Body Politics 12 (2024), Heft 16, S. 47-83

Making Kin in the Moreaucene. How the History of the Body May Trouble Animal Studies and Posthumanist Speculations about Future Bodies

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English abstract: This paper problematizes the idea of kinship between humans and other animals. It will deal, above all, with Donna Haraway's manifold reflections on making kin with other animals and so-called human-animal symbionts, and ask how the history of the body may trouble animal studies and posthumanist speculations about future bodies – by decentering not only humans but other animals as well. Therefore, I will critically discuss her latest book "Staying with the Trouble. Making kin in the Chthulucene" in confrontation with Herbert George Wells's science fiction "The Island of Doctor Moreau" and the concept of – what I would like to call – the Moreaucene.

The question of future bodies concerns not only the bodies of humans, but also the bodies of animals or, better, other animals.[1] Most animals that most humans usually and consciously encounter or interact with today have been bodily modified by many humans in many ways. These animals were once future bodies, thus, they should not lose sight of the question and the history of future bodies – and the history of the body may deal not only with humans but with other animals as well.[2]

In this context, it seems important to me that, in the past twenty years, an interdisciplinary field of research has emerged within the social sciences, which is dedicated to other animals in their multiple interweavements with humans, also with regard to their bodies: the human-animal studies or, just, animal studies.[3] Animal studies examine humans and other animals in their various relations, thereby, they understand human-animal relationships as an important arena of social order and as an underestimated driver of social change, from ancient

1 For their time and help I would like to thank Philipp Engel, Maren Möhring, Florian Schleking, Monja Schottstädt, Heiko Stoff and Jan Plamper – who died far too young.

2 Cf. for example Maren Möhring (ed.), Tierkörper = Body Politics 2 (2014) No. 4.

3 Cf. for instance Linda Kalof/Brigitte Resl (eds), A cultural history of animals, 6 vols, Oxford 2007; Garry Marvin/Susan McHugh (eds), Routledge handbook of human-animal studies, New York 2014; Linda Kalof (ed.), The Oxford handbook of animal studies, Oxford 2017; Hilda Kean/Philip Howell (eds), The Routledge companion to animal-human history, New York 2018; Mieke Roscher et al. (eds), Handbook of historical animal studies, Berlin 2021.

times to modern societies, not only but – so far – especially for Western Europe and North America. While most studies in this field initially focused on the intellectual background of different representations of humans and animals, many studies are now increasingly devoted to their social production and social productivity in everyday practices.[4]

However, this field is still very heterogeneous. What unites it is not least that many researchers within animal studies are thinking of humans and other animals as evolutionary relatives, as living beings which come into existence and act in kinship with one another – above all with regard to mammals. What makes humans and other animals relatives in this sense is their bodies, especially in respect to their – differently framed – bodily conditions, humans and other animals appear to be quite similar in many ways.

Within the social sciences this idea of kinship not only drives much research within animal studies, it also drives much research in the transdisciplinary field of posthumanist theories.[5] Posthumanist theories is a kind of umbrella term which tried, in the past twenty years, to bundle partly quite different reflections, in particular those of Rosi Braidotti, Cary Wolfe, Karen Barad or Bruno Latour and Donna Haraway. What connects most of these reflections – and what links them to animal studies – is their fundamental critique of prevailing anthropocentrism. They aim to deconstruct an apparently natural register of universal human qualities and common stereotypes about human exceptionality and sovereignty, rationality or modern individuality.[6]

4 Cf. for example Philip Howell, The triumph of animal history?, in: Kean/Howell (eds), Companion, pp. 521-541; Susan Pearson/Mary Weismantel, Does "the animal" exist? Toward a theory of social life with animals, in: Dorothee Brantz (ed.), Beastly natures. Animals, humans, and the study of history, Charlottesville 2010, pp. 17-37; Pascal Eitler/Maren Möhring, Eine Tiergeschichte der Moderne – theoretische Perspektiven, in: Traverse. Zeitschrift für Geschichte 15 (2008), pp. 92-106; Aline Steinbrecher, "They do something". Ein praxeologischer Blick auf Hunde in der Vormoderne, in: Friederike Elias et al. (eds), Praxeologie. Beiträge zur interdisziplinären Reichweite praxistheoretischer Ansätze, Berlin 2014, pp. 29-52. See also Christopher Philo/Christopher Wilbert (eds), Animal spaces, beastly places. New geographies of human-animal relations, London 2000.

5 Cf. for instance Stefan Herbrechter, Posthumanismus. Eine kritische Einführung, Darmstadt 2012; Pramod Nayar, Posthumanism, Cambridge 2014; Janina Loh, Trans- und Posthumanismus zur Einführung, Hamburg 2018; Eva D. Sampanikou/Jan Stasienko (eds), Posthuman studies reader. Core readings on transhumanism, posthumanism and metahumanism, Basel 2021; Stefan Herbrechter et al. (eds), Palgrave handbook of critical posthumanism, London 2022.

6 Cf. in particular Rosi Braidotti, The posthuman, Cambridge 2013; Cary Wolfe, What is posthumanism?, Minneapolis 2010; Karen Barad, Meeting the universe halfway. Quantum physics and the entanglement of matter and meaning, Durham 2007; Bruno Latour, We have never been modern, Cambridge 1993.

For this reason, first, other beings – as relevant potential or actual actors – come into the focus in addition to humans, especially other animals, but plants or things and many other beings as well; and in this regard, second, relations, interactions and diversity receive much more attention than origins, intentions or personality. Against this background, posthumanist theories give a lot of room to corresponding speculations about past, present or future societies, assemblages or collectives and about past, present or future bodies too.[7] Within these posthumanist speculations, the idea of kinship between humans and other animals often takes on the character of an invitation: Humans are not only related to other animals, they should also become more and more related to them – for the assumed sake of the humans and other animals in question. Within recent debates, especially Haraway's manifold reflections about future bodies and making kin with other animals are gaining in attention.[8]

This paper aims to problematize this idea of kinship[9] between humans and other animals from a body history perspective.[10] In this regard, it will deal, above all, with Haraway's latest book "Staying with the Trouble. Making Kin in the Chthulucene". I will try to summarize her alternative project of making kin with other animals not least with the help of bodily modifications through genetic engineering. And I will try to demonstrate in how far this idea of kinship is deeply embedded in the hegemonic position that humans very often take towards other animals – in particular in respect to the long history of animal experiments.[11] In this context, this paper questions Haraway's alternative project of making kin and confronts her concept of the Chthulucene with the concept of the Moreaucene. In doing so, I will ask how the history of the

7 Cf. for example Levi Bryant et al. (eds), The speculative turn. Continental materialism and realism, Melbourne 2011.

8 Cf. in particular Donna Haraway, Staying with the trouble. Making kin in the Chthulucene, Durham 2016.

9 I don't aim to empirically investigate the history of this idea, for example, from Carl von Linné and Charles Darwin or Lewis Henry Morgan onward. Cf. for instance Thomas Trautmann, Lewis Henry Morgan and the invention of kinship, Berkeley 1987.

10 On the body history perspective this paper is based on see also Pascal Eitler, Animal history as body history. Four suggestions from a genealogical perspective, in: Body Politics 2 (2014), pp. 259-274. On the history of the history of the body – in the vein of Michel Foucault and Judith Butler or Pierre Bourdieu – cf. for example Heiko Stoff, Diskurse und Erfahrung. Ein Rückblick auf die Körpergeschichte der neunziger Jahre, in: 1999. Zeitschrift für Sozialgeschichte des 20. und 21. Jahrhunderts 14 (1999), pp. 142-160.

11 In this regard, as will become clearer, this paper also aims to problematize, for instance, Zipporah Weisberg's exaggerated critique of Donna Haraway. Cf. in particular Zipporah Weisberg, The broken promises of monsters. Haraway, animals and the humanist legacy, in: Journal for Critical Animal Studies 7 (2009), pp. 22-62.

body may trouble animal studies and posthumanist speculations about future bodies – by decentering not only humans but other animals as well.

Haraway has distanced herself from the term of posthumanist for some time, not least due to its often perceived closeness to the term of transhumanist, yet, her distancing is very brief not only in "Staying with the Trouble".[12] I have the impression, it is of more strategic than substantial form, thus, I understand at least some of her manifold reflections as posthumanist speculations.

1. Future Bodies

Haraway's latest book "Staying with the Trouble" from 2016 picks up many of the questions and answers from her previous book "When Species Meet" from 2008. But this study does much more than only perpetuate older reflections. It is a political response to the global crisis[13] into which humans – especially from Western Europe and North America – have plunged not only themselves but also many other beings on planet earth. Haraway refuses to refer to the concept of the Anthropocene in this context, which is currently much debated to frame this global crisis. Her study deals not with the Anthropocene but with the "beings of the earth" – the "chthonic ones" – in the face of growing populations and climate changes.[14] Haraway is concerned about the endangered life and possible survival of very different beings, but although she also speaks about plants or bacteria, humans and other animals are clearly at the center of her interest at this point.

At the very heart of this global crisis and the climate changes that seem to follow growing populations, Haraway sees the prevailing idea of kinship based on biological parenthood, linear descent and traditional family role models. In this respect, it becomes clear why her study is devoted to an alternative project of making kin with other animals: "Make kin not babies" is the motto of this project.[15] And it also becomes clear why Haraway rejects the concept of the Anthropocene at this point: There is too much anthropocentrism in it.[16] Because it is not anthropos

12 Cf. for example Haraway, Staying, pp. 55, 97 and 101f.; Donna Haraway, When species meet, Minneapolis 2007, pp. 17-19.

13 At this point, I have to ignore the question of whether this crisis is global or planetary.

14 Haraway, Staying, pp. 2 and 208-210.

15 Ibid., p. 6.

16 For the history of this concept cf. in particular Will Steffen/Paul J. Crutzen/John R. McNeill, The Anthropocene. Are humans now overwhelming the great forces of nature?, in: Ambio 36 (2007), pp. 614-621; John R. McNeill, Great acceleration. An

that has caused this global crisis, but very different humans to a very different degree, in direct confrontation or in direct cooperation with many other animals and many other beings. For this reason, Haraway opposes the concept of the Anthropocene with the concept of – what she calls – the Chthulucene. Haraway explains that Chthulucene is a compound word from the ancient Greek khthôn meaning "bound to the earth" and kainos meaning "a time of beginning".[17]

This paper is not the place for an extensive discussion of Haraway's fundamental critique of the concept of the Anthropocene.[18] However, from a body history perspective, it seems important to me that unlike in the case of the concept of the Anthropocene, the concept of the Chthulucene does not assume absolute dominance of humans per se, but seriously includes, above all, other animals – as relevant potential or actual actors – in the analysis. Haraway develops her concept of the Chthulucene as a time and space of making kin with other animals – of becoming with, and learning from, each other – in order to sharpen the view not only for the current dangers of, but also for a political response to, the global crisis. Therefore, she opposes the prevailing anthropocentrism with – what she calls – a multispecies compostism that stresses the countless interweavements of humans and other animals with each other, with many other beings and with planet earth as a complex ecological system – not least as the necessary compost for future bodies.[19] Haraway describes her manifold reflections also as a "tentacular thinking"[20] and in this sense, in "Staying with the Trouble" she not only turns to social sciences and life sciences, but also, much more than in "When Species Meet", to science fiction and pop art, indigenous rituals and ancient myths from all parts of the world, for example to the famous stories about the goddess Gaia or the gorgon Medusa.

As Haraway notices, the concept of the Chthulucene is not unproblematic in this regard, because of its historical semantics which roots in ancient myths and their understanding of "sex" and "race", "honor" or "fame".[21] It is also not unproblematic, because of its linguistic proximity

environmental history of the Anthropocene since 1945, Cambridge 2016; Dipesh Chakrabarty, The climate of history in a planetary age, Chicago 2021. See also Christophe Bonneuil/Jean Baptiste-Fressoz, The shock of the Anthropocene. The earth, history and us, London 2016; Simon L. Lewis/Mark Maslin, The human planet. How we created the Anthropocene, New Haven 2018; Eva Horn/Hannes Bergthaller, The Anthropocene. Key issues for the humanities, New York 2020.

