

**CARRIE FRIESE, *CLONING WILD LIFE. ZOOS, CAPTIVITY, AND THE FUTURE OF ENDANGERED ANIMALS*. NEW YORK AND LONDON: NYU PRESS, 2013**

Marianna Szczygielska

**I**n February 2014 the decision of the Copenhagen Zoo's authorities to put one of its giraffes to death caused outrage worldwide. What proved to be particularly shocking for wider public was the reason behind killing a young, perfectly healthy zoo animal: Marius (an informal name given to the giraffe by the zoo keepers) was considered *genetically unsuitable* for further breeding. Despite desperate efforts to save him (including several adoption offers from other institutions), Marius was put down with a shot in the head, and then publically dissected in front of an audience—a practice believed to be fulfilling the zoo's educational mission. In an official statement, the Zoo's Scientific Director, Bengt Holst, explained that the institution is part of the international breeding program that manages a healthy captive population of giraffes in Europe: "As this giraffe's genes are well represented in the breeding programme and as there is no place for the giraffe in the Zoo's giraffe herd the European Breeding Programme for Giraffes has agreed that Copenhagen Zoo euthanize the giraffe."<sup>1</sup> In the midst of the heated debates on controversial zoo practices in nature conservation, Carrie Friese's book *Cloning Wild Life: Zoos, Captivity, and the Future of Endangered Animals* not only sheds more light on this gruesome side of wildlife management, but more importantly provides a wider context to understand the zoo scientists' strong investment in the genetic "animal capital" (Shukin 1995).

It might come as a surprise that in order to research most recent developments in global biotechnology, and more specifically the scientific practice of interspecies nuclear transfer (cloning), Friese has chosen to look at the institution of the zoological garden. Why not focus on bioengineering in highly capitalized areas like medicine or agriculture? The author rather draws crucial links between these fields by showing how micro-level practices travel between them, for example: how kinship charts and studbooks move from livestock to wildlife management, and how medical companies apply their know-how to endangered species cloning. Moreover, when it comes to matters of reproduction of species, along with the ideas of nature, national identity, capital, family, colonialism and other social orders, zoos share a long and troubling history of these bio- and necro-political practices. As I argue elsewhere, "zoo nonhuman animals have been bred in captivity for generations, their genetic material is an object of international trade, and most recently they have become subjects of genetic engineering – all of this makes them fall into the definition of transbiological

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<sup>1</sup> Why Does Copenhagen Zoo Euthanize a Giraffe?," *Copenhagen Zoo*, 02 2014

organisms that are ‘made to be born’” (Szczygielska 2013, 101). Combining sociological methodology with science and technology studies, Friese’s study delves into socio-biological fabric interweaving in these biotechnological practices, and carefully uncovers the multileveled controversies and tensions within the zoo world and nature conservation that usually remain reserved for experts and insiders.

The overarching argument of *Cloning Wild Life* is that through the practices of cloning endangered species, the lives of human and nonhuman animals become deeply entangled or even reshaped according to biopolitically inflected redefinitions of what constitutes a *species*. Throughout the book Friese aims at showing how “animal reproduction is interlinked with social forms that are central to human social life, particularly capital, class, and the state” (Friese 2013, ). She interviewed twenty-one reproductive scientists, zoo geneticists, members of and advisors to Taxonomic Advisory Group and Species Survival Plans, and field conservationists. This perfect example of capturing “science in action” (Latour 1987) is a valuable source material for anyone doing research on the contemporary zoological gardens. The author situates the turn towards reproductive biotechnology in zoological wildlife management in a historical context, collapsing such events as the birth of Louise Brown (the first human born from in vitro fertilization), the ratification of the Endangered Species Act, and the Convention on International Trade of Endangered Species of Wild Fauna and Flora in late 1970s (Friese 2013, 60-61). However, she only briefly acknowledges the simultaneous processes of decolonization, which directly influenced the drafting of mentioned international trade documents and therefore necessitated securing different sources of specimens for zoological exhibitions in the global North and consequently the development of better breeding techniques in captivity.

In subsequent chapters the author follows three scientific projects on cloning banteng, the African wildcat, gaur and sand cat in the U.S., and the amphibian-cloning project in the U.K. She traces the transfer of particular techniques in fields such as agriculture, nature conservation, biomedicine, and human-assisted reproduction technologies. Her argument is built on the conceptual framework of “transposition,” which she developed with Adele Clark as a tool “useful for analytically highlighting the work involved in moving knowledge, techniques and bodies to different places and contexts, thereby creating dynamic relations among different things, species, organizations and spaces” (Friese and Clarke 2012, 4). Friese eloquently guides her readers through the alleys of San Diego and London zoos, various research facilities, biotech laboratories, scientific conference rooms and corporate corridors of the Frozen Zoo™ to expose the complexities of techno-scientific practices of cloning endangered species. She also convincingly demonstrates the ambiguous status of cloned endangered animals, which are technically hybrids between wild species and domestic surrogates used for cell nuclear transfer. They embody a “genetic value” for humans only under certain conditions. She raises important questions about the classificatory status of cloned animals, and sketches out a hierarchical taxonomy,

where mitochondrial DNA from a domestic egg donor might disqualify a clone as an endangered species. She argues that “purifying the genetic basis of endangered species is highly significant in this particular situation, and is in turn heavily patrolled” (Friese 2013, 116).

