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“When Species Meet”: Beyond Posthuman Boundaries and Interspeciesism – Social Justice and Canadian Speculative Fiction

Zusammenfassung

Die Literaturwissenschaften des 21. Jahrhunderts beschäftigen sich mit diversen neuen Ansätzen und Methoden, die sich neuen Technologien oder neuerer Sozialkritik zuwenden. Das Bezugssystem der spekulativen Literatur bietet hierbei vielfältige Anknüpfungspunkte für eine kritische Auseinandersetzung mit zeitgenössischen Diskursen, wie z.B. den Naturwissenschaften, Globalisierung, biotechnologischem Fortschritt, Tierrechten und Ökologie, welche zunehmend verknüpft sind mit dem im 21. Jahrhundert gestiegenen Interesse an sozialer Gerechtigkeit bzw. Schuld. Besonders die spekulative Literatur mit ihrem Fokus der Extrapolation sozio-kultureller Probleme und technologischem Fortschritt enthält ein subversives transformierendes Potential, da sie einen Zugang zu einem imaginären Anderen, eine Immersion in andere Seinszustände eröffnet, der LeserInnen berühren und so eine neue emphatische kognitive Flexibilität anstoßen kann. Im Rückgriff auf den die kognitiven Strukturen verändernden „schema criticism“ (Bracher, Moya) exploriert der Artikel die Verschränkungen von sozialer Gerechtigkeit, Posthumanismus, critical animal studies und Neuem Materialismus und inwiefern zeitgenössische kanadische spekulative Literatur eine Zukunft der unscharfen (Körper-) Grenzen und erste Schritte hin zu „multispecies justice“ (Heise) verhandelt. Diese Verstrickungen von Bioformen und die Hinwendung zum planetarischen Überleben schreiben die kanadische animal story und den kanadischen Topos des „Überlebens gegen die Natur“ um und initiieren kognitive Schema-Transformationen der Figuren und implizit des Lesers bzw. der Leserin.

Abstract

21st century literary studies engage in diverse ways with new methods and theoretical approaches, using new technologies and new ways of dealing with social criticism. Speculative literature offers a unique framework for engaging with current critical discourses, e.g. on science, globalism, biotechnological advances, animal rights, and ecology, all increasingly linked with the 21st century's heightened interest in social justice and social debt. The article argues that speculative literature—extrapolating from contemporary socio-cultural problems and technological advances—contains a subversive

transformative potential, as it accesses an imaginary other, immerses us into alternate modes of being, affects readers, and thus instigates a new emphatic, cognitive flexibility. Drawing on “schema criticism” (Bracher, Moya) and its reshaping of cognitive structures, the paper then explores the intersections of social justice, posthumanism, critical animal studies, and new materialism and how recent Canadian speculative fiction negotiates a future of fuzzy (body) boundaries and imagines first steps towards a “multispecies justice” (Heise). The paper traces how such ‘entanglements’ of bioforms and a turn to planetary survival rewrite both the Canadian animal story and the Canadian ‘survival against nature’ topos and contribute to the characters’ (and implicitly the readers’) schema transformations.

Résumé

Les études littéraires du XXI^e siècle s’inspirent diversement de méthodes nouvelles et d’approches théoriques s’intéressant aux nouvelles technologies ou aux critiques sociales innovatrices. La littérature spéculative ou d’anticipation offre un cadre unique de réflexion qui nous permet de comprendre et de gérer les discours critiques actuels sur la science, la mondialisation, le progrès biotechnologique, les droits des animaux et l’écologie, etc., tous liés à l’intérêt grandissant du XXI^e siècle pour la justice et le dû sociaux. L’article essaie de démontrer que la littérature spéculative, en extrapolant les actuels problèmes socio-culturels et le progrès technologique, possède un certain potentiel subversif et transformateur dans la mesure où elle accède à un imaginaire autre, nous immerge dans des modes alternatifs d’être dans le monde, affecte les lecteurs et, de cette façon, instaure une nouvelle flexibilité emphatique et cognitive. Partant de ce que Bracher et Moya nomment le « schema criticism » et qui implique une transformation des structures cognitives, cet article se propose d’examiner les intersections de la justice sociale, du post-humanisme, des études animales critiques et du nouvel matérialisme. Il analyse par ailleurs comment la fiction spéculative canadienne débat actuellement un avenir aux limites (corporelles) floues et imagine le début d’une « multispecies justice » (Heise) ; comment l’« embrouillement » de bioformes et l’orientation vers la survie planétaire réécrivent à la fois l’histoire animale du Canada et contribuent à la transformation de l’éventail habituel de personnages (et des lecteurs).

