BOOK REVIEWS


Reviewed by Chris Washington

Richard Twine’s *Animals as Biotechnology*, situated at the nexus of a vast array of academic discourses and practices—biology, genomics, genetics, environmental studies, agriculture, medicine, animals studies, bioethics, and global law—seeks to install a reflexive posthumanism into the field of sociology, thus extending the range of the discipline’s focus beyond human life (Twine himself is a sociologist). That, at least, is a fair enough overview of Twine’s amazingly complex and comprehensive book. To accomplish this, Twine focuses on biotechnology (put broadly, the genetic manipulation of life) and its applications in animal agriculture. He contends that posthumanist discourses pressure the ethical issues involved in scientific disciplines but nevertheless have little policy influence outside of the confines of whatever specialized academic field to which they happen to belong. Scientific biotechnological endeavors, on the other hand, tend to have a great deal of political influence without attending to the ethical implications of the work. For Twine, this means the humanities, while doing valuable work, need to actively engage in hard scientific debates. His solution is that we need to develop the maturating field of critical animal studies (Twine uses “reflexive posthumanism” and “critical animal studies” interchangeably) as a critique of global biotechnological advancements. Twine’s book, in other words, not only intervenes in the busy academic intersections of the humanities and the sciences but also undertakes no less

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than to install a supple ethical awareness within scientific disciplines that have tangible biopolitical effects on the world of humans and animals.

Twine divides his book into three parts and he gives over much of the first part to a historical survey of the ethical and scientific discourses that relate to the human manipulation of animals in new biotechnological scientific practices. One of the problems with addressing the ethics of biotechnological pursuits, as Twine sees it, is not simply that scientists often shield themselves from ethical questions, but that the humanities relegate ethics to a “narrow philosophical discourse” (19). Part of Twine’s approach in addressing biotechnological fields, then, concerns devising a reflexive (“reflexive” is maybe the key word throughout Twine’s book) bioethics that includes all forms of life and is recognized as more than a subfield of philosophy: “Critical bioethics aims to foreground interdisciplinarity, sociopolitical dimensions and reflexivity to what becomes bioethical subject matter” (49). Nor is this, as Twine puts it, a narrow “parochial ethical debate” but rather one that has “ramifications for pressing interconnected contemporary debates over climate change and food security” (21). As Twine sees it, as long as ethics remains as docile as its current permutations entail, it will continue to contribute to an unsustainable future because climate change is in large part attributable to the mass-scale farming of animals (which is not to say that Twine is being anthropocentric here; ethics must account, too, for human violence to animals because animals are sentient creatures).

Creating this new bioethics requires undoing fundamental anthropocentric tenets that have long dominated all manner of Western thinking on human-animal relations. Twine concurs with well-known scholars like Carol Adams and Cary Wolfe that ethics centers on the presupposition of an ontological dualism that posits humans as naturally sovereign over animal life. Whether in the humanities or the sciences, Twine argues that ethics fails to critique the “liberal humanist subject” that “emerged” from the Enlightenment “as a dominant model” of the human as “rational, autonomous and disembodied” (29). Subjectivity,
grounded on this model, works by excluding any perceived non-human other—“the feminine, animality, emotionality, madness, the racialized other, abject and classed bodies” (30). With such an unquestioned model at its heart, Twine, again following earlier thinkers, suggests that the animal ethics of folks like Tom Regan and Peter Singer are doomed to reinforce the dominant human-animal dualism that fuels human violence towards animals. In contradistinction, a reflexive posthumanism seeks to dislodge this human-animal ontological dualism (what Twine calls “anthropocentric ontology”) and reorient ethics toward an idea of subjectivity as historically and biologically numinous and fluid (indeed, Twine cites research about the indeterminism of species distinctions at the biological level). If the human subject remains not yet fully formed, then its current assumption of a fully-realized dominance must be reevaluated.