17 Haraway, Staying, p. 2.
18 Ibid., pp. 30ff. and 99ff.
19 Ibid., pp. 97-102.
20 Ibid., pp. 30ff.
21 Cf. for example ibid., p. 101.

to "The Call of Cthulhu", a fantasy story and horror fiction from Howard Phillips Lovecraft from 1928.[22] Therefore, Haraway distinguishes the Chthulucene linguistically from Cthulhu – some kind of cruel, cosmic, chimerical monster or god. And in this regard, her multispecies compostism reads as a radical alternative to his chauvinistic racism.[23] However, in both cases it is transgression or intermixture and migration that create ambiguity and irritation or trouble, a trouble that Haraway wants to stay in and that Lovecraft wants to get rid of. In his case it is for example the connection of "white" people and "black" people or humans and amphibians.

Especially at the end of her study, Haraway describes what it could mean that humans make kin with other animals and illustrates how far the trouble could go in her case. At this point, she not only questions the seemingly clear border between humans and animals, she also invites humans to cross or, better, transgress it. Thus, her study is expressly no longer just about past or present bodies, it also deals with posthumanist speculations about future bodies. Within the framework[24] of a science fiction, Haraway describes five generations of so-called human-animal symbionts, all named Camille, in a settlement of compostists in North America supposedly founded in 2020. This science fiction spans 400 years.[25]

Camille's story begins with the first Camille being implanted with genetic material from a North American monarch butterfly before birth in 2025. For this reason, the first Camille adopts the changing colors and skin patterns of a monarch butterfly and its special capacity to digest milkweed. A few decades later, in 2100, the second Camille is implanted with other genetic material from a monarch butterfly during puberty – this time consciously and voluntarily. As a result, the second Camille develops a kind of feelers in order to anticipate and appreciate the

22 Cf. in particular Howard Phillips Lovecraft, The call of Cthulhu and other weird stories, London 1999 (orig. 1928). See also David Simmons (ed.), New critical essays on H. P. Lovecraft, New York 2013; Antonio Alcala Gonzalez et al. (eds), Lovecraft in the 21st century. Dead, but still dreaming, New York 2021.

23 Haraway, Staying, pp. 101, 169 and 173f. Cthulhu has many tentacles, but it has nothing to do with "tentacular thinking". Misleading in this regard for example: Patricia MacCormack, The ahuman manifesto. Activism for the end of the Anthropocene, London 2020, p. 115.

24 On the role of science fiction for animal studies and posthumanist speculations cf. for example Joan Gordon, Animal studies, in: Mark Bould et al. (eds), The Routledge companion to science fiction, New York 2009, pp. 331-340; Lisa Yaszek/Jason W. Ellis, Science fiction, in: Bruce Clarke/Manuela Rossini (eds), The Cambridge companion to literature and the posthuman, Cambridge 2017, pp. 71-83. See also Sherryl Vint, Animal alterity. Science fiction and the question of the animal, Liverpool 2010.

25 Haraway, Staying, pp. 144ff.

sensations or, better, the feelings of a monarch butterfly.[26] In this context, Haraway speaks of bodily modifications through genetic engineering. The following three Camille don‘t experience any further bodily modifications through genetic engineering, but they spend a lot of time with caring for, and living with, the monarch butterflies and the humans with whom the monarch butterflies live and with whom they share not only ecological systems and regional conditions but also ancient myths and indigenous rituals.[27] At the end of Camille's story in 2425 one billion humans, a third of all humans, are so-called human-animal symbionts.[28]

Not exclusively, but especially with the help of genetic engineering, Haraway – trained as a biologist – tries to overcome the prevailing idea of kinship based on biological parenthood, linear descend and tradetional family role models. She aims, I would like to argue, at political transformations through bodily modifications in order to remodel human-animal relationships. Haraway promotes fundamental changes within human-animal relationships, she wants, as will become clearer, to slowly improve and supposedly optimize the existence or, better, co-existence of humans and other animals. And she tries to challenge the prevailing idea of kinship further by making Camille's so-called symbiont not a mammal, but an insect.[29]

Even if "making kin" means a lot more to Haraway than bodily modifications through genetic engineering and she aims at "making kind"[30] in a much broader sense, it seems to me that she does not accidentally put this science fiction at the end of her study to bundle most of her previous reflections narratively and sharpen them creatively. Therefore, this paper deals primarily with Camille’s story, it is not the place to adequately consider Haraway‘s manifold reflections in all their breadth.[31]

2. Staying with the Double

In the following, I try to critically discuss the concept of the Chthulucene and Haraway‘s alternative project of making kin with other animals from a body history perspective. In this respect, it is helpful to read her latest book always in the context of her previous book "When Species

26 Ibid., pp. 152ff.
27 Cf. in particular ibid., pp. 154ff.
28 Ibid., p. 166.
29 Nevertheless, the motif of the butterfly seems almost stereotyped in this context.
30 Haraway, Staying, p. 103.
31 I will withhold most of my sympathies and emphasize most of my doubts.

Meet", which has quickly become a central resource in animal studies in general and animal history in particular.[32] "When Species Meet" deals primarily with current debates and scientific facts within the social sciences and life sciences. In doing so, Haraway problematizes the seemingly clear border between humans and animals and instead reconstructs their co-existence and co-evolution or, better, co-history.[33] In "Staying with the Trouble", I have the impression, she gives much more room to science fiction – but this does not mean that her manifold reflections lose any of their value. In this sense, with regard to Camille's story, I'm absolutely not interested in somehow playing off scientific facts against science fiction, I'm only interested in questioning a special aspect or certain kind of posthumanist speculations – with "generous suspicions".[34]

While Haraway bases most of her manifold reflections in "Staying with the Trouble" on empirical observations and concrete examples of transformative practices, in Camille's story, this is a crucial point, she focuses much more on transformed actors. At first glance, with regard to so-called human-animal symbionts and political transformations through bodily modifications, she seems to argue consequently materialistic at this point, like a "thoroughgoing materialist"[35] and seemingly very similar to her much older "Cyborg Manifesto".[36] But I have the impression that the "Cyborg Manifesto" insists much more on the point that bodies are constantly being transformed – with or without technical improvements – and that borders are permanently being transgressed, in this case the seemingly clear border between nature and culture. Also in her "Companion Species Manifesto" or in "When Species Meet" Haraway moves above all on this level of, I would like to say, everyday practices.[37]

The "Cyborg Manifesto" was of massive importance for the history of the body – in the vein of Michel Foucault and Judith Butler[38] or Pierre

32 Cf. for example Chris Pearson, History and animal agencies, in: Kalof (ed.), Handbook, pp. 240-257; Roland Borgards, Introduction. Cultural and literary animal studies, in: Journal of Literary Theory 9 (2015), pp. 155-160; Eitler/Möhring, Tiergeschichte, pp. 92-95; Steinbrecher, "They do something", pp. 30-33.

33 Cf. for instance Haraway, When species, pp. 27, 63 and 220. See also Donna Haraway, The companion species manifesto. Dogs, people, and significant otherness, Chicago 2015, p. 12.

34 This is what Haraway recommends to her readers. Haraway, Staying, p. 136.

35 Haraway, Staying, p. 42.

36 Cf. in particular Donna Haraway, Cyborg manifesto, in: Donna Haraway, Simians, cyborgs and women. The reinvention of nature, New York 1991, pp. 149-182.

37 Cf. for example Haraway, When Species, pp. 205-248.

38 This paper is not the place to adequately consider Barad's fundamental critique of Foucault and Butler, but it seems to me not fruitful to criticize researchers for not

Bourdieu.[39] Camille's story points in a different direction – for it has remarkable effects whether we focus primarily on everyday practices or on certain actors.[40] Wouldn't it be more consequently materialistic, to say it with and against Haraway, to rely on the ongoing repetition of unstable materializations in everyday practices than on the alleged stability and extraordinary form of bodily modifications through genetic engineering for certain actors?

Haraway tries to recognize one in the other, but from the body history perspective this paper is based on, the cyborg turned out to be a fruitful question while the symbiont seems to be a problematic answer. This is also the case because bodily modifications in the case of cyborgs are quite different from bodily modifications in the case of symbionts, not per se but for most humans, because things and animals exist – so far – in fundamentally different relationships with most humans. Thus, addressing not only humans but also things or animals, plants or bacteria – as relevant possible or actual actors – should not mean ignoring the many distinctions between them because these distinctions have consequences.[41] As long as most humans make such distinctions, for example in moral or legal terms, it seems reasonable to question relationships between humans and things or animals rather with genealogical intent and not to answer them with ontological spirit – in the name of a new ontology.[42]

This paper is not the place for an extensive discussion of Haraway's great influence on the transdisciplinary field of new ontology or, better, new materialism.[43] There are many, very fine and very strong links

elaborating programmatically on a certain issue that they simply do not empirically investigate. Cf. in particular Karen Barad, Posthumanist performativity. Toward an understanding of how matter comes to matter, in: Signs 28 (2003), pp. 801-831.

39 Foucault and Butler are still very regularly and very simplistically played off against Bourdieu – and vice versa. In the following, I would like to combine Foucault and Butler with Bourdieu.

40 See also Andreas Reckwitz, Toward a theory of social practices. A development in culturalist theorizing, in: European Journal of Social Theory 5 (2002), pp. 245-265.

41 In this context, it is crucial to speak about distinctions not differences.

42 Haraway calls her alternative project also an "ontological revolution". Haraway, Staying, p. 162. On the genealogical intent of body history still see Michel Foucault, Nietzsche, genealogy, history, in: Paul Rabinow (ed.), The Foucault reader, London 1991, pp. 76-100. Cf. in particular Joan W. Scott, History-writing as critique, in: Keith Jenkins et al. (eds), Manifestos for history, London 2007, pp. 19-38. See also Eitler, Animal history.

43 And it is not the place to distinguish clearly between various types of new ontology and new materialism in relation to posthumanist theories or posthumanist speculations. Cf. for example Diana Coole/Samantha Frost (eds), New materialisms. Ontology, agency, and politics, Durham 2010; Rick Dolphijn/Iris van der Tuin (eds), New materialism. Interviews & cartographies, Ann Arbor 2012; Katharina Hoppe/

between new materialism and the history of the body or other fields within the social sciences as well – not least just because of Haraway's great influence. But it seems to me that it is a serious misunderstanding of many researchers within new materialism that the social sciences are now paying more attention to bodies because they have paid too little attention to materiality for so long as, for example, Barad claims.[44] It may be the case that Barad – trained as a physicist – is interested in bodies because she is interested in materiality, however, others, such as Foucault and Butler or Bourdieu, are interested in bodies, I would like to argue, because they are interested in the social, in social order and social change. Hardly anyone has made this clearer than Bourdieu. He programmatically views bodies not as the material fundament but as a materializing resource for manifold practices, and, in doing so, he empirically focuses on bodies in their very concrete modes of existence as a certain "state of the social" – as social beings or social becomings, as socially produced and socially productive. For him, a social order is "merely the order of bodies".[45]

In this regard, the concept of the social makes the traditional distinction between nature and culture, whose fundamental critique still binds many researchers within new materialism, simply unnecessary. The social sciences don‘t have to decide whether it is absolutely right or absolutely wrong, they do not have to distinguish between nature and culture, nor do they have to claim "naturecultures" or a "continuum" between nature and culture.[46] How may the social sciences largely overcome this powerful distinction if they permanently reproduce it more than necessary?[47] The concept of culture only makes sense in

Thomas Lemke, Neue Materialismen zur Einführung, Hamburg 2021. See also the informative discussion in Casper Jensen et al., New ontologies? Reflections on some recent "turns" in STS, anthropology and philosophy, in: Social Anthropology 25 (2017), pp. 525-545; Heiko Stoff, Materialität, in: Aenne Gottschalk et al. (eds), Doing space while doing gender – Vernetzungen von Raum und Geschlecht in Forschung und Politik, Bielefeld 2018, pp. 79-95; Christopher N. Gamble/Joshua S. Hanan/Thomas Nail, What is new materialism?, in: Angelaki 24 (2019), pp. 111-134.