21st Century Literature – Quo Vadis?

For more than a decade, critics have discussed what the most pressing questions and theoretical angles are for literary and cultural studies in the 21st century, or indeed, whether “there [is] such a thing as twenty-first-century fiction” (Boxall 1) at all. What are the humanities or, more specifically, what is literature, what is literary criticism good for? “It’s over!” (166) Linda Hutcheon wrote in *Politics of Postmodernism* (2002), and ever since, often with references to an intensified economic capital-

ist logic, digitalization, and changed communication (technology), scholars have been coming up with new declarations for the 21st century and its fictions, such as “hypermodernism” (Lipovetsky 2005), “digimodernism” (Kirby 2009) or, reviving Tom Turner’s 1995 phrase, “post-postmodernism” (Nealon 2012). For Zygmunt Baumann, a fleeting “liquid modernity”¹ has replaced solid (post)modernity which is characterized for Paul Virilio by a ubiquitous instantaneity tied to the spatio-temporal technological transformation.² Peter Boxall calls this difficult approximation of this elusive contemporary the “illegibility of the present” (2) and pinpoints historicity, posthumanism, terrorism, globalization, and democracy as immanent themes or “cultural characteristics” (2) of 21st century fiction. Increasingly, the fluid “international nature of the contemporary novel” (Boxall 7) requires a global market and a global community of readers, what Ursula Heise calls an “environmental world citizenship” (2008, 10). For Boxall, contemporary literature is primarily concerned with “shifted temporality” (9), slowed and accelerated time, a renewed preoccupation with the real, and the materiality of embodiment. For Heise, globalization has replaced postmodernism and postcolonialism and she thus postulates a literature of deteriorialized “eco-cosmopolitanism” and “socioenvironmental justice” (2008, 10). However, perhaps the label is less important than the content, and after the postmodern heyday of literary criticism scholars at large seem to be in search of 21st century methods, theories, and sometimes the very object: some turn to video games and hypertexts (Katherine Hayles) or enthuse about the new quantitative opportunities which the digital humanities present (Franco Moretti’s ‘distant reading’); some choose interdisciplinary approaches that include neurosciences (Lisa Zunshine, Brian Boyd); others (re)turn us to new materialism (Rosi Braidotti, Karen Barad) or speculative realism (Quentin Meillassoux); and yet others take to the critical lenses this paper uses: critical animal studies (CAS), posthumanism, and ecocriticism (Ursula Heise, Donna Haraway, Will Kymlicka, and Cary Wolfe).

Concomitantly, the ongoing intrinsic “crisis of the humanities”, fuelled by neoliberal expectancies and funding cuts, has pushed literary studies—once more—to question, legitimize, and reconsider what literature’s use might be beyond aesthetic gratification and what literary criticism can contribute to current socio-political discourses. I would argue that literature, and particularly speculative literature,³ provides us with a unique framework to access imaginary other cultures, historical

1 Focusing on an instantaneous mobility that transcends space and implies constant and rapid change, Baumann considers “fluidity” or “liquidity” as fitting metaphors ... to grasp the nature of the present ... phase in the history of modernity” (2).

2 For Virilio, “*real space* is currently giving way to ... *real time*” (9), the “real instant on instantaneous teleaction ... [of] teletopia” (10).

3 I use the iridescent generic term speculative fiction in the sense of a non-mimetic literature with fuzzy boundaries that engages with the future. That may include science fiction, utopian and dystopian stories, ecocritical or Anthropocene fiction, but does not include fantastic literature.

times, classes, genders, religions, different attitudes, and so on. Fiction dives into other (future, past, or alien) worlds, alternate histories, fantastic, magical or real events in a realistic or speculative setting, told in an avant-garde, prosaic or poetic style, in a linear coherent, fragmented, circular, or hypertext form. Literature is “world” and “time” travel (cf. Moya 34-35) and, most importantly, an exploration of new or alternate modes of existence and experience that offers an exercise in cognitive and emphatic flexibility at a distance. Literature can seek answers to questions society (or segments thereof) has repressed, forgotten, or not even anticipated. Obviously, writing and reading fiction are highly individual but situated acts, embedded in diverse linguistic, cultural, political, sexual, ethnic and so on, contexts. Yet, speculative fiction in particular has a global appeal, “a planetary reach” (Oziewicz 13), allowing a *multilogue of supplementary* perspectives, despite readers’ individual hermeneutic textual filters. Literature can indeed alter the way we filter information through pre-set assumptions, acquired over time according to personal, sociocultural etc. circumstances. And literary criticism can enhance these mental shifts.

