

# LEONARDO'S CHOICE

*'Leonardo's Choice: genetic technologies and animals' is an edited interdisciplinary collection focusing on the use of animals in biotechnology and the profoundly disastrous effects of this use both for animals and us. We discuss animals, A-Life, the work of France Cadet, Ken Rinaldo and more with Carol Gigliotti*  
Interview by **Giovanni Aloï**

**A**s editor of this collection, my essay "Leonardo's Choice: the ethics of artists working with genetic technologies" grew out of an increasing concern, not only about the risks of genetic technologies in general, but also with a growing genre of art practice involving genetic technologies and the non-human. While some of the work in this art genre aims to question the corporate uses of genetic technologies, I wanted to investigate if using the methodologies of a science that still posits human beings as the centre and rationale of all endeavors, and nature and the non-human as mere resources, would only serve to reinforce that anthropocentric view in the arts and corresponding cultural arenas. I began with the belief that whether the object of genetic modification or transference is plant, animal, or tissue, one needs to question and confront the ethical impact that instance of commodification and colonization will have on the future of a naturally occurring biodiversity, and on the individual lives of non-humans involved.

In this way, the collection makes a useful contribution to a growing discussion in both academic and public forums concerning ethics and animals. Seven of the essays were published in 2006 with an introduction and photos of animals in laboratory settings in a special issue of the Springer journal *AI & Society*. As guest editor, I invited contributors from the disciplines of philosophy, cultural, art, and literary theory, and history and theory of science, as well as environmental studies, to respond to the topics in my essay. The authors replied with unique perspectives on the broad and multiple layers of meanings and values called into question by these themes. The volume at hand continues to be structured and integrated around the central theme of the use of animals in biotechnologies, but adds perspectives from law, landscape architecture, history, geography, and cultural studies. Included authors span three continents and four countries.

Since the publication of the journal issue, the growth of biotech and genetic technologies has been formidable, but the questions and issues forthcoming from the use of animals in these areas have only grown more urgent.

***You are a writer, artist, ethicist, educator, and animal rights advocate who presently is associate professor of interactive media and also critical and cultural studies at Emily Carr University of Art and Design in Vancouver, British Columbia. How did your strong interest in animals develop and how does it manifest in your faceted professional career?***

My interest in animals began very early in my life with an affinity for those in my immediate world: birds, dogs, cats, insects, the pig at the farm down the road, but blossomed during my early twenties into a commitment and way of perceiving the world. Everything I had intuited previously came together in a moment at the Brookfield Zoo in Chicago when I saw an orangutan for the first time. He was sitting very close to the bars of his cage and so I was able to be quite close to him physically. We gazed directly into each other's eyes for what seemed like hours, but was probably only a few minutes. That experience with that particular captive orangutan changed my life. I never again looked at animals as anything else but sentient and equal beings.

This experience in the last year of university shifted how I wanted to communicate those ideas. Instead of concentrating on theatre and performance, in which I had been very active since grade school and through university, I began to paint and make prints. Once out of university, while living on an island off the coast of South Carolina in the States, I began a series of prints and drawings about our relationships with animals. This work concerning animals continued through receiving my M.F.A. in printmaking (I also did a

performance piece as part of my graduate exhibition) and after in my professional art practice and exhibition. I concentrated on work about factory farming and animal experimentation while living and teaching in Washington, DC. I continued focusing on these ideas through my work in animation and interactive media while obtaining my doctorate at the Advanced Computing Center for the Arts in Design at Ohio State University.

Originally seeing virtual technologies as ways of allowing people to be immersed in what might be the perspective of an animal and also fascinated with the intellectual ideas this new media generated, I began to see first hand how current technological development was becoming yet another way of separating us from the natural world and an embodied understanding of values. Combining this interest in the ethical issues of interactive technological design with its impact on how we relate to the natural world and all its inhabitants, I began to prioritize writing as my preferred avenue of investigating and communicating these ideas. For me, thinking about ethics and technologies has always been bound up with my continuing concern and commitment to the agency of the natural world and the fact that we as humans are animals too. All of my art practice and writing have been driven by these concerns.

***Your undergraduate degree was in Oral Interpretation/Performance Studies. How has this informed your career development and focus on animals?***

A great question, since my experience as an actress and a performer have influenced my interests in art animals, ethics, new media and technology in deep and multiple ways. Acting or performing offers one the opportunity to imagine oneself in the body of another being, to imagine being another for a time. Although I have to say this is not true for everyone, of course, that experience offers the actor, or anyone else who decides to give it a try, a chance to understand how and why another person or being might move and act in the world from their unique point of view and their physical way of being in the world. This experience leads to a more empathic understanding of what it might be like to be a bat, for instance, to refer to Thomas Nagel's famous question. Despite Nagel's conclusions, I would agree with Elizabeth Costello (and George Lakoff and Mark Johnson in their seminal book on metaphor and moral imagination, *Philosophy in the Flesh*) in J.M. Coetzee's *The Lives of Animals* when she says, "there are no bounds to the sympathetic imagination" (p. 35). This kind of empathic understanding is what underlies value judgments about what we share, or don't share, with other people and of course, animals. The fact that our imagination is very much a bodily capacity is something I discovered and practiced through acting. I brought that knowledge to my writing and practice with interactive new media. This is not to say we should disregard the immense amount of research on understanding non-

human forms of languages and communication. But, the connection between imagination, creativity, and ethical judgment is too rich to be dismissed and complements that knowledge.