44 Cf. in particular Barad, Performativity. Not only the material culture studies show that the social sciences were already interested in materiality – and above all in things – before new materialism undoubtedly advanced the current discussion. Cf. for instance Dan Hicks/Mary C. Beaudry (eds), The Oxford handbook of material culture studies, Oxford 2010; Daniel Miller, Material culture. Why some things matter, London 1998; Arjun Appadurai (ed.), The social life of things, Cambridge 1986.

45 Merely – not only. Pierre Bourdieu, Pascalian meditations, Stanford 2000, pp. 150 and 168. For him also things are a certain "state of the social".

46 Cf. in contrast Haraway, Companion species, pp. 1-14. See also Braidotti, The posthuman, pp. 82f.

47 At least in so-called modern societies, I would like to suggest, it is – so far – almost impossible to absolutely overcome this powerful distinction.

contrast to the concept of nature – and vice versa. Trying to reject this traditional distinction does not mean denying, for example, bodily conditions and their various effects, yet, we may not understand these as universal or invariable, but – with reference to Haraway and many others – as "situated biologies" or "local biologies".[48] What the social sciences can observe scientifically – with their different methods and specific data – is in its very concrete modes of existence always a certain "state of the social". The concept of the social, thus, relieves the history of the body of posing programmatic questions – about nature, culture and the materiality of just everything – that are not really answered empirically. In this sense, this paper tries to "keep the social flat".[49] While many researchers within new materialism are stressing the importance of radically historicizing ontology, only a few of them are showing an interest in seriously considering history. While new materiallism is devoted to the necessary failure of stable materiality, I would like to argue, the history of the body is engaged with the changing effects of unstable materializations[50] – it deals with the social production of different bodies as socially productive.

Against this background, Haraway‘s manifold reflections on making kin with other animals and so-called human-animal symbionts may be discussed critically: Camille does not really exist in symbiosis or sympoiesis with a monarch butterfly, Camille only exists with a very small section of its genetic material. From a body history perspective, Camille is a human whose skin has an extraordinary coloring and pattern or whose sense of smell has an extraordinary range. The bodily modifications curiously welcomed by Haraway are exactly that – bodily modifications that one can regularly and continuously observe in many ways in everyday practices as well.[51] One also achieves them by feeding or grooming, playing with, or caring for, somebody. That some of Camille’s bodily modifications are caused by genetic engineering in no way makes them more material or stable, important or troubling per se. The range of what humans – potentially can and actually do – smell and

48 Cf. for example the important studies of Margaret Lock, Anne Fausto-Sterling, Sarah Franklin or Hannah Landecker. See also the informative discussion in Jörg Niewöhner/Margaret Lock, Situating local biologies. Anthropological perspectives on environment/human entanglements, in: Biosocieties 13 (2018), pp. 681-697.

49 Cf. in general Bruno Latour, Reassembling the social. An introduction to actor-network-theory, Oxford 2005, pp. 165-172; Patrick Joyce, What is the social in social history?, in: Past & Present 206 (2010), pp. 213-248. Also Latour is still very regularly and very simplistically played off against Bourdieu – and vice versa. There are no doubt many incomparabilities, but there are many comparabilities as well.

50 Emphasizing materializations is therefore something else than stressing materiality.

51 See also Jakob Tanner, History of body, in: Neil J. Smelser/Paul B. Baltes (eds), IESBS, Amsterdam 2001, pp. 1277-1282, p. 1281.

taste or sense and feel differs a lot even in humans who have not been bodily modified through genetic engineering as Camille has been.[52] And it will differ for Camille over the years as well – because it is based on unstable materializations.

With the help of genetic engineering, Haraway aims to decenter humans. But by stressing that other animals in the Chthulucene should not experience any bodily modifications through genetic engineering, I have the impression, Haraway somehow puts humans at the center again.[53] By motivating only humans to transgress the seemingly clear border between humans and animals, she reproduces that border more than necessary.[54] Camille's story, thus, never really raises the question of whether Camille is still a human – in principle an anthropos. From this point of view, the Chthulucene is perhaps best understood as a kind of Anthropocene double, and Haraway, I would like to say, is not only staying with the trouble – she is also staying with the double.

Maybe this is strategically helpful.[55] Haraway is interested in agency, her own and that of other humans or other animals as well.[56] With Camille's story she tries to increase agency, not decrease it. But, to put it with and against Haraway, doesn't it matter whose agency is increasing whose agency?[57] On whom were these bodily modifications through genetic engineering tested before they succeeded in Camille's case? Probably also on humans – but primarily on other animals. And these animals have by no means consented to the removal of genetic material and the animal experiments carried out on them or other animals – regardless of whether they are perceived as relevant potential or actual actors or not.[58] Animal experiments not only have a long history, but in Camille's case also an unthemed continuity. From a body history perspective with genealogical intent, this is a crucial point.

With regard to the multispecies possibilities of future bodies, Haraway points out the multispecies memories of past bodies, of the dead ones and their endangered legacy.[59] This seems to me to be an important reason why she has an insatiable interest in ancient myths and indigenous rituals from all parts of the world. This paper is not the place

52 Cf. for instance Mark M. Smith, A sensory history manifesto, University Park 2021; Constance Classen (ed.), A cultural history of the senses, 6 vols, London 2014ff.

53 Haraway, Staying, pp. 141 and 147.

54 See also – in a different context – Bruce Braun, Modalities of posthumanism, in: Environment and Planning A 36 (2004), pp. 1352-1355, p. 1354.

55 Cf. for example Haraway, Staying, p. 157.

56 She also speaks about a "bestiary of agencies". Haraway, Companion species, p. 6.

57 Cf. for instance Haraway, Staying, pp. 12 and 34f.

58 Cf. in particular Haraway, When species, pp. 69-94.

59 Cf. for example Haraway, Staying, pp. 154-164.

for an extensive discussion of Haraway‘s recent move to – what she calls – situated animism.[60] But the bodily modifications through genetic engineering, which she deals with at the end of her study, also serve to commemorate species threatened or destroyed by growing populations and climate changes. Yet, this kind of "vital memory"[61] is based, I would like to argue, on the oblivion of billions of animals that have been used – caged and killed – in the long history of animal experiments. And somehow it is telling that "Staying with the Trouble" is appearing in a series of books called "Experimental Futures".[62]

In this sense, this paper does not opt for other animals also experiencing bodily modifications through genetic engineering. And this paper is not the place to debate or judge – promote or negate – the possible benefits of animal experiments for certain humans or other animals as well.[63] My concern is rather that Haraway does not pay adequate attention to the long history of animal experiments and its unthemed continuity in "Staying with the Trouble" or, better, in Camille‘s story.[64] In "When Species Meet", in contrast, she gives a lot of room to humans, other animals and their different relationships within animal experiments.[65] And in this context, Haraway defends herself for good reasons against any kind of "moral comfort" – on all sides of the debate.[66] But from this point of view, there is too much "moral comfort" in the concept of the Chthulucene.

In Camille’s story, Haraway does not seriously consider that the transgression of the seemingly clear border between humans and animals, which she promotes in the case of humans, has been forced on animals long before and again and again. In her posthumanist speculations about future bodies she does not take enough account of the historical fact that not only scientific knowledge about the supposed differences between humans and animals and the biopolitical hierarchies that may derive from them, but also scientific knowledge about the supposed similarities between humans and animals and the

60 Ibid., pp. 162 and 88.

61 Ibid., p. 166.

62 "Experimental Futures: Technological Lives, Scientific Arts, Anthropological Voices" is a series of books edited by Michael M. J. Fischer and Joseph Dumit.

63 Cf. for instance Jeremy R. Garrett (ed.), The ethics of animal research. Exploring the controversy, Cambridge 2012; Norbert Alzmann, Zur Beurteilung der ethischen Vertretbarkeit von Tierversuchen. Tübingen 2016; Tom L. Beauchamp/David DeGrazia, Principles of animal research ethics, New York 2020.

64 She addresses this issue only briefly in another part of her study in the context of a hormone therapy. Haraway, Staying, pp. 105ff.

65 Regardless of whether you agree with all of her manifold reflections. For an exaggerated critique of Haraway cf. for instance Weisberg, The broken promises.

66 Cf. in particular Haraway, When species, p. 75.

biopolitical dehierarchizations that may derive from them are very often based on animal experiments. Humans don't only identify themselves as humans by attempting to distinguish themselves in principle from animals; they also do this by claiming to be distinguished from animals only in degrees – as evolutionary relatives.[67]

3. Animal Experiments and Research into Feelings

It seems to me that Haraway's posthumanist speculations about future bodies, bodily modifications through genetic engineering and so-called human-animal symbionts, thus, can only be adequately considered with regard to the long history of animal experiments in the life sciences – which later encompassed large parts of the behavioral sciences. Against this background, I would like to question Haraway's alternative project of making kin with other animals and, as will become clearer, its hidden assumptions about supposed feelings.

Animal experiments are both an important basis and a consequential effect of the changing scientific knowledge about humans and other animals as evolutionary relatives – especially with regard to the remarkable developments of the life sciences in general and physiology in particular.[68] Starting with groundbreaking innovations in the second half of the 18th century, physiology became something like the leading life science in Western Europe and North America during the second half of the 19th century[69] – in the exact period in which the idea of kinship between humans and other animals and evolutionary theory gained in academic reputation and public attention.[70] Physiology attained this

67 See also Joanna Bourke, What it means to be human. Reflections from 1791 to the present, London 2011.

68 Cf. in general Nicolaas Rupke (ed.), Vivisection in historical perspective, London 1987; Holger Maehle, Kritik und Verteidigung des Tierversuchs. Die Anfänge der Diskussion im 17. und 18. Jahrhundert, Stuttgart 1992; Anita Guerrini, Experimenting with humans and animals. From Galen to animal rights, Baltimore 2003; Mitchell Ash, Tiere und Wissenschaft. Versachlichung und Vermenschlichung im Widerstreit, in: Gesine Krüger et al. (eds), Tiere und Geschichte. Konturen einer Animate History, Stuttgart 2014, pp. 267-291. See also Hans-Jörg Rheinberger/Michael Hagner (eds), Die Experimentalisierung des Lebens. Experimentalsysteme in den biologischen Wissenschaften 1850/1950, Berlin 1993.

69 Cf. in particular Philipp Sarasin/Jakob Tanner (eds), Physiologie und industrielle Gesellschaft. Studien zur Verwissenschaftlichung des Körpers im 19. und 20. Jahrhundert, Frankfurt 1998; Karl Rothschuh, History of physiology, Huntington 1973.

70 Cf. for example Peter Bowler, Evolution. The history of an idea, Berkeley 2003; Edward Larson, Evolution. The remarkable history of a scientific theory, New York 2004. See also Eve-Marie Engels (ed.), Charles Darwin und seine Wirkung, Frankfurt 2009.

position on the supposition that life or, better, the body can only be comprehensively understood and studied innovatively on living beings that are still alive – as a "milieu intérieur" as Claude Bernard, one of the most influential physiologists of this period, put it.[71]

Since the second half of the 19th century, many large physiological laboratories were established throughout Western Europe and North America, and their research was based to a large extent on animal experiments and mainly vivisections.[72] Other animals – especially other mammals but amphibians as well[73] – came into the focus of their research, not least, because humans were considered animals in terms of their bodies and biological similarities. At this point, physiology and evolutionary theory were closely intertwined in a momentous manner. The idea of kinship between humans and other animals was shaped, I would like to emphasize, not only by evolutionary theory, as Haraway stresses. This type of "border trouble"[74] was also shaped by physiology and, thus, animal experiments.