Where social criticism’s deficient methods fail, literature and in particular the method of “schema criticism” (Bracher 2013, x)⁴ can address and reshape such deep cognitive structures responsible for ingrained pre-set judgements, Mark Bracher argues, and, ultimately, the latter can be “more effective in promoting social justice than other methods of criticism are” (2013, 294). Schema criticism as “a method for activating, maximizing, and extending the *schema-altering processes* that ... literary texts are capable of initiating” (2013, 288; my emphasis) propels these alteration processes forward and intensifies the fictional text’s intervention working towards “enhanc[ing] people’s metacognition” (2013, 290). Even if Bracher’s rather radical approach of literary studies as critic-oriented pedagogy is indeed geared towards willfully educating certain (easily manipulated) socio-cultural aims (or ideologies),

4 According to Bracher, the four types of knowledge virulent in cognitive theory—exemplars, prototypes, information-processing routines, and propositional knowledge—constitute ‘cognitive schemas’ we continuously draw upon whenever confronted with new information (e.g. meeting new people etc.). As vital as these cognitive schemas are for interacting with others and society at large, the four “faulty person-schemas” (2013, xiii) autonomy, essentialism, atomism, and homogeneity also produce misunderstandings and “unjust social policies, institutions, and systems” (2013, xiv), because certain data is not recognized or misinterpreted. Bracher argues that changing a cognitive schema requires a change of implicit knowledge, i.e. information-processing routines, exemplars, and prototypes. In his exemplary analyses of protest novels, Bracher demonstrates that “[l]iterary texts operate with and on all the forms of knowledge and information-processing activities that constitute cognitive schemas. And certain types of literary texts themselves promote the replacement of certain harmful schemas by (1) demonstrating their faulty and harmful nature (i.e., developing readers’ metacognition), (2) providing more adequate exemplars in multiple forms (concepts, characters, episodes, life stories, etc.), and (3) actually engaging, and hence training, readers in more accurate information-processing routines” (2012, 96).

for instance, social justice, it points us towards literature's capacity to *imagine* and instill a *desire* for the change of a dominant power system which

operates in, on, and through people's person-schemas, by getting them to (mis)perceive and (mis)judge other people in ways that lead them to experience unjustified emotions and engage in unjust actions The key intervention is the fostering of person-schemas that enable people to achieve more adequate understanding of other people, which in turn inspires more appropriate emotions and more just actions (294–295).

In *The Social Imperative* (2016) Paula Moya argues in a similar vein from the perspective of social psychology that literature not only reiterates the status quo but has the power to change mental structures by creating new schemas, and postulates a (re)turn to close readings, here in relation to race, as the most effective tool.⁵ According to Moya, these "self-relevant" and life-long "learned" schemas of social experiences provide "perceptual filters" (18), as for instance David Simons's and Christopher Chabris's famous "Invisible Gorilla" experiments have shown. These filters are "embedded into ... literature through a variety of narrative features" and "[as] a part of the social world literature is a system of social communication through which information, ideas, and norms are transmitted from author to reader, and among different communities of readers" (Moya 163).

Clearly, literature contains transformative potential whether by new schemas or an unexpected (temporary) fusion of horizons; there is a nexus where social change begins. I believe it begins with imagination, the imagination of sociocultural alternatives and new ideas we *experience* in literature, because as readers we are *affected*. As aesthetic *thought* experiments in the sense of a cognitive *experience* speculative fiction, by defamiliarization, and extrapolation, is potentially subversive of established concepts and interfaces present and future. Neither literature nor literary criticism will change the world, but both might contribute to cognitive and social shifts, heightened awareness, and eventually trigger change. And some genres, such as speculative fiction or protest novels etc., share an explicit interest in instigating cognitive and socio-cultural change.