***In 2005 you wrote an extremely interesting essay titled "Artificial Life and the Lives of the Non-Human." In this essay you explore the work of Kenneth Rinaldo and France Cadet. What drew you to the work of these specific artists?***

I knew Ken and was familiar with his work for a number of years before I wrote this essay. An editor at *Parachute* asked me to write an essay for an issue they were doing on artificial intelligence and I felt Ken's work would lend itself to what I wanted to discuss in this essay about a-life. I had written about AI and A-life before, but I wanted to focus specifically on issues concerning how the underlying thought and assumptions in these technologies have reinforced negative ideas about animals. Ken's use of fish brought up many of these issues in particular ways and also led to connected ideas about technological research and development. I was very happy to come across France's work during my research since I felt she was asking pertinent questions about animal agency in her work without using live animals. I felt her work illustrated the concerns and worries of genetic technologies through the use of robotics thereby offering visible links between their fundamental goals.

***In this essay we read that "Concurrently in science and in art, the interdisciplinary field known as a-life has been developing over the last twenty years or so. Artificial life, or a-life, is 'concerned with both the creation and study of artificial systems that mimic or manifest the properties of living systems.' Distinguishing itself from artificial intelligence in both methodology and goals, proponents of a-life rely on a bottom-up approach rather than on the top-down approach of AI. Instead of attempting to create centralized computer programs that might think, a-life methodologies rely on developing computational behavioural parts operating in parallel, and from which unspecified behaviour might arise. These methodologies rely on a synthetic approach in which, rather than studying biological phenomena by taking apart living organisms to see how they work, one attempts to put together systems that behave like living organisms." In what capacities can this "reversed methodology" be seen as productive?***

These approaches to artificial life have been both productive and unproductive. As in any situation, one has to ask, productive for whom? One of the more positive aspects of this approach not just for a-life development,



**Ken Rinaldo**

3D Visualisations of Augmented Fish Reality Installation 2004 © Ken Rinaldo

but for biological understanding is the increased interest in the situated, dynamic, and embodied context of cognition in various species from the simplest to the more complex. Inspired by research in biology and other areas of cognitive science, looking for cognitive capacities and actions specifically in reaction to a changing environment allowed scientists to recognize cognition when studying simpler living organisms. This shift in thinking broke the stranglehold behaviourism had held since the 19<sup>th</sup> century. The ways in which these ideas are being used in cognitive ethology (the field study of animal behaviour and intelligence) have been very helpful in introducing obvious and not so obvious examples of non-human intelligence into the scientific milieu.

These approaches have been less than helpful when used in reductive or superficial ways. It seems at times, a matter of taking one step forward and two steps back. Researchers in artificial life and robotic research in many cases have adopted these methodologies and drawn inspirations from nature for reasons having to do with the desire to create emergent behaviour and artificial life they assumed will be better than what has emerged naturally. In addition, conclusions drawn from the study of *a-life's emergent behaviour* professing to answer fundamental questions about natural evolution, behaviour, intelligence, cognition, consciousness or life, at best, are unhelpful and wrong-headed and, at worst, very counterproductive in understanding the biological world

in which we actually live.

***In a number of his works, Rinaldo has successfully created “interactive spaces for animals and humans to connect.” How effective to the end of developing human-animal communication do you consider these works to be?***

I don't think Ken's pieces have successfully done this, nor do I think animals and humans connecting can ever be scripted. The majority of art pieces using captive live animals in most cases infringe on the animal's welfare or agency in some way. That being said, I am not saying the goal of connecting humans and animals or providing spaces for them to connect is a bad one. Unfortunately for the animals, however, most live animals used in art pieces will always be in a captive situation, even those pieces made by artists that look out for their welfare and/or even may be interested in animal agency. I would refer the reader to the online discussion from h-animal.net that was reprinted in the *Antennae Issue 5* in response to Marco Evaristti's piece *Helena*, in which the subject of using live animals in art, often ending in their demise, sparked quite a heated discussion. In fact, the original discussion on h-animal.net is even more interesting in its inclusion of all the participants and viewpoints.

