

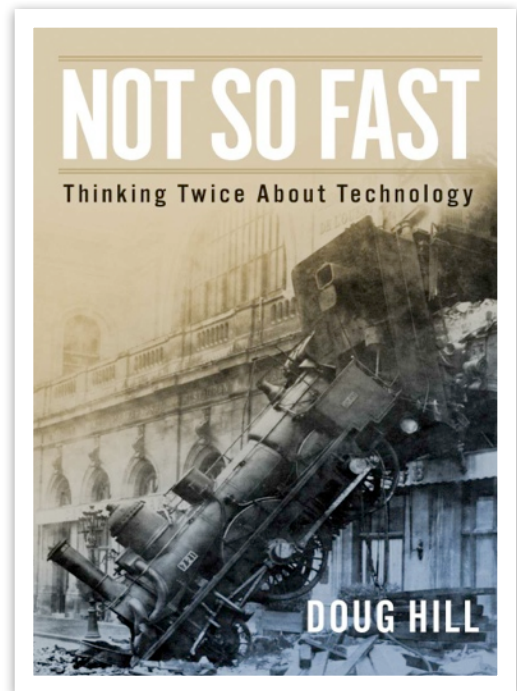
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## **NOT SO FAST: THINKING TWICE ABOUT TECHNOLOGY By Doug Hill**

### **Chapter 14 Excerpt: Ecotone**

I've mentioned several times the belief of Ray Kurzweil and his fellow transhumanists that humankind is well on its way to the Singularity, when our ongoing merger with machines will be completed. I find it interesting that at the same time the popular imagination is increasingly filled with thoughts of cyborgism, there's been an unusual amount of discussion about where the boundary lies between humans and animals. The fact that these two conversations are taking place in parallel is not, I think, a coincidence.

The Minotaur and centaurs of ancient myth and the animal costumes in the rituals of indigenous tribes testify to the fact that, throughout human history, we've imagined the boundary between ourselves and animals as permeable, figuratively if not literally. Darwin raised the stakes on the identity question significantly by making it literal, a scientific issue rather than a mythological construct. Do humans represent a radical break in the evolutionary chain or do we share more in common with our animal friends than many of us would like to believe?



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The answer to that question tends to vary according to who's giving it, and when. "There has always been a good degree of tension between views that stress discontinuity and those that stress continuity between humans and animals," writes Raymond H. A. Corbey, author of *The Metaphysics of Apes: Negotiating the Animal-Human Boundary*. For much of recent history, Corbey says, the underlying agenda in the debate was to maintain discontinuity in order to preserve both human dignity and the idea of evolutionary progress. More recently we've witnessed a shift toward an emphasis on the commonalities humans share with the animal world.

Much of this shift has been led by science. Researchers keep finding that we share more, in terms of both behavior and physiology, with "lower" species than we ever suspected. One sign of this collective re-evaluation is The Cambridge Declaration on Consciousness in Non-Human Animals, issued in the summer of 2012 by a prominent group of neuroscientists. Humans, it declared, "are not unique in possessing the neurological substrates that generate consciousness," and it cited abundant behavioral evidence proving that animals can and do experience "feeling states," aka "emotions."

Technology, meanwhile, is raising sensitive new issues regarding the compatibility of animal and human biologies. Lee Silver, a professor of molecular biology at Princeton University, has written of the ethical dilemmas being raised by research in which human stem cells are injected into mice and other laboratory animals. The resulting creatures are mostly animal but partly human. Scientists call them "chimeras," after the monster in Greek mythology that was part lion, part goat, and part snake. The hope is that one day we'll be able to put an end to transplant shortages by growing human organs within pigs and other animals. Silver thinks that's a technique most people will find acceptable.

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Breeding monkeys with human brains might be another story. In any event, Silver says, the fact that such hybrids are within reach forces us to contemplate whether the existence of a strict line separating human beings from animals "may simply be a figment of our imagination."

This also seems to be a time when people are especially interested in connecting with animals. Dogs and cats are lavished with attention while tour guides and hotels profit by putting people in touch, literally, with whales and dolphins. I'm reminded of Anne Foerst's comment that our need for communion with animals reflects the fact that humans are "a deeply lonely species." It doesn't seem too great a leap to suggest that living in the technological society exacerbates our sense of isolation, and that contact with animals provides a welcome relationship with something other than machines.

Nor does it seem too great a leap to contrast the instinctive comfort people feel around pets to the instinctive discomfort many people feel around technology. It's not unusual these days to hear some new technology described as "creepy." Beyond simple unfamiliarity, one reason we feel that way, I think, is an inherent existential alienation that exists between two separate orders of being: the organic and the mechanical. Most of us have heard by now of the "uncanny valley," the term engineers use to describe the uneasiness caused by robots that looks mostly human, but not quite. That uneasiness derives, I think, from a largely unconscious perception that a machine is trying to sneak across the organic/mechanical boundary. On some intuitive level we don't trust it.

**End of Excerpt**

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