The Intersections of Social Justice, Posthumanism, Critical Animal Studies, and New Materialism

Over the past decade and under the pressure of globalization, glocalization, neo-liberalism, increasingly noticeable repercussions of the ecological crisis, and biotechnological genomic advances, the ensuing pressing questions of social

5 For the post-positivist realist Moya, schemas as "conceptual frameworks that predispose us to select, organize, integrate, and remember ... incoming stimuli" (23) involve both mind and body and this is where schemas, epistemology and ontology, intersect with Barad's agential realism and new materialism.

(in)justice and social debt, or “payback” as Margaret Atwood phrases it, of a debatable loss of human boundaries and connected ethical concerns have come into the limelight.⁶ As Cheryl Clarke aptly acknowledges, “literature has been a process of social justice recovery, remembering, revising” (484). If the principles of “fairness, balance, and justice ... may well be prehuman” (Atwood 2008, 162), then other bioforms must be accounted for and the ecological imbalance, the result of the current ‘desert of the real’ in the making, might exact its toll. Simultaneously, previously well-established discourses on identity, alterity, affinity, and equality, and the interlaced issues of exclusion and inclusion have come under scrutiny and reappraisal.

Historically, the term ‘social justice’ is a narrow and exclusive one, principally describing the equal relationship or regulation of power between society and individuals, the fair distribution of “wealth, commodities, opportunities, and privileges” (OED) at the societal level, in John Stuart Mill’s words, “we should treat all equally well ... who have deserved equally well of us, and ... society should treat all equally well who have deserved equally well of it. This is the highest abstract standard of social and distributive justice” (55).⁷ Very basically sketched, whatever perspective of social justice has been privileged or denied, social justice from antiquity to modernity has been fundamentally restricted to (segments of) humankind.⁸ In antiquity

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- 6 In *Payback* (2008), Atwood asks whether “we [are] in debt to anyone or anything for the bare fact of our existence? If so, what do we owe, and to whom or to what? And how should we pay?” (2008, 1). In her literary exploration of the connection between moral, sin, memory, contracts, memory, shadow psychology, and debt (and revenge), Atwood argues that not only is a debt psychology “deeply embedded in our entire culture” (2008, 10) and counterbalanced by “our sense of fairness” (2008, 12), but that debt “as a result of actions” (2008, 81) becomes “a primary engine of story itself” (2008, 80), a basic plot line or motif.
- 7 For a general overview and a diverse discussion of social justice in multiple areas and geographical locations, addressing a wide range of theories, cultural practices, and historical perspectives—laudably including alternative perspectives on social justice from diverse non-Western cultures and religions—see Michael Reisch (ed.) *The Routledge International Handbook of Social Justice* (2016). CAS and multispecies justice, however, are surprising lacunae in this otherwise comprehensive handbook, thus remaining within an anthropocentric frame. As Reisch argues in his introduction, social justice is essentially a critical utopian concept, “the translation of an idealized abstraction (social justice) into concrete terms may take different forms in different circumstances. The goal of social justice is, therefore, neither simple nor ever entirely realized. It is a goal which is constantly pursued rather than completely attained” (“Introduction” 2).
- 8 Marek C. Oziewicz suggests a useful historical categorization of Western justice in general into Old, New, and Open Justice. Spanning from antiquity to pre-Enlightenment, Old Justice is essentially hierarchical, exclusive, absolute, and community-oriented (*polis* and *civitas Dei*). New Justice ranges from the late Renaissance up to today, but is increasingly challenged by Open Justice beginning in the late twentieth century. While “contractarian and utilitarian New Justice” (25) seeks to extend an absolute but human-made justice to all individuals, communitarian Open Justice defines a pluralistic justice as “situational and provisional” (25) with diverse individuals and communities that are potentially not all equally enabled.