My concern then and now is two-fold. First, I am concerned with the safety and well being, in the widest sense of that concept, of the animal(s) involved. That sense includes such characteristics as happiness, agency and stimulation and freedom to leave. Second, what is communicated by conscripting an animal into a project? Even if the stated goal of the project is to question our hierarchal relationship with animals, is the artist communicating to their viewer the inevitability of the “use” of animals (a contentious term in the h-animal thread) for any number of human needs or desires by “using” them in the project and placing the animals' needs in a subservient position. There are many art projects using live animals at present and I am saddened at the way many artists are using other animals in ways that reinforce our anthropocentric views of them and in some cases continuing a blatant disregard for their well-being by being involved in interference with their lives to the point of their death. If the artist really wants to challenge these assumptions, I urge them to start there and create situations and spaces that do not rely on the use of captive animals, domestic or wild, in situations that re-inscribe their domination.

***In the piece you suggest that France Cadet's work poses questions about “the real possible consequences of science.” Which of Cadet's works do you think best addresses this question and why?***

I point to France Cadet's *Dog[LAB]01* *Dog[LAB]02* in the essay included in this issue. Both pieces, by producing

robotic dogs, made in the likenesses of well-known instances of genetically modified animals, set up scenarios in which viewers may ponder the ludicrousness of poorly conceived human invention. The dogs, aside from being working robots, modified by Cadet from the I-CYBIE robots from TIGER & Silverlit, are combinations of various percentages of other “animals.” Without using live animals, Cadet has used a related technology, robotics, to describe in an ironically horrific, but plausible manner, how futures for transgenic animals might unfold.

***You have stated: “the essence of living art can be found at the nexus with ethics.” In your contribution to *The Digital Dialectic: New Essays on New Media*, published by MIT Press in 1999, you also emphasized the need for artists and their formal teachers to challenge their own received perceptions of how computer technology is created and used. How do you think this challenge was received, how did it affect perceptions and did this develop into new approaches?***

I think that quote was a paraphrase of something I said to Tim Greenlaugh, the author of a piece *The Times* did about me in 1999. But, it does work well in describing what I emphasize in my writing: aesthetics and ethical decisions are bound up tightly together. Aesthetic and ethics are both about what we value and what informs our judgements. In “The Ethical Life of the Digital Aesthetic,” the essay included in *The Digital Dialectic*, I was making a case for taking the following question seriously: “what is the moral content of the cultural identity we are building with digital media?” I wrote this essay in 1995. My goal was to counter the sudden rush to digital media of all kinds, in this case web-based media, by artists, educators, computer scientists, digital developers and the powerful forces funding this undertaking, including academic, governmental and corporate. Digital media is often characterized by these forces as both deterministic and devoid of embedded values. This characterization obscures any possibility of choice. We accept technological invention as inevitable and immune to any influence from cultural thought and action. And of course, this is exactly what established hierarchies encourage.

I cannot say specifically if this essay affected perceptions and encouraged new approaches. Some people were very angry with me for writing it, and so I would have to say it must have had some affect! The same forces characterize newer technologies in the same way and for the same reasons, I am afraid.

***In the *Genetic Technologies and Animals: Special Issue of AI & Society* you ask “In light of the urgency of the future of the ecosystem's integrity, of which biotechnology is increasingly playing a large role, and the millions of our fellow creatures whose lives we are destroying in that***



**France Cadet**

Dog[LAB]01, exhibition view, 7 robotic dogs, podiums, ID cards, 2004 © France Cadet

*process, it is important to ask, what does art contribute to that future?"*  
*(quote from Genetic Technologies and Animals: Special Issue of AI & Society Vol.20.1, January 2006) What has art contributed to that future over the past two years, since that question first arose?*

That essay, "Leonardo's Choice: the ethics of artists working with genetic technologies," was originally written in 2004, though published in the special issue I edited on that topic for *AI & Society*. Since that time I would say that on any given day my perception of what has changed may differ. I am very heartened to find many artists involved with work that contributes quite positively to shifting notions of the human role in environmental degradation, species extinction, and animal agency. On other days, the growth of biotechnological research and its hard-wired connections to global economic investment, despite our miniscule factual knowledge of what unexpected outcomes may occur for animal, plant and human life, makes me

discouraged. I am very encouraged, however, by students in my Environmental Ethics and Critical Animal Studies courses at Emily Carr University. They bring an enormous amount of commitment, creativity and passion to the development of solutions to these and other issues concerning the non-human world and that gives me hope.