I find it crucial that in exposing the intensive traffic in animal bodies, bodily parts, knowledge, technologies, and infrastructures, Friese pays careful attention to what Jasbir K. Puar and Julie Livingston call “moments of taxonomic tension” (Livingston and Puar 2011) between ascribed categories of “domestic” and “wild”, “plentiful” and “endangered”, “sacrifice-able” and “protected.” Most importantly this form of technologically mediated asexual reproduction still requires redistribution of reproductive labour onto domestic animals whose bodies, or their parts, are “contracted out,” becoming the very infrastructure of cloning technology itself. Although Friese promises to focus on the human-animal interface of these practices, I feel her analysis is disengaged with far-reaching interspecies parallels between humans and animals in outsourcing reproductive labour. If, as she suggests, the underlying reason for cloning endangered species is to practically and ethically validate interspecies nuclear transfer for wider commercial use, then the free flow of reproductive techniques between biomedicine and animal transbiology carries similar classificatory ideas, which, fueled by global economic inequalities, deem some human bodies “sacrifice-able,” “plentiful” and “more affordable” for reproductive labour. In this way the division of reproductive labour is prone to be “transposed” back and forth between human and nonhuman actors and to generate classificatory tensions that easily translate into biopolitical categories of power like “species,” “race,” and “class.” All of these categories have been, and continue to be, a crucial part of the zoological spectacle of exhibiting nature.

Given the zoos’ investment in maximizing genetic diversity of captive populations and its devotion to the spectacular side of animal display, one might expect cloned animals to be highly visible within the zoological exhibition. On the contrary, Friese describes how she experienced some difficulties in identifying a cloned banteng in San Diego Zoo, because its “non-natural” origin has been consciously downplayed. Her argument is that the primary goal of endangered species cloning projects is not to create a spectacle, but rather to prove that interspecies nuclear transfer works. In this way she counters Sarah Franklin’s take on transbiology as something more than “proof of principle,” not just a mere demonstration of technology (Franklin 2007). More importantly, Friese argues that the special status of endangered animals ensures public support for stem cell research and therapeutic cloning in general, by directing public attention away from apocalyptic scenarios of human cloning, towards promissory futures of saving rare species from extinction. She points out that “media spectacles regarding technoscientific making of zoo animals is meant to bring in funding for the zoo, generating a new source of capital for zoological parks to pursue their scientific identity” (Friese 2013, 66). Friese then contrasts this “spectacular science” approach with what she calls “basic science.” Whereas the first one invests

in cloning exotic, furry and marketable mammals like the giant pandas, the latter applies interspecies nuclear transfer to less spectacular animals like frogs in order to create model systems for better understanding basic biological processes. Even though throughout her discussion of novel biotechnologies Friese is careful about falling into neither technophobia nor technophilia, she seems to privilege the basic science approach.

To sum up, Friese's book convincingly shows how the contemporary zoo no longer serves as a simple collection, a menagerie of species frozen in their taxonomic moments, but rather becomes a space of intense chronopolitics materialized in Species Survival Plans (SSPs) or the Frozen Zoo™ designed to alleviate the trauma of extinction and, with the tools of modern technoscience, to secure "a better future." Her intricate analysis of technoscientific modes of reproduction prompts the following questions: What kinds of futures are imagined with biodiversity as an ultimate goal of zoological gardens' mission? What kinds of longing and grief are involved in human desire to rescue certain species from extinction? Can we grieve the death of Marius, the giraffe from the Copenhagen Zoo, in the same way we would grieve the last extinct sandcat or banteng? In her analysis of "grievable life" Judith Butler urges readers "... to reconceive life itself as a set of largely unwilling interdependencies, even systemic relations, which imply that the 'ontology' of the human is not separable from the 'ontology' of the animal" (Butler 2009, 76-77). By witnessing cloning experiments in action and recognizing cloned animals as important witnesses to the myriad of social and biological relations that enabled their own existence, Friese skilfully unwinds the human-animal ontological choreography of these scientific practices. *Cloning Wild Life* delivers an novel perspective on zoological parks, reproductive technologies, and the remaking of nature, especially valuable for anyone interested in Science and Technology Studies, posthumanism, nature conservation, social studies of reproduction, and animal studies.

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