Socrates introduced something similar to the liberal idea of a social contract in *Crito*, when instead of fleeing he chooses to stay for his death sentence in Athens and thus abide to its laws and punishments. Plato addressed justice as a virtue of both society and individuals, whereas Aristotle limited justice to *free* citizens (excluding slaves and women). In the Middle Ages Thomas Aquinas stressed the divine aspiration of the lawful citizen, while Spinoza's more modern idea of justice focused on the perfection of the human character. Contesting the 'society of status' seventeenth and eighteenth century philosophers, such as Thomas Hobbes, John Locke (the 'father' of liberalism), Immanuel Kant, and Jean-Jacques Rousseau, advocated a 'society of social contract', an idea revived by John Rawls's justice of fairness in his *Theory of Justice* (1971), while Mill's utilitarianism aimed at the consequences of one's actions (which ought to produce a maximum of happiness for all). Historically, the term 'social justice' describes a (Catholic) religious concept of society allegedly first used by the conservative Sicilian Jesuit priest Luigi Taparelli in 1843, extending justice to the whole of society (triggered by the Italian Risorgimento), which then became part of the official doctrine of Catholicism in 1931 (see, for instance, also Pope Francis's recent papal bull on social justice and the environment in May 2015).⁹ With Western society's secularization, the 'death of God', the loss of religiously motivated 'internal' rules, the rise of science, and with industrialism and capitalism rapidly changing societal structures, a rationale for a just social order, an adapted modern external set of rules less grounded in an authority of privileges, was much needed. In truth, the social contract has been limited to the 'universal' liberal (white and male) individual, excluding the categories of gender and race.¹⁰ Criticizing Rawls's justice of fairness as a justice for *almost* equals, Martha Nussbaum has turned to the inclusion of the 'unequal' according to their capabilities: the disabled, less privileged humans, and nonhuman animals, and postulates a justice transcendental of the "species barrier" (326), abolishing the rationality paradigm. What exactly social justice ought to encompass is still a matter of debate. It is the still prevailing anthropocentric focus which posthumanism, CAS, ecocriticism and, by extension, new materialism challenge.

Social justice has become what W.B. Gallie calls an "essentially contested concept" (1956) where a "conceptual contestation" (1956) leads to confusion and disagreement. In his *Philosophy and Historical Understanding* (1964) Gallie elaborates on seven criteria relevant for the normative characteristics of concepts and defines "essentially contested concepts" as "inevitably involv[ing] endless disputes about their proper uses on the part of their users" (Gallie 1956a, 169). As much as social

9 Taparelli rejected a social contract, believing in the natural superiority of character, assets, and education, legitimizing the better equipped to rule society by divine will. Taparelli's distinction between society writ large and the local and familial societal structures as its basis eventually culminated in the Catholic doctrine of 'subsidiarity'.

10 See, for instance, Carole Pateman *The Sexual Contract* (1988) and Charles Mills *The Racial Contract* (1997).

justice is a contested concept, the very first question we need to ask, however, is: *to whom does it apply?* All of these approaches concentrate on *human* society, historically including or excluding sections of humanity according to the changing definitions of who is deemed human. Both environmental and multispecies justice (and new materialism) contests this *anthropocentric* perspective to include the natural world and nonhuman animals, while posthumanism demands distributive justice for other existing and future life forms, the post-human, clones, intelligent AI's or biomachines. Social justice must then be read as intersecting with CAS and post-human studies, ecocriticism, and a politics of affinity rather than identity. In this sense Kwame Anthony Appiah's call for "living in local troops and equip them with ideas and institutions that will allow us to live together as the *global tribe* we have become" (xiii; my emphasis) maybe needs to be rephrased as "to live together as the *global species* we have *always been*".

A widened concept of social/environmental justice can be found in a number of (eco)cultural criticism approaches: Haraway's "natureculture" concept—elaborated in her very personal *Companion Species Manifesto* (2003) and *When Species Meet* (2008), from which this article has taken its title—Kymlicka's *Zoopolis: A Political Theory of Animal Rights* (2011), and Heise's notion of "multispecies justice". Fundamentally "returning us precisely to the thickness and finitude of human embodiment" (Wolfe 2009, 572), to a shared materiality, posthuman, ecocritical, and animal studies's changed perceptions of a dynamic relationality tie in with Barad's new materialist, agential realist take on matter as "an active participant in the world's becoming" (Barad 2003, 803) through a "posthumanist notion of [intra-active] performativity" (2003, 808) that refracts (species) determinant boundaries. If nature and culture are fluxes, if "we are part of that nature we seek to understand" (2003, 828), mind is body and words and things are not disjoint (cf. Barad 2003, 811ff).¹¹ Barad's onto-epistem-ological understanding of justice as processual and interminable, as "[d]oing justice" or a "yearning for justice-to-come" (2012, 81), implies profound "connections and responsibilities to one another—that is, entanglements" (2007, xi). Such entanglements involve "dispossessed Others" (2007, 378), extending thus 'multispecies justice' to matter and ultimately may necessitate "the encounter with the inhuman" as well as with "the inhuman within 'us'" to "come to feel, to care, to respond" (2012, 81).