*In 2005 you collaborated with Steve Baker on a piece title "We Have Always Been Transgen." This dialogue concerned the nature of ethical responsibility in contemporary art practice, and its relation to questions of creativity; the role of writing in shaping the perception of transgenic art and related practices, and the problems that may be associated with trusting artists to act with integrity in the uncharted waters of their enthusiastic engagement with genetic technologies. How did this collaboration originate and why?*



**Eduardo Kac**

GFP Bunny, 2000, Photography © Eduardo Kac

I was asked by the North American editor of the journal *AI & Society*, Victoria Vesna, to edit a special issue on the subject of biotechnologies after she had read "Leonardo's Choice: the ethics of artists working with genetic technologies." My essay referenced Steve's essay on Eduardo Kac's work *GFP Bunny*. I had read and admired Steve's *The Postmodern Animal*, and thought Steve should be included in this issue. I sent my essay to Steve and he responded with a proposal to engage in a dialogue about these issues since we discovered in our initial emails that we were both working on books that were concerned with animals and creativity.

I think we both felt that engaging with these ideas through a dialogue with someone whose interests were so similar, though as we discovered approached differently, would be beneficial to our own writing. I enjoyed our discussions immensely. I am grateful that we had that opportunity to talk at length and in detail about issues about which we both felt so strongly.

***Which artists in particular have informed your own practice?***

Early influences were Goya, Vito Acconci, Joseph Beuys,

Bonne Sherck, Alan Sonfist, Hans Haacke to name a few.

*GFP Bunny* by Chicago-based artist Eduardo Kac stirred unprecedented controversy. In the words of Steve Baker "Kac believes that 'artists can offer important alternatives to the polarized debate' about genetic engineering, putting 'ambiguity and subtlety' in place of polarity". What is your take on 'Alba' (actual name given to the rabbit; in English the name translates into Dawn) and how do you think it informs our understanding of transgenic art? (Steve Baker's quote from the *Animal in Contemporary Art*, <http://www.fathom.com/feature/122562/index.html>)

Rather than give a one line answer to that question, I will point to my essay mentioned above and also, reprinted in my edited book discussed in the next question. In the book, you also will find several other authors' takes on Eduardo's work as well as other artists' work in this area.

*You are currently putting the finishing touches to 'Leonardo's choice: genetic technologies and animals.' The book takes to task the implications*

***and outcomes of genetic technologies aiming to forge a new art practice involved in creating living beings using those technologies. What prompted you to work on this book?***

Having edited the special issue of *AI & Society* in which I used my essay, *Leonardo's Choice the ethics of artists working with genetic technologies* as a starting point to which included authors could respond, it became apparent that critiques of the impact of biotechnologies were keeping pace with its growth. With this book I have tried to use the exceptionally strong core of original authors and essays to add authors from an even wider disciplinary range and interested in focusing on what these technologies mean for the lives of animals, not just in labs, but outside them as well. My goal was to offer different kinds of readers very well written and researched essays on the connected threads running through the topic of the development and use of these technologies: political will, ecological devastation, economic justice, and ideas around creation and progress seen through the lens of animal life. The topic of genetic technologies is one of the most pressing challenges to a growing concern about our relationship with the natural world, and it is thrown into high relief in this volume through perspectives, by and large, hoping to refute the inevitability of a biotechnological future and the rationales behind it. The book is unique in that the authors keep animals at the center of these discussions, refusing to dismiss the effects of these technologies on their well being and agency.

***In February 2009 you will be giving a paper at the Database Aesthetics PANEL at College Art Association 2009 Conference, Los Angeles. The title: "The Reconfiguration of Animals: Ethical issues in database aesthetics" is particularly intriguing. Could you tell us what the focus of the talk will be?***

Briefly: instead of the dematerialization of the body written of so eloquently in much posthumanist discourse, genetic technologies in combination with database technologies are used to redefine biological materiality. Farm animals, already redefined as such by centuries of use in human food and labor, are now approached by the life sciences and medical practices as data warehouses of information. The embodied situated contexts so important in cognitive ethology's study of animals in the field are forgotten in the quest for a drive to forge a new concept of biological materiality, one that may exist separately from the animal tissue from which it came. Obscured by the aesthetics of an elegant material language, a symbolic technique accomplished through the combination of DNA and contemporary informatic thought, animal's intrinsic value as beings with whom we share this planet is reconfigured. Instead that value has been reshaped into small packets of information ready to

be sold. Animals have been conscripted into these technologies to further an agenda of controlling the creation of all life through the manipulation of various manifestations of code. In today's biotechnologies, animals have become code.

***What's next in Carol Gigliotti's agenda for 2009?***

I will be doing two presentations at the Minding Animals conference in Newcastle, Australia this summer. The first will be part of a double panel on the Global Media Space that Ralph Acampora, Annie Potts, and Carol Freeman and I put together. I will also be representing the Institute for Critical Animal Studies in the Animals and Society Groups Forum. Over the next while, I hope to spend more time concentrating on the book I have been working on for a few years, *Wildness and Technology: Creativity and animal life*.

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*Carol Gigliotti was interviewed by Antennae in Winter 2008 ©Antennae*