

Book Review

Leonardo's Choice – Genetic Technologies and Animals **Carol Gigliotti (Ed) Springer, 2009.**

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If one surveys the social science and humanities literature on biotechnology over the past decade one discovers a dearth of books on the potential consequences of biotechnology for nonhuman animal life. This is an omission that not only speaks to the mundane anthropocentrism of contemporary scholarship to which (critical) animal studies addresses itself, but given the rather obvious enmeshments between human and nonhuman animal life in myriad social domains can also be read as a question mark around the quality of said anthropocentrism. If one was serious about anthropocentrism one would have to, anyhow, take nonhuman animals seriously.

This impressive edited volume begins the task of addressing this gap. The clue to the foci of the volume is in the title. The Leonardo in question is, of course, Da Vinci, who served his apprenticeships in the 1470s training in both the arts and sciences prior to the institutionalisation of their distinction. The *contemporary* rise to prominence of BioArt, and in particular the interest that some artists have taken in transgenics and genomics, together with the multifaceted scientific interest in aesthetics perhaps signal a re-questioning of this distinction. Yet in this reflexivity, in the particular approach that bio-artists take, reside important ethical questions and definitional issues around the role of artists, as well as a critical questioning of the relations between biotechnologists, creativity and hubris.

Leonardo is a particularly pertinent thematic choice for such discussion since, as Gigliotti points out in her chapter, he also exhibited considerable compassion toward animals and is thought to have practised vegetarianism for a large proportion of his life.

Most of this volume is concerned with the relationship between biotechnology and art broadly construed with contributors from a wide variety of disciplines. Part I contains three overview papers, Part II focuses on transgenic art and Part III widens the focus to include specific cases of animal biotechnology, often examining their representational relationship within film and literature. The aesthetic and cultural realm is of course vital to the imaginary of animal biotechnology. It animates certain novel practices: particular intensifications of domestication and reinventions of the biological in diverse ways, establishing new regimes of normalisation and/or opening new spaces for critique. In analysing the representational politics of biotechnologies the papers in this volume perform the necessary task of opening up excluded details and difficult questions that show how such an imaginary is in a sense precarious and haunted by alternative narratives and ethics. Above all else, this book makes a strong case to the reader who may not be intuitively comfortable with thinking around aesthetic and cultural dimensions of science, of their absolute importance.

Although diverse, the contributors to the volume would generally ally themselves to a Critical Animal Studies perspective that refuses to dismiss the effects of biotechnologies on

nonhuman animal life and agency. As Gigliotti sets out in her introduction there are foci throughout on the implications of animal biotechnology for politics and democracy, on novel constructions of human/animal difference and upon understandings of creative freedom. The opening chapter by Steven Best is a critique of the indistinction between biotechnology and capital, as well as the squeezing of democratic participation around animal biotechnologies that has not, to date, been addressed by the field of bioethics. Vincent Guihan's chapter adds to the growing literature that theorises animal biotechnology and domestication generally in terms of Foucault's notion of biopower. Central to his argument is the role of Drawinism in provoking a discourse of species that on the one hand was mobilised by transhumanist projects of eugenic enhancement but on the other *also* by a reverse posthumanist discourse most obviously articulated within late twentieth century narratives of animal ethics. Beth Carruthers offers a wide ranging overview of some of the philosophical baggage that informs contemporary human/animal relations. Her chapter may be situated as part of a growing call for posthuman ontology and ethics. Interestingly, she contradicts Guihan in her assertion that our "current ethical system is rooted in Cartesian dualism" (p.53). Indeed, this is a problem for posthumanist theory in that the dualism it critiques certainly pre-dates the rise of humanism and may be better conceptualised as a particular discursive formation that humanism mobilized from much earlier theological thought.

Gigliotti's chapter kicks off Part II of the volume with an analysis of the ethics of artists working with genetic technologies. She is generally critical of bio-artists such as Eduardo Kac and Oron Catts for their lack of methodological and reflexive distance from capitalist biotechnology. Certainly not against bio-art per se, Gigliotti is suspicious of the more Promethean fantasies of some bio-artists, effectively mimetic of the birthing dreams of biotechnologists. Indeed the crux of concern may be thought of in terms of a pernicious symbiosis whereby the bio-sciences capture the prized discourse of experimental art to coax public acquiescence whilst simultaneously conferring upon bio-artistic practice a sense of the technological avant garde. Of course it would be naive to think bio-artists unaware of this danger and the book segues into a fascinating dialogical chapter between Gigliotti and art historian Steve Baker, entitled 'We Have Always Been Transgenic: A Dialogue'. Whilst the dialogue does not result in comfortable resolution, important questions around the role of art are probed which resonate with the broader debate around the politicisation of animal studies. The title also provides illumination for thinking the potential naturalisation of biotechnology (p.83/84). Fundamentally, the vital ontological creativity of posthumanism, the realisation of the radical (historical) incoherence of the human *escapes* conflation with a simplistic turning of a blind eye to the ethics of bio-capitalist transgenic innovation.

A similar tack, focusing on ontology and hybridity, is taken in the following chapter by Caroline Seck Langill. This brings us to Lynda Birke's chapter in which she wants to question the transgressive claims of bio-artists. To what extent does bio-art counter anthropocentrism? Birke, wearing her biologist hat, also wants to decentre molecular biology from its pretence to speak for all biological knowledge claims. Clearly biology is broad and contested – but bio-artists appear to have disproportionately become enamoured with biotechnology. Indeed art is not alone in this respect. In science and technology studies there is also a similar bias which might actually reinforce a particular hegemony of biological knowledge – what of ecology, ethology and animal welfare science, to name but a few? Finally, Birke questions the claim that the artistic production of new organisms promotes

public engagement with science. She argues that both bio-artists and genetic scientists valorise the technique rather than the outcome. It is this – what actually happens to the animal and the professed point of its use, she argues, that the lay public are most likely to be interested in.