The precise function of certain organs and the organization of metabolism, blood circulation and blood loss, the reaction to hunger and the reaction to poison, extreme heat or extreme cold, sleep deprivation or oxygen deprivation, brain surgery and fetal surgery, the perception of colors or the perception of pain – never before has the lifes, or rather the bodies, of certain animals of different species been studied and compared so numerously, so extensively, so thoroughly as since the second half of the 19th century, almost always to the untimely death of the particular animals.[75] Human experiments played a less crucial role in the life sciences compared to animal experiments. But from the beginning

71 Cf. in general Claude Bernard, Introduction à l'étude de la médecine expérimentale, Paris 1966 (orig. 1865); Claude Bernard, Leçons sur les phénomènes de la vie communs aux animaux et aux végétaux, Paris 1885 (orig. 1878).

72 Cf. for instance Timothy Lenoir, Instituting science. The cultural production of scientific disciplines, Stanford 1997, pp. 96-130; Constantin Goschler, Rudolf Virchow. Mediziner, Anthropologe, Politiker, Köln 2002, pp. 212-274; Sven Dierig, Wissenschaft in der Maschinenstadt. Emil Du Bois-Reymond und seine Laboratorien in Berlin, Göttingen 2006; Rob Boddice, The science of sympathy. Morality, evolution, and Victorian civilization, Chicago 2016; Rob Boddice, Humane professions. The defence of experimental medicine, 1876-1914, Cambridge 2021. See also Heiko Stoff, Alraune, Biofakt, Cyborg. Ein körpergeschichtliches ABC des 20. und 21. Jahrhunderts, in: Simone Ehm/Silke Schicktanz (eds), Körper als Maß? Biomedizinische Eingriffe und ihre Auswirkungen auf Körper- und Identitätsverständnisse, Stuttgart 2006, pp. 35-50.

73 Cf. for example Axel Hüntelmann, History of experimental animals and the history of animal experiments, in: Roscher et al. (eds), Historical animal studies, pp. 509-524.

74 Harriet Ritvo, Border trouble. Shifting the line between people and other animals, in: Social Research 62 (1995), pp. 481-500.

75 See also Guerrini, Experimenting; Rothschuh, History.

the two were often strongly connected, and some research that was initially conducted in animal experiments has finally been continued in human experiments – and vice versa.[76]

In this sense, the life sciences not only changed the scientific knowledge about bodily conditions, they also concerned the social production of different bodies. While within physiology, in addition to smaller amphibians such as frogs, primarily larger mammals such as dogs and cats or rabbits were used, with regard to bacteriology and its enormous gain in public attention, smaller mammals such as mice and rats have increasingly become the focus of research since the last third of the 19th century. With the fast development of genetics since the last third of the 20th century, especially insects such as certain mayflies were first constructed and then consumed by the life sciences.[77] Thus, it seems to me not coincidental, that the other animal Haraway is dealing with in Camille's story is an insect.

Since the last third of the 19th century, the life sciences become more and more differentiated – as a field of research that deals with processes within, and structures of, living beings – and ultimately include genetics or neurology as well, in addition to physiology or pharmacology, biology or bacteriology. In this regard, this is a crucial point, the life sciences and especially physiology were also of great importance for the growing research into feelings – affects or emotions[78] – from the last third of the 19th century onward.[79] As a result, the older distinction between "higher" human feelings and "lower" animal sensations lost much of its former importance – not least because of certain animal experiments. Some researchers in physiological laboratories during that period have described a lot of biological similarities between humans and other ani-

76 Cf. for instance Volker Roelcke, Tiermodell und Menschenbild. Konfigurationen der epistemeologischen und ethischen Mensch-Tier-Grenzziehung in der Humanmedizin zwischen 1880 und 1945, in: Birgit Griesecke et al. (eds), Kulturgeschichte des Menschenversuchs im 20. Jahrhundert, Frankfurt 2009, pp. 16-47; Jordan Goodman et al. (eds), Useful bodies. Humans in the service of medical science in the twentieth century, Baltimore 2008; Roland Borgards/Nicolas Pethes (eds), Tier – Experiment – Literatur. 1880-2010, Würzburg 2013; Nicolas Pethes et al. (eds), Menschenversuche. Eine Anthologie 1750-2000, Berlin 2021. See also Guerrini, Experimenting; Rheinberger/Hagner (eds), Experimentalisierung.

77 Cf. for example Hüntelmann, History; Ash, Tiere.

78 There was and is no common or clear terminology for all research into feelings – neither in the life sciences nor in the social sciences.

79 Cf. for instance Jan Plamper, The history of emotions. An introduction, Oxford 2017, pp. 147-194; John Deigh, William James and the rise of the scientific study of emotion, in: Emotion Review 6 (2014), pp. 4-12. See also Claudia Wassmann, The science of emotion. Studying emotions in Germany, France, and the United States, 1860-1920, Diss. University of Chicago 2005.

mals when they seemed to be expressing feelings or sensations.[80] The slow collapse of this older distinction was also promoted by similar considerations within evolutionary theory – following Charles Darwin's important study on "The Expression of the Emotions in Man and Animals" from 1872.[81] Therefore, not only within but also outside of the life sciences, feelings have very often been considered as some kind of natural reaction with biological foundations in many living beings, especially in humans and at least in some other animals too.

In the following, I try to question this understanding of feelings – affects or emotions – which was of great importance for much research into feelings, which is associated, for example, with the names of Silvan Tomkins and Paul Ekman[82] and which seems to me, as will become clearer, to carry over into Camille's story and its "tentacular thinking". In this respect, I would like to confront Camille's story with a story that emphasizes the role of physiology for the idea of kinship between humans and other animals, that addresses the question of future bodies in the case of animal experiments and that focuses, in doing so, in particular on feelings: How could Camille's story be read if it does not meet indigenous rituals or ancient myths, for instance the famous story of the fantastic gorgon Medusa, but the troubling novel of the fictional physiologist Moreau?

4. When Stories Meet

"The Island of Doctor Moreau", Herbert George Wells's groundbreaking and much debated science fiction[83] was published in Great Britain in

80 Cf. for example Jed Mayer, The expression of the emotions in man and laboratory animals, in: Victorian Studies 50 (2008), pp. 399-417; Pascal Eitler, The "origin" of emotions – sensitive humans, sensitive animals, in: Ute Frevert et al., Emotional lexicons. Continuity and change in the vocabulary of feeling 1700-2000, Oxford 2014, pp. 91-117; Otniel E. Dror, The affect of experiment. The turn to emotions in Anglo-American physiology, 1900-1940, in: Isis 90 (1999), pp. 205-237. See also Boddice, Science; Boddice, Humane professions.

81 Charles Darwin, The expression of the emotions in man and animals, London 2009 (orig. 1872).

82 Cf. in particular Plamper, History, pp. 147-218. See also Ruth Leys, The ascent of affect. Genealogy and critique, Chicago 2017, pp. 26-128.

83 Herbert George Wells, The Island of Doctor Moreau, London 2005 (orig. 1896). Research on Wells is very widespread. Cf. in general Sarah Cole, Inventing tomorrow. H. G. Wells and the twentieth century, New York 2020; Simon J. James, Maps of utopia. H. G. Wells, modernity and the end of culture, Oxford 2012; Steven McLean, The early fiction of H. G. Wells. Fantasies of science, Basingstoke 2009; Patrick Parrinder, Shadows of the future. H.G. Wells, science fiction and prophecy, New York 1995; John Huntington, The logic of fantasy. H. G. Wells and science fiction, New York

1896, in the exact period in which the question of whether, how and what other animals may feel was controversially negotiated within and outside of the life sciences – especially in Great Britain and in many other parts of Western Europe and North America as well.[84] Never before have animal welfare and protest movements against animal experiments[85] gained so much public attention – strongly encouraged not least by literary imagination and the new and great popularity of animal stories at the end of the 19th century.[86]

Although Haraway shows a keen interest in literary imagination and especially in science fiction, and although Wells is considered one of the seminal founders of this manifold genre, she never seems to have engaged scientifically with him and "The Island of Doctor Moreau". This troubling novel deals with a formerly famous but now outcast physiologist at the end of the 19th century. This physiologist – Doctor Moreau – aims to make humans out of other animals with the help of bodily modifications through extensive operations, on almost all parts of their bodies, including the brain, not only but above all in the case of mam-

1982; Frank McConnell, The science fiction of H. G. Wells, Oxford 1981; Bernard Bergonzi, The early H. G. Wells. A study of the scientific romances, Toronto 1961. See also Edward James/Farah Mendlesohn (eds), The Cambridge companion to science fiction, Cambridge 2003; Eric Carl Link/Gerry Canavan (eds), The Cambridge history of science fiction, Cambridge 2019.

84 Cf. for example Jutta Buchner, Das Tier als Freund. Überlegungen zur Gefühlsgeschichte im 19. Jahrhundert, in: Paul Münch/Rainer Walz (eds), Tiere und Menschen. Geschichte und Aktualität eines prekären Verhältnisses, Wien 1998, pp. 275-294; Pascal Eitler, Tiere und Gefühle, in: Krüger et al. (eds), Tiere und Geschichte, pp. 59-77; Pascal Eitler, "Weil sie fühlen, was wir fühlen". Menschen, Tiere und die Genealogie der Emotionen im 19. Jahrhundert, in: Historische Anthropologie 19 (2011), pp. 211-228; Erika Quinn/Holly Yanacek (eds), Animals, machines, and AI. On human and non-human emotions in modern German cultural history, Berlin 2022. See also Mason Harris, Vivisection, the culture of science and intellectual uncertainty in "The Island of Doctor Moreau", in: Gothic Studies 4 (2002), pp. 99-115.

85 Cf. for instance Hilda Kean, Animal rights. Political and social change in Britain since 1800, London 1998; Diane L. Beers, For the prevention of cruelty. The history and legacy of animal rights activism in the United States, Athens 2006; Mieke Roscher, Ein Königreich für Tiere. Die Geschichte der britischen Tierrechtsbewegung, Marburg, 2009; Richard French, Antivivisection and medical science in Victorian society, Princeton 1975; Hubert Bretschneider, Der Streit um die Vivisektion im 19. Jahrhundert, Stuttgart 1962. See also Pascal Eitler, Übertragungsgefahr. Zur Emotionalisierung und Verwissenschaftlichung des Mensch-Tier-Verhältnisses im Deutschen Kaiserreich, in: Daniel Morat/Uffa Jensen (eds), Die Rationalität der Gefühle. Emotionen und Wissenschaft in der Moderne, München 2008, pp. 171-188.