Both the discourse and the material reality of speciesism ascribe inferiority and deficiency to animals (and posthumans) grounded in (techno-)biological differences, just as historically humans deemed nonhuman have been animalized and categorized as different species (the parallels between speciesism, racism, and sexism being obvious), although evolutionary theories and the rise of secularism have

11 In her onto-epistem-ological approach Barad emphasizes that "materiality is an active factor in processes of materialization" (2003, 827) and that "matter is substance in its intra-active becoming—not a thing but a doing, a congealing of agency" (2003, 828).

demolished the idea of humans as a divine species ever since Darwin's *On the Origins of Species* (1859). Genome sequencing, bioengineering, biotechnological enhancements, and AI have further destabilized the debatable (ontological) status of humans and species boundaries. Drawing on the long-running man-machine discourse stemming from the Enlightenment, the 'post-human turn'—with Haraway's "Cyborg Manifesto" (1985) and Hayles's *How We Became Posthuman* (1999) as key texts—gesticulates towards the ambivalent artificiality of organic/anorganic, human/posthuman, nature/culture binaries, their deep entrenchment in (post)gender, class, and race issues, further questioning the posthuman's ontological status.¹² Considering technological progress as part of natural evolution (that will disembodify human intelligence), transhumanists, such as Hans Moravec or Ray Kurzweil as prominent representatives of the Singularity movement—consequentially envision the merging of technology and human either as posthumans or machine species.¹³

With the ongoing recognition of the complex and distinct social behaviour, communicative, and emotional abilities of other animal species, a non-anthropocentric view questioning "the humanist schema of the knowing subject" (Wolfe 2009, 569),¹⁴ CAS postulate the need to include the "actual animal" (Haraway 2008, 313, fn. 36), or the posthuman/postanimal.¹⁵ In her endeavour to scrutinize 'significant otherness', Haraway's concepts of 'natureculture' (the cohabitation of species and co-evolution) and 'companion species' expand thus her focus on the cyborgian "junior siblings" (2003, 11) to include domesticated and bred animals, dogs in particular. "Cyborgs and companion species each bring together the human and the non-human ... nature and culture in unexpected ways" (2003, 4).¹⁶ Disturbing the inade-

12 Heise identifies three functions of the alien: as ultimate *other* levelling inner-human differences; as a symbol of human difference, e.g. allegorical of racial conflict; and as a future development of humans turning into more evolved aliens (cf. Heise 2011, 456-458).

13 For a short introduction, see Moravec's "Rise of the Robots" (1999) or Kurzweil's "The Coming Merging of Mind and Machine" (1999) and *The Singularity is Near: When Humans Transcend Biology* (2005).

14 Drawing on Derrida's questioning of capability (*pouvoir*), "embodied finitude" (Wolfe 2009, 570), and exclusively human knowledge systems, Wolfe questions the very term 'animal studies' for upholding the very "nonsensical" (Calarco 143) distinction despite the shared materiality (and genetics) and diverse cognitive/social/knowledge capabilities between animals and human animals.

15 See, for instance, Jacques Derrida's 1997 lectures *L'animal donc je suis* (2006), the 2009 PMLA issue on *Animal Studies*, or *Postcolonial Ecocriticism: Literature, Animals, Environment* (2010) edited by Graham Huggan and Helen Tiffin.

16 Heise's argument that "the figure of the alien in earlier speculative fiction has effectively split into two components, that of technological superiority and that of biological otherness ... the cyborg and ... the animal" (2011, 463) holds true for classic texts, while contemporary texts speculate about a human-machine-animal continuum—the convergence of the technological superior cyborg and the biological animal other with the human—and the relativity of superiority once genetically or technologically modified humans (possibly with animal transplants) and emotional, organic self-learning machines level previously fallacious boundaries.

