granted in ordinary experience. The most articulate spokesperson

of common-sense metaphysics was Aristotle, who saw reality as coextensive with the world of our experience, something the scientific revolution explicitly denied.

Unlike much of modern science, in which the laws of physics and chemistry explain all phenomena, in Aristotle’s world, each kind of thing obeyed its unique set of laws. For Aristotle, all things had a *nature* or *unique function*, which he called its *telos*—what it *did*. Living things were naturally explained by how they performed the *functions* of living things; sensation, locomotion, nutrition, reproduction—all living things are characterized by these functions but perform them in unique ways. A predator such as a tiger finds food and eats in a manner different from a herbivore’s. A bird moves very differently from a snake. To know an animal is to know its *telos*, which we understand by observing numerous instances of the kind of creature it is. Therefore, we understand animals not by reducing what they do to the laws of physics but by observing how they fulfill the functions of a living thing. This is in no way unscientific but in fact augments the scope of science to cover what is essential to animal ethics and common sense.

When we begin to think about animals in moral terms and about how we manage them, the most important criterion is to respect their *telos*. If we wish to assure animal well-being, respect for the animals’ *telos* is as important as—and probably more important than—avoiding physical pain. The pain of a surgical procedure can be rendered tolerable and minimized by the proper use of analgesics. But the suffering engendered by keeping a social animal

caged individually is not remedied by drugs. The suffering resulting from the separation of calf from cow at 1 day of age is not alleviated by narcotics. A clearer example is provided by coyotes and wolves that are caught in steel-jaw traps. These animals have been known to chew off their paws in order to escape. Because the physical pain of being held in a trap is far less horrendous than the pain of chewing off one's limb, we must conclude that being kept immobilized is a far worse experience than very severe physical pain to the animal.

Ethologist Hal Markowitz and veterinarian Scott Line (1990) tell of a zoo that built what was thought to be an exemplary enclosure for servals (South African bobcats). But the animals were severely depressed. They learned that, in nature, they ate by preying on low-flying birds. At the zoo, their food was placed on the ground. They recommended that the zoo grind the horsemeat they were fed into balls. They further suggested that they use a compressed-air gun to deliver the rations, thereby accommodating the servals' *telos*. The animals' behavior changed immediately: They went from lethargic and depressed to active and engaged—and what we can presume is happy.

Marmosets will bond as pairs for life. Separating such a pair can often lead to the death of one of the partners. Clearly, if we wish to assure the

well-being of research animals and are doing a good job controlling physical pain, the next step is to make sure the animals' *telos* needs are respected in the way in which they are kept. Primates simply presented with food, surely a very basic need, will often not eat unless the food is randomly distributed in their cages, requiring foraging. Many animals will withstand pain and injury to escape severe confinement. These examples illustrate that things besides pain matter to animals; other situations may be worse than physical pain, and any *telos* violation creates a negative experience.

Furthermore, there is no simple word to express the many ways we can hurt animals besides causing them physical pain; the ways are as countless as possible *telos* violations. *Positive mattering*—the many states that matter to animals in a positive way—of course would include all states that are positive for the animal: freedom of movement, pleasure, a sense of security, companionship, and play.

We are morally obligated to expand the scope of biological science so that it studies all of the ways things can matter in a positive or negative way to animal well-being. We also need to understand which forms of *telos* violation matter most to animals, and how. And we need to determine this without harming the animals (e.g., by letting animals choose between alternatives, which is a well-developed

methodology known as *preference testing*).

Replacing the notions of pleasure and pain with that of *telos* and the needs and interests flowing from it creates major benefits. It helps us to better understand our obligations to animals. It stops us from imposing harms as variegated as creating fear, striking an animal, causing illness, and engendering grief and loneliness on a single axis—pain. It also fits with common sense, which has no difficulty recognizing mental states in animals. Finally, it rationalizes talking of *happiness* in animals, which means satisfying most (or all) of an animal's needs and interests arising from its *telos*.

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doi:10.1093/biosci/biv148