86 Cf. for instance Susan McHugh, Animal stories. Narrating across species lines, Minneapolis 2011; Tess Cosslett, Talking animals in British children's fiction, 1786-1914, New York 2006; Frederike Middelhoff, Literarische Autozoographien. Figurationen des autobiographischen Tieres im langen 19. Jahrhundert, Berlin 2020.

mals. "The human shape," he boasts, "I can get now, almost with ease."[87] Like Camille, Moreau seeks at making kin with other animals – but for him this means supposedly optimizing and seemingly elevating the other animals by strongly transforming them, also with regard to their instincts or, better, feelings. He tries to remodel human-animal relationships by "burn[ing] out all the animal".[88] And Moreau succeeds not only in making the other animals look like humans, but also move and talk like humans. He conducts his animal experiments with the support of an assistant on an isolated island – not far away from Galápagos Islands. At this remote place, a rigid system of clear rules and severe punishments makes the "humanized animals" to live together with him and his assistant in a very hierarchical manner, as obedient servants of a strict master, until the moment when this social order – "the law" – suddenly collapses, and Moreau is finally killed by one of the "beast people".[89]

There are many ways to read Moreau's story – its "symbolic meanings are so richly layered that it is easy to get carried away."[90] Very often it is read in terms of how it relates to the life sciences or animal experiments per se. In this regard, Moreau's story and other works by Wells reveal some unclarities.[91] But that is not the point that this paper is about. Also, this paper is not about the point that, in contrast to Haraway, Wells does not tell a rather optimistic but rather pessimistic science fiction, since the future bodies in Camille's story rely on bodily modifications, as do the future bodies in Moreau's story.[92] In this context, I'm not concerned that Haraway openly welcomes these bodily modifications in the case of Camille while Wells seemingly dismiss them in the case of Moreau. For in Haraway's case they are at least partly voluntary, while in Wells's case they are in every respect involuntary. I'm much more concerned, as will become clearer, that Camille does not really

87 Wells, Island, p. 78.

88 Ibid., p. 78.

89 Ibid., p. 55, 60 and 71. His assistant is killed some time after Moreau. See also ibid., pp. 98-105.

90 Adam Roberts, H. G. Wells. A literary life, London 2019, p. 56.

91 Cf. in particular Jill Felicity Durey, Vivisection through the eyes of Wilkie Collins, H. G. Wells and John Galsworthy, in: Medical Humanities 47 (2020), pp. 333-343; John McNabb, The beast within. H.G. Wells, "The Island of Doctor Moreau", and human evolution in the mid-1890s, in: Geological Journal 50 (2015), pp. 383-397. See also Herbert George Wells, Popular feeling and the advancement of science. Anti-vivisection, in: Herbert George Wells, The way the world is going. Guesses and forecasts of the years ahead, London 1928, pp. 221-230; Herbert George Wells, The food of the gods and how it came to earth, London 1904, pp. 24-59.

92 See also Herbert George Wells, Bio-optimism, in: Herbert George Wells, Early writings in science and science fiction, Berkeley 1975, pp. 206-210 (orig. 1895).

deviate from the path Moreau follows, even if Camille goes in the opposite direction.

Much research within and outside of animal studies has carefully analyzed how "The Island of Doctor Moreau" deals with the various relations between different species – between humans and other animals – as extremely ambiguous or inherently ambivalent.[93] I would like to take a step back and shift that focus – because Moreau's story really raises the question of whether at least some of the "beast people" are already a human.[94] In this sense, this is a crucial point, this troubling novel is less about different species as something given than about different bodies as something made.[95] Therefore, this paper will ask how this science fiction deals with the social production of different bodies as socially productive.

In Moreau's story, I have the impression, Wells negotiates the "plasticity" of bodies and the great role that animal experiments play not only when it comes to identifying and explaining, but also using and shaping the biological similarities between humans and other animals as evolutionary relatives.[96] This troubling novel is not only a provocative satire.[97] It is also a kind of thought experiment and in many ways fully in line with the life sciences of this specific period.[98] In this respect, Moreau is much more than a "mad scientist" and this science fiction is much more than a fundamental critique of the life sciences or animal

93 Cf. for example Anna Neill, Human evolution and fantastic Victorian fiction, New York 2021; Ronald Edwards, Edge of evolution. Animality, inhumanity, and Doctor Moreau, Oxford 2016; Greta Colombani, Humanity as a performance in H. G. Wells's "The Island of Doctor Moreau", in: Whatever 3 (2020), pp. 137-156; Sherryl Vint, Animals and animality from the island of Moreau to the uplift universe, in: The Yearbook of English Studies 37 (2007), pp. 85-102. See also McNabb, The beast.

94 For a while, this science fiction even raises the question of whether the "beast people" are vivisected humans. See also the informative discussion in Bruce Clarke, Posthuman metamorphosis. Narrative and systems, New York 2008, pp. 54-59.

95 This is the reason, I would like to suggest, why this science fiction is fruitfully discussed within disability studies as well. In this context, the question is whether the "beast people" are "disabled humans". Cf. in particular Aneliese Farris, 'What on earth was he – man or animal?' Posthuman permeability in H. G. Wells's The Island of Doctor Moreau, in: Canadian Journal of Disability Studies 9 (2020), pp. 130-156.

96 Wells, Island, pp. 71 and 75. See also Herbert George Wells, The limits of individual plasticity, in: Wells, Early writings, pp. 36-39 (orig. 1895).

97 This paper is not the place to go into the role of Jonathan Swift's fantasy fiction about Gulliver's travels from 1726. See also Bergonzi, Wells, pp. 90-112; McConnell, The science fiction, pp. 102-105; John R. Hammond, The island of Doctor Moreau. A Swiftian parable, in: The Wellsian 16 (1993), pp. 30-41.

98 Cf. for instance Thomas Macho/Annette Wunschel (eds), Science & Fiction. Über Gedankenexperimente in Wissenschaft, Philosophie und Literatur, Frankfurt 2004. See also Chris Danta, The future will have been animal. Dr Moreau and the aesthetics of monstrosity, in: Textual Practice 26 (2012), pp. 687-705.

experiments, of physiology or biology.[99] Wells's great literary imagination was driven, not least, by certain scientific knowledge. He had published a text-book on biology a few years before this troubling novel and studied biology and zoology with Thomas Henry Huxley, one of the greatest and most prominent defenders of animal experiments and evolutionary theory in Great Britain at the end of the 19th century.[100] Against this background, Moreau's story is very clearly a very early "post-Darwinian" science fiction – an "evolutionary fable" that sets near Galápagos Islands for good reasons.[101]

However, not only the publication, but also the reception of "The Island of Doctor Moreau" was strongly influenced by evolutionary theory, positively or negatively. In this regard, this science fiction has been read again and again for a specific, supposedly formative, motif – the seemingly hidden or threatening animal in every human.[102] I would like to suggest reading this troubling novel differently. In this "evolutionary fable", Wells is not so interested in the distant past as much as in the future bodies of humans and other animals.[103] It seems to me that he isn't speculating about what could happen if some kind of animal were to erupt inside humans, this is much more the issue of Robert Louis Stevenson's famous story about Doctor Jekyll and Mister Hyde from 1886.[104] Stevenson deals with the idea of "animalized humans", in contrast, Wells deals with the idea of "humanized animals". He speculates about what it could mean that humans make kin with other animals more and more and what could happen if humans try to make humans out of other animals.

99 Cf. for example Harris, Vivisection, pp. 100ff; McLean, The early fiction, pp. 46-49; McConnell, The science fiction, pp. 92-98; Neill, Human evolution, pp. 79-93. Cf. in contrast, for example, Anne Stiles, Literature in "Mind". H. G. Wells and the evolution of the mad scientist, in: Journal of the History of Ideas 70 (2009), pp. 317-339.

100 Herbert George Wells, Text-book of biology, London 2016 (orig. 1893). See also Herbert George Wells et al., The science of life, New York 1934 (orig. 1929).

101 See also McConnell, The science fiction, pp. 69ff. and 94; Neill, Human evolution, pp. 79ff.; Bergonzi, Wells, pp. 100ff.; Carrie Rohman, Stalking the subject. Modernism and the animal, New York 2008, p. 64. Cf. in particular Virginia Richter, Literature after Darwin. Human beasts in western fiction 1859-1939, London 2011, pp. 99-106; Chris Danta, Animal fables after Darwin, Cambridge 2018, pp. 96-128.

102 Cf. in particular Patrick Parrinder/John Partington (eds), The reception of H. G. Wells in Europe, London 2005. This motif also shapes much research on "The Island of Doctor Moreau".

103 This is also true for other novels of this period. Cf. for example Herbert George Wells, The time machine, London 2005 (orig. 1895); Herbert George Wells, The invisible man, London 2005 (orig. 1897). See also Wells, The food of the gods.

104 Robert Louis Stevenson, The strange case of Dr Jekyll and Mr Hyde, Oxford 2008 (orig. 1886). Cf. in contrast, for example, Robert M. Philmus, The satiric ambivalence of "The Island of Doctor Moreau", in: Science Fiction Studies 8 (1981), pp. 2-11.

In this regard, Doctor Moreau has also little in common with Mary Shelley‘s even more famous story about Doctor Frankenstein from 1818.[105] While Frankenstein aims to really create living beings, Moreau only seeks to strongly transform them. Frankenstein‘s problem is living – Moreau‘s problem, as will become clearer, is feeling. Fascinated by Frankenstein, the history of the body has paid a lot of attention to circulating ideas about artificial humans and human motors or human-machine analogies, which continued to advance in the second half of the 19th century.[106] In comparison, simultaneous ideas about evolutionary relatives or companion animals and human-animal relationships have received too little attention for too long.

Not in the same way but to the same extent as Haraway, Wells is interested in the multispecies possibilities of future bodies and what it could be like to become more and more related. He deals with the "plasticity" of bodies – not through genetics but through physiology – and asks what humans could try to make out of and with the life sciences and evolutionary theory.[107] In this respect, Moreau’s story draws attention to two things: First, it shows very early that it was nearly always the other animals that had to test and prove the idea of kinship between humans and other animals with reference to certain alleged biological foundations; second, this troubling novel about a master and his servants shows very clearly that it was nearly always the other animals that had to make this kinship more shapeable and comfortable with regard to very different technical improvements – more shapeable and comfortable for the human protagonists. In this context, this "evolutionary fable" may help to seriously take into account that this type of "border trouble" constantly involves serious dangers – for some much more than for others. Not only inventing and deepening, but also shifting or denying the seemingly clear border between humans and animals has cost billions of these animals their lives and caused all sorts of pain. And Moreau’s story shows very early and very clearly what humans could try to make with and out of other animals, not although, but just insofar as they are viewed as evolutionary relatives.

105 Mary Shelley, Frankenstein. The modern Prometheus. 1818 text, Oxford 2008 (orig. 1818). Cf. in contrast, for example, Jon Turney, Frankenstein‘s footsteps. Science, genetics and popular culture, New Haven 1998, pp. 56-59.

106 Cf. for instance the important studies of Anson Rabinbach, Jakob Tanner, Philipp Sarasin, Jessica Riskin, Maren Möhring, Iwan Rhys Morus or Karin Harrasser. See also Iwan Rhys Morus (ed.), Bodies/Machines, Oxford 2002; Barbara Orland (ed.), Artifizielle Körper – lebendige Technik. Technische Modellierungen des Körpers in historischer Perspektive, Zürich 2005; Karsten Uhl/Christian Zumbrägel (eds), Technik = Body Politics 6 (2018) No. 9.

107 Wells, Island, p. 71. See also Wells, Limits, p. 36.

For this reason, upholding the usefulness of creating such cenes, I would like to problematize Haraway's manifold reflections on making kin in the Chthulucene that is supposedly already starting in confrontation with some much less ambitious reflections on – what I would like to call – the Moreaucene that seems to be going on.[108] In accordance with the concept of the Chthulucene, the concept of the Moreaucene does not presume absolute dominance of humans per se. For many areas of modern societies, social order and social change can only be adequately understood if other animals – as relevant potential or actual actors – are seriously included in the analysis.[109] In contrast to the concept of the Chthulucene, however, the concept of the Moreaucene aims only at human-animal relationships and does not develop broader reflections on all animals or other "beings of the earth" and their multiple interweavements – in this respect, it is much more modest than the concept of the Chthulucene or the concept of the Anthropocene. It tries to make it possible "to tell big-enough stories".[110] But it offers no general approach or political response to the global crisis or modern societies and capitalist economies.[111] And although it is by no means solely devoted to the analysis of the past or the present of human-animal relationships, but also to its critique, the concept of the Moreaucene does not really offer a vision for their future. It deals with a specific period – not with an alternative project.