Part II is completed by Taimie Bryant whose chapter is a markedly well written and comprehensive outline of transgenic bio-art, animals and the law. For example she points out that whether transgenic research is defined as ‘science’ or as ‘art’ can be highly relevant to the degree of protection received by a specific animal, and that in collaborative work such definitions are likely to be ambiguous. She underlines how the concept of ‘necessity’ has been an oft deployed justification for scientific research using animals whereby their instrumentalisation is a ‘necessary evil’ in a utilitarian anthropocentrically weighted calculation. Bryant ponders, “It is not clear whether any type of bio-art, including transgenic bio-art, would receive similar presumptive approval as ‘necessary’ to fulfil a socially justified purpose” (p.138). For some this pinpoints a crucial question to ask of bio-artists who use animals: Why use animals when the conceptual labour crucial to a work of art can be successfully achieved by other means? Perhaps we will have to think about applying the 3Rs to art before long? Bryant gives the example of Adam Brandje’s use of animatronic animals (see his hoax web-site: <http://www.genpets.com/index.php>) as an effective use of artificial animals to engage artistically with animal biotechnology, a technique also used with potency by Banksy in his recent ‘Village Pet Store And Charcoal Grill’ (2008).

Part III begins with a chapter by Traci Warkentin that focuses upon Margaret Atwood’s *Oryx and Crake* as a productive bioethical reflection on the prospect of agricultural animal biotechnology. She draws on Atwood’s semi-fictional transgenic animal the pigoon, created as a resource for xenotransplantation, to discuss species boundaries and notions of purity and contamination. Warkentin employs the pigoon to underscore the agency and unpredictability of the transgenic and this, although not explicitly mentioned, also animates debates around the biotechnological ‘uplift’ (again a *semi-fictional* concept) of nonhuman animals to the ‘level of the human’ – arguably about as anthropocentric a notion as is possible. The literary reference point for the subsequent chapter by Susan McHugh is H.G.Wells’ *The Island of Dr. Moreau* (1896). With a keen sense of analysis and incisive writing style McHugh illustrates how the story and its later iterations – including the poorly received 1996 film adaptation starring Marlon Brando as Dr. Moreau – have acted as sites for the representation of anxieties over both scientific experimentality and human/animal boundary making. As she puts it, “Where vivisection worked for Wells and his contemporaries as a scientific mechanism for social dominance, ensuing versions of the Moreau story over the past 100 years have come to position eugenic breeding and, most recently, transgenic splicing as the trope for playing out the central cultural work of ordering species in distinguishing human species being.” (p.185/6)

David Delafenêtre’s chapter on the history of cosmetic surgery applied to dogs in Australasia is a very valid inclusion. Cosmetic surgery is, via the normalising impulses of transhumanism, part of the discursive ecology of biotechnology. Furthermore, as Delafenêtre makes clear, domestication has been aesthetic from its outset. Much of the discussion here revolves around rather protracted attempts to obtain a ban on tail docking which has become institutionalised relatively rapidly as part of various breed sub-cultures. Delafenêtre

concludes by posing the possibility that legislation against tail docking which recognises that the appearance of dogs should not be altered in specific ways could be applicable to proposed bodily alterations to nonhuman animals in the genetic context. The volume finishes strongly with two excellent chapters. First is Kely McKinnon's chapter entitled 'Adoration of the Mystic Lamb'. This draws upon the work of Gregory Bateson to read animal biotechnology in terms of an historical trajectory of de-territorialization that applies across species to sheep and humans alike. McKinnon deftly weaves Dolly the sheep into the narrative, herself a Blackface sheep, described as 'hefted' to mean both hardiness and with a strong sense of territory. Later McKinnon writes, "Like the Blackface sheep, we are all thrice hefted, intimately immersed in environment, social relations and our own physicality and subjectivity" (p.231). For McKinnon it is precisely this shared ontology that is excluded by a transition to animal biotechnology. The final chapter, by Carol Freeman, addresses the biotechnological promissory around specie conservation and extinction reversal. It's an impressive and multi-faceted chapter. For example Freeman shows how attempts to 'bring back' the Thylacine from extinction implicitly evoke cultural meanings informed by the film *Jurassic Park*. Whilst Freeman is rightly not wholly dismissive of the contribution genetic science can and does make to conservation, she effectively calls into serious question the ability of such extinction reversal projects to result in viable self-sufficient 'rewilded' populations. She leaves us wondering if they are better seen in anthropocentric terms, as vanity projects of yet more human control.

Leonardo's Choice makes an important contribution to debates over animal biotechnology. When artists are entering the lab, and scientists are collaborating in bio-art, this book satisfies the need to interrogate the meanings of such boundary challenges – around both the dangers of capture and complicity and the promises of critical scientific endeavour. It is an important book for its overall quality of writing, its scope and its appropriate critical stance against anthropocentrism. It is also accessible enough to find its way onto undergraduate reading lists. It could have arguably been improved by a concluding chapter; perhaps as a manifesto for directing future research, and it should have included an index. These quibbles aside, this volume will be a significant reference point for readers from whatever disciplinary or political viewpoint. It deserves to be read widely, especially, one would hope, by animal genetics scientists themselves.

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