quate binary of nature/culture and providing an evolutionary link of “parts” (2003, 25), companion species, however, never form a new whole, just as the cyborg does from a (bio)technological end. Haraway stresses the processual form, continuously shaped by a “metaplasm” (2003, 20), reciprocal communication, and an approximation of understanding. “Companion species” she writes, “is my awkward term for a not-humanism in which species of all sorts are in question Companion species is a permanently undecidable ... category-in-question” (2008, 164-165) with human animal and nonhuman animal as “messmates” (2008, 17). For Kymlicka, an inclusive social justice requires a “new moral framework, one that connects the treatment of animals more directly to fundamental principles of liberal-democratic justice and human rights” (3). Justice must grant “universal negative rights and positive relational rights” (12) to non-human animals, turning them into “complex individual actors embedded in webs of social ... relationship, and ... citizens” (257-258). Kymlicka’s citizenship approach links with Heise’s notion of “multispecies justice” which seeks to negotiate animal welfare advocacy, diverse human and community claims, and environmental justice within an anthropocentric setting. As an “umbrella for different cultures’ ideas about what an ethically responsible relationship between species should look like” (2016, 200), multispecies justice would need to respect both cultural and species differences, balancing “different responses in different communities” (2016, 199), and see to “the claims of both human and nonhuman well-being” (2016, 167). Acutely interested in the frictions between nonhuman species, environmental concerns, and disenfranchised human communities, Heise envisions a multispecies community of equal rights where not all citizens are human, but all species live along ‘principles of affectedness’, what she calls “environmental world citizenship” (2008, 10) or eco- or multispecies cosmopolitanism. Such a multiple justice “project ... requires a more-than-human diplomacy” (2016, 199), Heise cautions, which indirectly flags the caveat of only *approximating* other bioforms’ subjectivities and not falling into the trap of anthropomorphism. Even if we narrate a whole web of human and non-human stories, the question remains how to learn the language of natureculture and how to represent other bioforms.¹⁷

Canadian Speculative Fiction: Moving beyond Speciesism

How do we narrate a reality existing independent of human perception as speculative realism suggests? This is what speculative fiction seeks to explore: narrativizations of a future reality that go beyond correlations to human consciousness. To transcend humanism, Wolfe argues, we need to move beyond an exclusively human subjectivity, abolish personhood, and thus undermine an anthropocentric speciesism, “‘we’ are not ‘we’ Rather, ‘we’ are always radically other, already in- or

17 “Without shared language, how do we represent an ‘authentic’ animal voice?” (7), Margo DeMello asks in her introduction to *Speaking for Animals: Animal Autobiographical Writing* (2013). As much as we seek to understand animal subjectivities, we always need to translate an approximated bioform perspective into human language.

ahuman in our very being ... [and] in our subjection to and constitution in the materiality and technicity of a language" (2010, 89). For Wolfe, cultural representations, e.g. fictions, can immerse us into the viewing or narrating subject not as a human protagonist but as a system operating within a larger system in Luhmann's sense.

The necessity to embrace the intersection of biological and biotechnological species, of linking posthumanism with CAS, and social justice has become hence a 21st century challenge and correlates with the rise of speculative fiction over the past twenty to thirty years. Many of these often post-apocalyptic novels connect the discontent with current social (in)justice with ecocriticism, animal/human or human/posthuman relations and explore new relationalities, 'messmates', entanglements, and take first steps towards a multispecies justice. Philip K. Dick's *Do Androids Dream of Electric Sheep* (1968) or Tanith Lee's S.I.L.V.E.R series (1981, 2005) probe entanglement of posthumans and humans, what Fredric Jameson calls the "android cogito" (141), and explore an extended social justice. Should we grant cyborgs citizenship and rights as 'nonhuman persons', if technologically enhanced humans and humanized machines figure as a continuum of affinities rather than opposites?¹⁸ Today we already debate legal issues and ethical implications of self-driving cars, geminoids, and a future of genetically altered, germline-modified humans and thus the impact of bio-technology on (social) justice.

Within the Canadian context Larissa Lai's *Salt Fish Girl* (2002) and Margaret Atwood's *MaddAddam* trilogy (2003-2013) address most prominently biotechnology, posthumanism, human/animal relations, and question in different ways social/environmental justice, or foreground "social justice by its absence" (Clarke 489) or its outright negation.¹⁹ Generically recombining speculative fiction with ethnic histori-