From this point of view, I would like to suggest, the Moreaucene is characterized by the historical fact that since the second half of the 19th century more and more humans consciously and purposefully try to bodily modify[112] and supposedly optimize more and more other animals, not only, but above all in Western Europe and North America; these bodily modifications primarily refer to the changing scientific knowledge of the booming life sciences about humans and other animals and their kinship; in this sense, the idea of kinship between humans and other animals lies not only at the very heart of the Chthulucene, but also

108 Critique on creating such cenes is crucial. Cf. for example the informative discussion in Andrew Curley/Sara Smith, The cene scene. Who gets to theorize global time and how do we center indigenous and black futurities?, in: Environment and Planning E 7 (2024), pp. 166-188.

109 This is also true for so-called premodern societies, but it is not true for all areas of so-called modern societies to the same extent.

110 Haraway, Staying, p. 50.

111 At this point, I have to ignore Haraway's manifold reflections on, and critical discussion of, the concept of the Capitalocene. Cf. for instance Haraway, Staying, pp. 99-103. See also Jason Moore (ed.), Anthropocene or Capitalocene? Nature, history, and the crisis of capitalism, Oakland 2016.

112 In this context, not only Haraway but also Wells speaks of "modify". Cf. for instance Wells, Island, pp. 72f.; Wells, Limits, pp. 36 and 38.

at the very heart of the Moreaucene; this idea opens a path to remodel human-animal relationships in many different ways. Whether it is creating a new breed, increasing the milk production or giving a special antibiotic, whether it is the therapy of a horse's stress, the arrangement of an ape's cage or the transplantation of a pig's heart, whether it is muesli for dogs, yoga for cats or drugs for rats: Other animals, especially mammals, are very often bodily modified and supposedly optimized in relation to humans as evolutionary relatives that are apparently sharing important similarities, not only, but above all biological similarities. In this regard, this idea of kinship is deeply embedded in the hegemonic position that humans very often take towards other animals. Moreau pushes this idea to its limits – where biological similarities between humans and other animals are used and shaped to such an extent that biological differences finally begin to fade away.

Of course, there were bodily modifications to other animals long before. But with the emergence or establishment of the life sciences and intensified farming, the beauty industry and pet keeping, the circus and the zoo, in the face of increasing urbanization and in the shadow of growing industrialization, these have reached a completely new level in the second half of the 19th century, both quantitatively and qualitatively.[113] Never before have so many humans tried to bodily modify and supposedly optimize so many other animals in such a profound and varied manner, comparing their strength and growth, their health and weight, their age and sex.[114] In this sense, making kin in the Moreaucene means, first and foremost, that many animals are largely adapted to the

113 Cf. for example Harriet Ritvo, The animal estate. The English and other creatures in the Victorian age, Cambridge 1987; Kathleen Kete, The beast in the boudoir. Petkeeping in nineteenth-century Paris, Berkeley 1994; Jutta Buchner, Kultur mit Tieren. Zur Formierung des bürgerlichen Tierverständnisses im 19. Jahrhundert, Münster 1996; Philip Howell, At home and astray. The domestic dog in Victorian Britain, Charlottesville 2015; Amir Zelinger, Menschen und Haustiere im Deutschen Kaiserreich. Eine Beziehungsgeschichte. Bielefeld 2018; Chris Pearson, Dogopolis. How dogs and humans made modern New York, London, and Paris, Chicago 2022; Philip Howell et al. (eds), Animal history in the modern city. Exploring liminality, London 2019; Clay McShane/Joel Tarr, The horse in the city. Living machines in the nineteenth century, Baltimore 2007; Paula Young Lee (ed.), Meat, modernity, and the rise of the slaughterhouse, Durham 2008; Veronica Settele, Deutsche Fleischarbeit. Geschichte der Massentierhaltung von den Anfängen bis heute, München 2022; Nigel Rothfels, Savages and beasts. The birth of the modern zoo, Baltimore 2012; Christina Wessely, Künstliche Tiere. Zoologische Gärten und urbane Moderne, Berlin 2008; Abigail Woods et al., Animals and the shaping of modern medicine. One health and its histories, Basingstoke 2018. See also Beat Bächi (ed.), Geschichte in Gummistiefeln = Body Politics 11 (2023) No. 15.

114 See also Benjamin Bühler/Stefan Rieger, Vom Übertier. Ein Bestiarium des Wissens, Frankfurt 2006; Hüntelmann, History; Guerrini, Experimenting; Roelcke, Tiermodell.

social demands of certain humans – in terms of their behavior, but also with regard to their bodies: The bodily modifications of other animals are meant to offer certain humans specific advantages. Which explicitly does not mean that these animals make no social demands to these humans, at least to some degree.

The concept of the Moreaucene emphasizes that humans come into existence and act within a complex network of diverse relations to other beings – above all in direct confrontation or in direct collaboration with other animals. But it insists that humans very often take a hegemonic position, not absolute dominance, towards other animals. The concept of the Moreaucene tries to point out that most animals that most humans usually and consciously encounter or interact with – in the context of this paper, I would prefer not to say intraact with[115] – are already influenced to a great extent by many humans, which doesn't apply the other way around to the same extent. Not only, but especially in Western Europe and North America since the second half of the 19th century, animals that are recognized and utilized by humans have mostly been bodily modified and supposedly optimized by humans in many different ways, bred differently, fed differently, treated differently, replaced differently.[116]

These animals are largely adapted to the social demands of certain humans, not only when they are milked or skinned, but also when they are nursed or loved. In this sense, the concept of the Moreaucene is not so much about the human domination of any animals[117] in the narrower sense, but much more about the social production of some animals in the broader sense.[118] Whereas the notion of human domination seems to presume different species as something given, the notion of social production seeks to consider different bodies as something made. Within human-animal relationships, humans not only make something with, but also something out of other animals, and – although they are

115 Different issues require different tools. On the concept of intraaction cf. in particular Barad, Performativity; Barad, Meeting.

116 On the history of breeding cf. for example Ritvo, The animal estate, pp. 45-121; Buchner, Kultur, pp. 97-122; Michael Worboys et al., The invention of the modern dog. Breed and blood in Victorian Britain, Baltimore 2018; Margaret Elsinor Derry, Horses in society. A story of animal breeding and marketing, 1800-1920, Toronto 2006. See also Neil Pemberton et al., Breeding and breed, in: Kean/Howell (eds), Companion, pp. 393-421.

117 Cf. in contrast Weisberg, The broken promises. This paper is not the place to adequately consider the manifold reflections of Yi-Fu Tuan. Cf. in particular Yi-Fu Tuan, Dominance and affection. The making of pets, New Haven 1984.

118 In this regard, this paper does not aim to darken and weaken current debates about fundamental changes within human-animal relationships, but to deepen and sharpen them – scientifically and politically.

very often in a hegemonic position[119] – they also make something with and out of other humans and with and out of themselves. Thus, within an ongoing repetition of unstable materializations in everyday practices, these humans and other animals are in their very concrete modes of existence always a certain "state of the social".[120]

While the concept of the Moreaucene is arguing against anthropocentrism, insofar as that is possible, the period of the Moreaucene is permeated by it. And in this respect, anthropocentrism is much more than a phantasm that merely represents humans in some aspects quite differently from other animals, it is also a phantasm that socially produces other animals in some aspects quite similarly to humans: Anthropocentrism and anthropomorphism often go hand in hand.[121] Moreau tries not only to permanently control the animals' feelings, but also his own feelings – and thereby he subjects not only himself, but also the other animals to common stereotypes about sovereignty or assertiveness, masculinity and straightness.[122] Also in this regard, I would like to suggest, Wells speaks of "humanized animals".

While Haraway chooses the term Chthulucene despite the different problems lurking deep within its historical semantics, I would like to propose the term Moreaucene just because of the specific problems emerging openly from its historical semantics: For it is fruitful to reflect that humans "have never been human", but it is also important to reconstruct how humans have tried to be; it is fruitful to remember that humans "are liminanimals too", but it is also important to research what humans have done not to be.[123]

119 I prefer the notion of hegemonic position also because it has no connotations of sadism or, better, of BDSM. To speak of human sadism in the case of animal experiments misses not only the character of animal experiments, but also current definitions of BDSM. Cf. in contrast Weisberg, The broken promises.

120 Also in this sense, emphasizing materializations is something else than stressing materiality. Cf. in contrast, for example, Richard York/ Stefano Longo, Animals in the world. A materialist approach to sociological animal studies, in: Journal of Sociology 53 (2017), pp. 32-46.

121 Cf. for instance Rob Boddice (ed.), Anthropocentrism. Humans, animals, environments, Boston 2011; Claire Parkinson, Animals, anthropomorphism, and mediated encounters, New York 2020. See also Gary Steiner, Anthropocentrism and its discontents. The moral status of animals in the history of Western philosophy, Pittsburgh 2005; Lorraine Daston/Gregg Mitman (eds), Thinking with animals. New perspectives on anthropomorphism, New York 2006.

122 Not only does he subject the other animals to extensive operations without anesthesia, he also stabs himself with a knife in the leg without anesthesia – to show he is able to permanently control his own feelings. Wells, Island, p. 74.

123 Nicholas Gane, When we have never been human, what is to be done? Interview with Donna Haraway, in: Theory, Culture & Society 23 (2006), pp. 135-158; Philip Howell, The trouble with liminanimals, in: Parallax 25 (2019), pp. 395-411, p. 406.

Wells's "post-Darwinian" science fiction helps to exhibit anthropocentrism. Haraway's "post-Darwinian" science fiction, in contrast, tries to reverse anthropocentrism, also insofar as in Camille's story, after all, it's humans who try to transgress the supposed border between humans and animals. The future bodies Haraway is dealing with especially contain aesthetic variations or sensual extensions, but these bodily modifications not only somehow put humans at the center again, they are also meant to offer the human protagonists[124] specific advantages – not disadvantages. The bodily modifications which the first and the second Camille experience are expressly intended to supposedly optimize them.[125] In this sense, Camille's feelers aim to increase and intensify Camille's feelings – "so that more vivid tasting of the flying insects' worlds could become the heritage of the human partner too, helping in the work and adding to the corporeal pleasures".[126] Thus, it seems to me that Camille's story unintentionally reproduces the social demands being characteristic for – what I would like to call – the Moreaucene. Like Moreau, Camille negotiates the "plasticity" of bodies and the multispecies possibilities of future bodies in order to remodel human-animal relationships. In this case, the bodily modifications only seem to target certain humans, but the genetic engineering Haraway is dealing with is based on animal experiments – on their long history and unthemed continuity. Against this background, Camille's feelers are deeply embedded in the hegemonic position that humans very often take towards other animals.

Even if Camille goes in the opposite direction, in this sense, Camille does not really deviate from the path Moreau follows. From this point of view, the Chthulucene has not started yet – but the Moreaucene seems to be going on.

5. Feelers, Feelings and the History of the Body

In this context, feelers and feelings play a crucial role for Camille's story and its "tentacular thinking". Haraway explains "that tentacle comes from the Latin tentaculum, meaning 'feeler,' and tentare, meaning 'to feel' and 'to try'."[127] Feelings are of great interest in many posthumanist speculations and in many posthumanist theories as well – quite often in

124 Humans are clearly the protagonists in Camille's story – not monarch butterflies or other animals.

125 Haraway even speaks of "enhanced" – "Camille 1's gut and mouth microbiomes were enhanced". Haraway, Staying, p. 148.

126 Ibid., p. 152.

127 Ibid., p. 31.

a very traditional sense, making use of the binary distinction between rational and emotional.[128]

With regard to Camille‘s story, I have the impression, Haraway assumes that feelings – emotions or affects – are some kind of natural reaction with biological foundations which can be improved technically through genetic engineering. But getting the feelers of a butterfly does not mean feeling like a butterfly. You don't feel or sense, taste or smell like a butterfly seems to do because you have been bodily modified through genetic engineering. Perhaps someday you can easily implant feelers – but you cannot easily implant feelings or "corporeal pleasures". There seems to be no direct link between feelers and feelings or senses and sensations. From a body history perspective, it is not fruitful to view feelings in this way – as a natural reaction with biological foundations which can be improved technically. In this context, it is noticeable that Haraway doesn't seem to be particularly interested in neither emotion research nor affect studies, although affect studies are loosely connected with animal studies and closely entangled with posthumanist speculations or posthumanist theories.[129]

Against the background of ongoing discussions in emotion research, primarily on the part of many historians or anthropologists and on the part of some neuroscientists and psychologists as well, it seems to be more fruitful to understand feelings as everyday practices or as momentary effects of everyday practices. In this sense, feelings are a form or a result of something that somebody does or tries to do, a temporary state of bodily excitement or bodily relaxation that is defined differently, that is interpreted differently, that is expected differently, that is learned differently, that is performed differently and that is very difficult to sustain or guarantee.[130] In their very concrete modes of exis-

128 Cf. for example Braidotti, The posthuman, p. 78. Braidotti stresses that she "identifies in emotions, rather than in reason, the key to consciousness."