Because this anthropocentric ontology remains tenaciously inscribed within any discussion of ethical relations between humans and animals, it is no surprise that Twine finds it stubbornly pervading all aspects of medical and agricultural experimentation on animals. He notes a growing porosity between medicine and agriculture concerning the uses of biotechnology to reengineer animals for human consumption as not just food, but food specifically instrumentalized for nutritional value. As Twine shows, in nutrigenomics there is an increasing interest in capitalizing on animals as livestock who yield money but also serve as “functional food products” (58), that is, as food bioengineered for optimal human nutrition. This section of the book, entitled “Capitalizing on Animals,” examines how “the biotechnological capitalization of animals requires a favourable [sic] regulatory environment, a reductive view of the animal as genetic knowledge and an association with a broader persuasive economic vision around the promise of molecular science” (61). This vision of the future of animal biotechnology constitutes what Twine calls the master narratives multinational corporations intend to use to foster growth in the animal agricultural industry. In the U.S. these master narratives have been largely accepted as evidenced by the fact that
the commercialization of genetically modified and cloned animals continues, whereas the UK has created “genetics knowledge parks” that aid in the replication of these master narratives by funding research on the ethical and social issues of genetics in addition to the typical scientific experiments on animals (66). As Twine notes, this master narrative explicitly ties animal genomics to commercial agriculture and its capitalist aims. Regardless of the “clouding” of medicine and agriculture in the development of how to classify animal genomics that has occurred, the overall point of the capitalist forces promoting these narratives, as Twine reads them, is to eschew ethical questions about genetic modification from regulatory procedures (78). And despite that U.S. and UK animal welfare laws contain exceptions for experimentation on certain animals in laboratories, the fact that such laws contain none for farmed animals seems like culpable evidence that animal genomics and other biotechnological procedures will be considered agricultural in U.S. and UK regulatory schemes and, ironically, thereby escape regulation.

What makes these master narratives, and genetic modification technology in general, different than previous historical narratives and methods of animal production is that it grants to humans “a novel authorial power over other animals” (70). It would be impossible to do justice to the varied scientific practices and discourses Twine interrogates under the broad banner of animal agricultural biotechnology but his primary focus is on molecular breeding which includes “cloning, genetic modification, genomic selection and marker-assisted selection” (107). Each of these phenomena is fairly recent; however, the novelty consists in more than the techniques’ contemporaneity: they accomplish human control of animals at the molecular level and thus enact a new form of what Michel Foucault calls “biopower,” the ability of powerful institutional forces (the State, corporations) to create, arrange, and transform life at the bodily level.

The final third of the book, “Capturing Sustainability in the Genome,” and for my money the most immediate for animal life, demonstrates how global corporations seek to
leverage biopower through genetic modification technologies. Biotechnology is being positioned as “ethical biocapital,” which is to say that scientists and savvy agribusinesses are responding to public concerns about the nutritional value of eating animals, the sustainability of large-scale controlled animal feeding operations (CAFO’s), and animal welfare concerns, by using genomics to create animal bodies in ways that appear to nullify these concerns. As Twine puts it, external critiques of animal agriculture are being “internalized into the very materiality of the animal body.” In other words, by tweaking their methods, geneticists seek to produce animals who eradicate charges that eating meat is unhealthy or that the mass production of animals contributes overwhelmingly to global climate change. By implementing biotechnologies, corporations want to make global meat consumption appear sustainable. The use of biotechnology therefore extends beyond the parameters of simply contributing to the mass slaughter of animals in global agribusiness; it actually allows for a complete physical refashioning of individual animals at a biological level as crucial instruments in fashioning hegemonic illusions of sustainable consumption practices.

What with America’s food guru, Michael Pollan, legitimating continued meat eating as somehow sustainable in the face of all contrary evidence, and a nascent retrenchment on the left regarding veganism in ethical feel-good books and animal holocaust apologias, Twine’s *Animals as Biotechnology* offers a much-needed interdisciplinary intervention on all of these issues.² Impressively erudite and impeccably researched, the book marks a major contribution to debates on animal biotechnology, climate change, and critical animal studies. The book triumphantly addresses the critique of the humanities as irrelevant and isolated from practical matters by attending to the hard scientific issues so many scholars in the humanities lack the training to properly engage. Its success is double, then, because more

than offering a critique of scientific practices from a posthumanist perspective, for scientists in these fields the book lucidly presents the full scope of the ethical issues that surround their work—and, perhaps more importantly, offers an ethical framework for the future. “Biotechnology,” Twine writes, “is figured by its advocates potentially as the creative capitalist answer to previously assumed limits to growth, a new frontier of capitalization” (100). The response, as Twine persuasively argues, is to switch to an actually sustainable vegan agricultural system that couples itself to a reflexive critical bioethics and refuses to endorse capitalist profit-enhancement as an intuitively natural goal of the human condition.