129 Cf. for instance Michael Richardson, Embodiment and affect, in: Sherryl Vint (ed.), After the human. Culture, theory and criticism in the 21st century, Cambridge 2020, pp. 58-71. Cf. in general Patricia Ticineto Clough/Jean Halley (eds), The affective turn. Theorizing the social, Durham 2007; Melissa Gregg/Gregory J. Seigworth (eds), The affect theory reader, Durham 2010. See also Brian Massumi, Parables for the virtual. Movement, affect, sensation, Durham 2002; Brian Massumi, What animals teach us about politics, Durham 2014.

130 Cf. in particular Plamper, History, pp. 98-145 and 251-269. See also Daniela Saxer, Mit Gefühl handeln. Ansätze der Emotionsgeschichte, in: Traverse. Zeitschrift für Geschichte 14 (2007), pp. 15-29; Pascal Eitler/Monique Scheer, Emotionengeschichte als Körpergeschichte. Eine heuristische Perspektive auf religiöse Konversionen im 19. und 20. Jahrhundert, in: Geschichte und Gesellschaft 35 (2009), pp. 282-313; Monique Scheer, Are emotions a kind of practice (and is that what makes them have a history)? A Bourdieuian approach to understanding emotion, in:

tence, I would like to argue, feelings are always and above all socially produced in many different ways – framed, perceived, aquired, shaped, trained, fought, refined, irritated, forgotten within various relations with other humans, other animals and many other beings. From this point of view, Moreau's story exhibits an important shift from Camille's story and its hidden assumptions about supposed feelings.

In this "evolutionary fable", Wells does not depict the fear of a supposedly hidden or threatening animal in every human, but the attempt to ruthlessly force and permanently control what is allegedly lurking in that animal – its instincts or, better, its feelings. Moreau saws up bones, cuts tendons, forms muscles, he doesn't have any problems subjecting the other animals to extensive operations without anesthesia – but he is very concerned about their feelings as "a strange hidden reservoir to burst suddenly". In this sense, Moreau's problem is feeling – not living. Reproducing the binary distinction between rational and emotional, making humans means for Moreau to make "a rational creature". Yet, he doesn't manage to totally eliminate the basic capacity of the other animals to feel, although he tries very hard to clearly localize the possible seat of the feelings in the body, in the brain.[131] And it is precisely in this respect that this science fiction places feelings at the center of interest – the feelings of other animals and, thereby, the feelings for other animals.[132]

In this regard and far more than Camille's story, Moreau's story may help to better understand that human-animal relationships in modern societies have not simply become increasingly contradictory – with animal experiments or cattle cars on the one side and lovely pets or animal welfare on the other. Moreau's story may help to adequately consider not only that billions of animals have been used – caged and killed – in animal experiments, but also how some animal experiments confronted first the life sciences and finally the wider public with the idea that not only humans, but at least some other animals can and do feel too. In this sense, human-animal relationships have not simply become increasingly contradictory.

Many researchers within animal studies in general, and within animal history in particular, describe human-animal relationships as inherently ambivalent or in their essential dialectic between processes of commodification on the one hand and processes of emotionalization on the other – whereby emotionalization is treated as a reaction to commode-

History and Theory 51 (2012), pp. 193-220. Cf. for example Lisa Feldman Barrett, How emotions are made. The secret life of the brain, London 2017.

131 Wells, Island, p. 78. See also Eitler, The "origin", pp. 91f.

132 Wells, Island, pp. 73ff. and 37f.

fication. But commodification and emotionalization are not necessarily contradictory, thus, there is no essential dialectic.[133] And to understand inherent ambivalence as "the fundamental finding" about "the human-animal relationships" in modern societies[134] is to reproduce the seemingly clear border between humans and animals more than necessary – for it opposes humans with all other animals and insists, in this regard, on different species. Yet, humans relate very differently towards other animals, thus, not all human-animal relationships are inherently ambivalent, but only some of them, in a specific period, to a certain degree. And humans relate very differently not only towards other animals, but also towards other animals of the same species – not because all human-animal relationships are inherently ambivalent, but because everybody within these relationships is socially produced. In modern societies other animals of the same species can be bodily modified and supposedly optimized in many different ways – although they belong to the same species, they are not the same "state of the social". In the second half of the 19th century, for example, dogs were confronted with very different social demands – as family animals, daily consumables, working animals, luxury goods.[135]

In this sense, we should not insist on different species, but focus on different bodies. When we try to understand the social production of different bodies as socially productive, the emotionalization of human-animal relationships – especially since the second half of the 19th century – is much more than a reaction at their commodification. Moreau's story may help to better understand that it has its very own history.[136] It did not concern all other animals in the same way or to the same extent, and it is less necessary to investigate in which areas of modern societies many humans apparently ignored the possible feelings of other animals. It is of greater importance to reconstruct how more and more humans – especially since the second half of the 19th century – have come up with the idea that not only humans, but at least some other animals can and do feel too. And what was made of this idea? How did this emotionalization of animals drive and shape the emotionalization of human-animal relationships – or vice versa? And how did

133 Cf. for instance the important studies of Eva Illouz.

134 My translation of Clemens Wischermann, Tiere und Gesellschaft. Menschen und Tiere in sozialen Nahbeziehungen, in: Krüger et al. (eds), Tiere und Geschichte, pp. 105-126, p. 121.

135 Cf. for example Buchner, Kultur mit Tieren; Howell, At home; Zelinger, Menschen und Haustiere; Pearson, Dogopolis. See also Pascal Eitler, Ambivalente Urbanimalität. Tierversuche in der Großstadt (Deutschland 1879-1914), in: Informationen zur modernen Stadtgeschichte 40 (2009), pp. 80-93.

136 See also Buchner, Das Tier als Freund; Eitler, Tiere und Gefühle.

humans and other animals generate and utilize a variety of feelings – in the physiological laboratory or on the street, in the living room or at the zoo?[137]

The animals' feelings in Moreau's story that finally appear to "burst" are not simply the feelings of just any animal. Their suggested feelings – above all fear and hate – can be traced primarily to their painful treatment during their bodily modifications and afterwards under "the law". Thus, in their very concrete modes of existence, the animals' feelings in Moreau's story are socially produced.[138] At this point, one can read this troubling novel in two ways: One can stress that Moreau fails in his attempt to totally eliminate the basic capacity of the "beast people" to feel; as an effect, he is finally killed by one of them; but one can also emphasize how successful Moreau is in temporarily controlling the animals' feelings within a certain social order – through a rigid system of clear rules and severe punishments; and just because their feelings are socially produced it is not possible to permanently control them.

In this regard, from a body history perspective with genealogical intent, it is not fruitful to view feelings as some kind of natural reaction with biological foundations – neither in the case of humans nor in the case of other animals.[139] Very often living beings, especially humans and other animals, are ascribed as having the basic capacity to feel, yet, we may not simply conclude from this basic capacity to a specific ability.[140] The question then is not under what general conditions humans or other animals can feel anything, but under what particular conditions humans or other animals do feel something – something specific for specific reasons, in different forms, with different effects.

However, bodies do not need to feel to come into view. Likewise, it is not fruitful to view feeling and living as almost equivalent, as not only some researchers from the life sciences seem to suggest, but also as some researchers in the social sciences seem to propose.[141] The history

137 The history of the zoo may be a good example. Cf. for instance Nastasja Klothmann, Gefühlswelten im Zoo. Eine Emotionsgeschichte 1900-1945, Bielefeld 2015; Rothfels, Savages; Wessely, Künstliche Tiere.

138 See also Carrie Rohman, Burning out the animal. The failure of enlightenment purification in H. G. Wells's "The Island of Dr Moreau", in: Mary S. Pollock/Catherine Rainwater (eds), Figuring animals. Essays on animal images in art, literature, philosophy, and popular culture, Basingstoke 2005, pp. 121-34, p. 129.

139 Cf. in general Eitler/Scheer, Emotionengeschichte.

140 See also the informative discussion in Evan Thompson, Could all life be sentient?, in: Journal of Consciousness Studies 29 (2022), pp. 229-265.

141 In the social sciences, this view was promoted mainly by affect studies, but it was also supported elsewhere. Cf. for example Lisa Blackman/Mike Featherstone, Revisioning Body & Society, in: Body & Society 16 (2010), pp. 1-5, p. 4. In this sense, Lisa Blackman and Mike Featherstone claim that "the paradigms of both life and affect

of the body is based neither on feeling nor on living. Accordingly, bodies do not need to live to come into view. What the social sciences can observe scientifically – with their different methods and specific data – is only that bodies are mostly viewed as living beings. Therefore, it seems reasonable to distance the history of the body from any kind of new vitalism.[142] And it seems reasonable too not to reduce animal studies in general or animal history in particular to some kind of animate history.[143] The social sciences are not only about living beings, thus, we should not replace the concept of the social with the concept of the living.[144] Also in this regard, this paper tries to decenter not only humans but other animals as well – in a symmetrical sense.[145]

The history of the body does not start from humans or other animals, but from bodies that are in their very concrete modes of existence socially produced in many different ways. A great variety of social demands is made on them – about their appearance and their actions – in order to be considered as humans or other animals, in order to be signified as actors or veritable persons, in order to be accepted as raising own claims and receiving own rights.[146] And these claims and rights can also be taken away again – from humans and other animals, partially or even completely. Against this background, it is not so much different species as something given but rather different bodies as something made that is at the center of interest.[147]

For this reason, this paper aims not at better understanding relations of relatives, but everyday practices which socially produce so-called humans as different humans and so-called animals as different animals which may be socially productive whether they do relate or don't relate as evolutionary relatives.

break down the distinction between humans and other life forms […]." Cf. for instance Joanna Latimer/Mara Miele, Naturecultures? Science, affect and the non-human, in: Theory, Culture & Society 30 (2013), pp. 5-31.

142 For a balanced critique cf. in particular Thomas Nail, What's the matter with life?, in: Stephen E. Wilmer et al. (eds), Life in the posthuman condition. Critical responses to the Anthropocene, Edinburgh 2023, pp. 241-260. Cf. in contrast, for example, Jane Bennett, Vibrant matter. A political ecology of things, Durham 2010.

143 Misleading in this regard for example: Gesine Krüger/Aline Steinbrecher/Clemens Wischermann, Animate history. Zugänge und Konzepte einer Geschichte zwischen Menschen und Tieren, in: Krüger et al. (eds), Tiere und Geschichte, pp. 9-34.

144 Cf. in contrast, for example, the informative discussion in Markus Schroer, Geosoziologie. Die Erde als Raum des Lebens, Berlin 2022, pp. 13-35 and 586-592.

145 On this symmetrical sense cf. in general Latour, We have never been modern, pp. 95ff.; Latour, Reassembling the social, pp. 76ff.

146 This is what body history tries to show for some time, it is time to show it for animal history as well. See also Eitler, Animal history; Howell, The triumph.

147 At this point, I have to ignore the ongoing debate about the concept of species within the life sciences.

6. Some conclusions

I have the impression, Haraway does not really elaborate on what humans and other animals – their past, present or future bodies – exactly have in common as evolutionary relatives. Do they have more in common than being “beings of the earth”? But what distinguishes a butterfly from an armchair in this case? It almost has become a kind of reflex to refer to "the mortality and vulnerability that we [humans and other animals] share".[148] But what exactly do such basal definitions explain? How do they really help to better understand the very diverse and sometimes remarkable changes in humans or other animals and their various relations?

In her alternative project of making kin with other animals, Haraway is implicitly referring to the qualities to live and to feel, to move or to sense.[149] It is primarily these qualities that seem to demonstrate a lot of similarities between humans and other animals or their bodies. But is it really fruitful to refer to these qualities? What about humans or other animals whose ability to sense is severely reduced, whose ability to move has almost disappeared, who can barely feel, who no longer live, who die before birth or who are in coma? In such a case, in which fewer and fewer similarities can be described, do the humans or other animals in question no longer deserve political solidarity? Don't they have any claims, don't they have any rights? Haraway doesn‘t suggest that, she tries to multiply and intensify the similarities among and between humans and other animals – and all "chthonic ones" on planet earth as a complex ecological system.

However, by stressing the idea of kinship and promoting the relations of relatives, Haraway seems to underestimate the importance she thereby gives to similarities. The idea of kinship, I would like to argue, is problematic not only when it draws on biological parenthood, linear descent and traditional family role models, which Haraway questions for good reasons.[150] This idea is also problematic because it always relies on alleged similarities that are apparently shared among relatives. And I have the impression that everybody who thinks in terms of kinship

148 Cf. for instance Wolfe, Posthumanism, p. 74; Nayar, Posthumanism, p. 109. See also Franklin Ginn, Posthumanism, in: Lynn Turner/Undine Sellbach/Ron Broglio (eds), The Edinburgh companion to animal studies, Edinburgh 2018, pp. 413-429; Susan McHugh, Animals, in: Vint (ed.), After the human, pp. 105-119; James Stanescu, Species trouble. Judith Butler, mourning, and the precarious lives of animals, in: Hypatia 27 (2012), pp. 567-582. Cf. in contrast, for example, the informative discussion in Braidotti, The posthuman, pp. 63-101.

149 This is the reason why migration and mediality play such a role in her study.

150 Cf. for instance Haraway, Staying, pp. 5f. and 216.

always thinks they share important similarities with their relatives much more than with others, not only, but above all biological similarities.[151]

Camille's story is focusing so much on biological similarities because these make bodily modifications through genetic engineering possible and calculable. But in this context, Haraway seems to link the question of political solidarity to the question of biological similarities – that easily harbors the risk of biopolitical hierarchies, for example between beings who may or may not have the qualities to live or feel. Haraway knows that, in Camille's story she is dealing with this risk quite openly.[152] Facing the serious dangers of a global crisis, growing populations and climate changes, she seems to take this risk.

In contrast, the body history perspective this paper is based on lacks any kind of such a global crisis perspective – because in their very concrete modes of existence, future bodies won't be, and present bodies are not, per se more endangered or dangerous than past bodies were. And from this lack this paper tries to draw some conclusions. Perhaps we should not look for more and more biological similarities, but instead make biological differences less and less important and derive no claims or rights from either the one or the other – and in this regard we may not refer to the life sciences. Thus, I would like to argue, fundamental changes within human-animal relationships are less about basal definitions and much more about complicated decisions.[153]

At this point, I am not concerned with critically discussing the life sciences or genetic engineering per se, I only question Haraway's alternative project of making kin with other animals. This paper problematizes the idea of kinship between humans and other animals by demonstrating in how far it is deeply embedded in the hegemonic position that humans very often take towards other animals. Problematizing this idea from a body history perspective does not mean ignoring it from an evolutionary theory perspective. This paper does not argue against interdisciplinarity or transdisciplinarity, but all scientific disciplines should

151 In this sense, Janet Carsten speaks of kinship as a way in which humans "create similarit[ies] or differenc[es] between themselves and others." Janet Carsten, After kinship, Cambridge 2004, p. 82.

152 Cf. for example Haraway, Staying, p. 149.

153 See also the informative discussion in Eva Haifa Giraud, What comes after entanglement? Activism, anthropocentrism and an ethics of exclusion, Durham 2019. On the level of everyday practices, the concept of the Zoopolis – with all its various problems – is perhaps a political response that is more fruitful than the concept of the Chthulucene. Cf. in particular Sue Donaldson/Will Kymlicka, Zoopolis. A political theory of animal rights, Oxford 2013. For a balanced critique cf. for example Dinesh Joseph Wadiwel, Zoopolis. Challenging our conceptualization of political sovereignty through animal sovereignties, in: Dialogue 52 (2013), pp. 749-758.

be made as strong as possible.[154] How else could we weigh up their potential strengths and come up with something mediating? What the social sciences can observe scientifically – with their different methods and specific data – is not that humans and other animals are evolutionary relatives, but, for example, what humans do when they make this idea of kinship the basis of their hegemonic position towards other animals: What path do we follow when we tell that story?

Billions of animals that have been used – caged and killed – in the long history of animal experiments show what humans try to make with and out of other animals, not although, but just insofar as they are viewed as evolutionary relatives. Yet, you can think of humans as animals and you can aim for fundamental changes in human-animal relationships without stressing the kinship between them.[155] You don't have to be kin and you don't have to make kin in order to be kind.[156] Haraway doesn‘t claim that, she doesn‘t give strict orders, she makes thoughtful suggestions, in her manifold reflections she explores new relationships and recalls forgotten interweavements. In Camille's story, she does not prescribe a rigorous program but negotiates an alternative project – and she therefore speculates about future bodies and bodily modifications through genetic engineering.[157]

However, from a body history perspective with genealogical intent, if you are still concerned with the long history of animal experiments, their unthemed continuity and biopolitical hierarchies, if you aim to reconstruct feelings less as a natural reaction in many living beings but rather as socially produced in many different ways, if you‘re less interested in the alleged stability and extraordinary form of bodily modifications through genetic engineering for certain actors but rather in the ongoing repetition of unstable materializations in everyday practices, thus, if you try to decenter not only humans but also other animals, with regard to their bodies, not with respect to their species – it could be fruitful if humans make kin with other animals not more, but less.

154 From this point of view, interdisciplinarity or transdisciplinarity is fruitful when it is based on collective struggle and not on individual thinkers. Cf. for example Julia Adeney Thomas, History and biology in the Anthropocene. Problems of scale, problems of value, in: AHR 119 (2014), pp. 1587-1607.

155 Thereby, humans and other animals are very often and very easily privileged over all other beings, for example over plants. Cf. for instance Jeffrey T. Nealon, Plant theory. Biopower and vegetable life, Stanford 2015.

156 Misleading in this regard for example: Gary Steiner, Animals and the moral community. Mental life, moral status, and kinship, New York 2008, pp. 132-142.

157 I'm absolutely not interested in somehow playing off Haraway's former work on animals in everyday practices against her recent move to animism as survival tool. To point out that a certain political response does not go hand in hand with a certain scientific perspective does not mean rejecting it per se or in toto.

For the social sciences, I would like to suggest, humans and other animals only have something in common when they come into existence and act in direct confrontation or in direct collaboration with each other, thus, when they form societies, assemblages or collectives, for a somewhat longer duration and with somehow traceable effects – not per se or as "beings of the earth" but in actu and as a certain "state of the social".[158] And only in this case do other animals really have a history. For we should keep in mind that history is not the same as time or development, nor is it the same as past or evolution. The concept of history, as it has been coined especially in Western Europe and North America over the last 250 years, is rooted in a specific view of, and a specific trust in, humans – continuity and order, hierarchy and progress. It reminds us that history is always written by certain humans.[159] Is it really fruitful to easily apply this concept to all other animals or even all humans – anywhere and anytime? How is empirical work in animal studies in general or in animal history in particular brought further by claiming that "all history is animal history"?[160] And how is it brought further by insisting that humans have influenced all other animals on planet earth as a complex ecological system?[161]

From this point of view, some of the monarch butterflies Camille is caring for have something in common with humans, but there are a lot of monarch butterflies and other animals which have nothing in common with humans – and why should they?[162] This is not a reckless call for purification, this is a careful request for differentiation – not in respect to different species, but in regard to different bodies.

158 Cf. in particular Latour, Reassembling the social, p. 78: "So, we have to take non-humans into account only as long as they are rendered commensurable with social ties and also to accept, an instant later, their fundamental incommensurability." In this sense, I would like to combine Latour with Bourdieu.

159 And postcolonial history, gender history, disability history and labor history remind us that – so far – they were mostly "white", "male", "healthy" and "bourgeois".

160 Etienne Benson, Animal writes. Historiography, disciplinarity, and the animal trace, in: Linda Kalof/Georgina M. Montgomery (eds), Making animal meaning, East Lansing 2011, pp. 3-16, p. 5.

161 Therefore, we may stop subsuming animal history under some kind of environmental history that very often cannot avoid reproducing the traditional distinction between nature and culture through the corresponding distinction between environment and society. Cf. in contrast, for example, the informative discussion in Emily O'Gorman/Andrea Gaynor, More-than-human histories, in: Environmental History 25 (2020), pp. 711-735, pp. 713-716.

162 While an onco mouse in a medical laboratory certainly has something in common with humans, I would like to argue, a masked shrew in a hidden moorland probably does not. Not only in her strict rejection of "transgenetic creatures" does Weisberg clearly reinforce the traditional distinction between nature and culture. Cf. in particular Weisberg, The broken promises, pp. 49ff.

In this sense, it seems important to me that almost at the end of "The Island of Doctor Moreau" the only surviving human – Mister Prendick, a former castaway who has nothing to do with the bodily modifications on the other animals – finally escapes from the isolated island. Although this remote place is not absolutely detached from growing populations or climate changes in general and ocean currents or shipping routes in particular, the "beast people" are now all on their own. Their established social order undergoes a decisive social change – and without a rigid system of clear rules and severe punishments, their bodily modifications seem to lose their alleged impact. Only against this background, it becomes clear that it was less extensive operations than everyday practices which socially produced these "humanized animals".[163] At the end of this troubling novel we don't find out – we don't know and we don't have to know – what will become of the "beast people". But at least they no longer have to test and prove the idea of kinship between humans and other animals which lies at the very heart of the Moreaucene and also, even more, at the very heart of the Chthulucene. They leave the Moreaucene, yet, they do not enter the Chthulucene. They are wherever they are.

Thus, at the end, Haraway is right, "it matters what stories we tell to tell other stories with".[164] From a body history perspective with genealogical intent, neither Moreau's story nor Camille's story, but perhaps a different kind of posthumanist speculations may help to think of more and more humans and more and more other animals not as related with each other, but as released from each other.

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163 Cf. in particular Wells, Island, pp. 121-128. See also Rohman, Burning out, p. 129. In this context, Wells's science fiction from 1896 could be read as a direct response to, and literary support for, Huxley's famous lecture from 1893 about the role of ethics for evolution: Thomas Henry Huxley, Evolution and ethics, Cambridge 2009 (orig. 1893). Cf. for example Neill, Human evolution, pp. 82f.; McLean, The early fiction, pp. 53f.; James, Maps, p. 66; McConnell, The science fiction, p. 102.

164 Haraway, Staying, p. 12. Cf. for instance Tobias Skiveren, Fictionality in new materialism: (re)inventing matter, in: Theory, Culture & Society 39 (2022), pp. 187-202; Helen Palmer, A field of heteronyms and homonyms. New materialism, speculative fabulation, and wor(l)ding, in: David Rudrum et al. (eds), New directions in philosophy and literature, Edinburgh 2019, pp. 215-233.