18 In *The Silver Metal Lover* (1981), for instance, the teenage (unnatural) human protagonist, herself artificially conceived and enhanced, falls in love with one of the robots easily "passed off as human" (1999, 97) if it were not for their lascivious inhuman perfection, programmed to excel in creative arts, the last human recourse of uniqueness, and in pleasing the human counterpart. Aware of and content with his biomechanical nature, Silver desires reciprocity, "the easiest way to react to me is just to accept me, as I am. You can't become what I am, any more than I can become what you are" (1999, 92). Yet Jane needs to *make* him human, "He wasn't a robot, after all" (1999, 289), because in truth she can only love what resembles herself. In the sequel *Metallic Love* (2005) Jane's alter ego Loren is of flawed (natural) origin, "I was just born. I was a mistake" (Lee 2005, 4), and equally infatuated with Verlis, Silver's reincarnation and anagram, who is the leader of a new branch of even more perfect yet viciously violent superbeings surpassing humans in every respect, now capable of emotions and now set upon wiping out humanity, resenting their enslavement and the looming possibility of shut down. Instead, the superrobots "make humans over, in our image" (2005, 233), elevating the "human things" (2005, 282) to "a compendium of both" (2005, 249) human and robot. The novels stress the sharing of features, capabilities, and materiality, pointing towards the potential necessity to acknowledge rights beyond the anthropocentric frame.

19 Within the North American context, American author Greg Bear also addresses overpopulation via genome-edited new human species in his Darwin novels (*Darwin's Radio* 1999 and *Darwin's Children* 2003).

ography, Chinese myth narratives, the biblical Genesis, the Golem myth, *Frankenstein*, Shakespeare (most prominently *The Tempest*), *Blade Runner*, and a number of fairy tales (most notably *The Little Mermaid*), Lai focuses on cloning in relation to racism and speciesism. In her novel a variety of characters puncture the porous human/animal/posthuman boundaries, just as the past leaks into the present and different (generic) narrations fuse and interlock. 'Pure' origins and stable identities are replaced by non-linear muddy "putrid origins" (253), multiple lives, reincarnated selves, affinities of invasive reeking smell (of durian fruit and fish) as the marker of stigmatizing difference, and shared experiences of uprooting.²⁰ Both female protagonists, the narrating ancient shape-shifting Chinese goddess of creation Nu Wa, half-fish/half human, and her reincarnated future human self, Miranda, the clone Evie Xin (homonym for 'sin')—the former "Sonia 113" (223) now liberated—and possibly the otherwise nameless (cloned) salt fish girl (defined by her smell) claim messy sources (albeit the clones share their origins and Nu Wa/Miranda is her own creator/creation). None of them can be categorized as belonging to a species, instead Nu Wa/Miranda and Evie/salt fish girl epitomize an entanglement, a 'messmating' of species and matter. Far from being recognized as part of humanity, or as members of a 'global tribe' of diverse origins, Evie and the 'Sonia series', the subservient corporate cloned worker-women of colour, are not classified as persons, because they are "not human" (158). The novel renders the Sonias—"genetically "point zero three percent ... freshwater carp" (Lai 158) and of human minorities' genetic stock—and the Miyakos' (cat-human clones) humanity doubly dubious. Lai's characters 'live' outside human/non-human categories, as unnatural creations, "patented new fucking life-forms" (158) as Evie yells, leaking beyond boundaries, presenting "variations" (259), and celebrating new combinations: "I eat eggs and I eat chicken. Why should I be horrified by the liminal state between the two?" (59).

In fact, the recombination of human genes with fish, cat, water, and fruit literally signifies the 'entanglement' of all matter. As the pregnant Miranda/Nu Wa muses, "we are the new children of the ... earth's revenge. Once we stepped out of mud, now we step out of moist earth, out of DNA both new and old By our difference we mark how ancient the alphabet of our bodies. By our strangeness we write our bodies into the future" (259). The mythical Nu Wa's male counterpart or technological alter ego, the ironically named Dr Flowers, bioengineers not only the "human biomaterial" (158)—which becomes "the new language of God" (76)—but also combines human genes with (the durian) fruit, literally creating a 'fertility tree'. It is the forbidden (durian) fruit of this tree (with Nu Wa hidden as a snake in it) which

20 While a number of critics (e.g. Morris 2004; Birns 2008; Lai 2008) read Lai's treatment of origins as an essential reconceptualization that emphasizes their significance, Sharlee Reimer argues that Lai debunks the very concept of origin and renders "Enlightenment epistemologies that value unity, coherence, and disembodiment ... that ... privilege and naturalize white, middle class, heterosexual men ... incoherent" (Reimer 6) and instead explores relationality through "shared experiences" (4).

fertilizes both Miranda's future mother and later Miranda herself;²¹ additionally, it provides the DNA for the liberated Sonias to clandestinely reproduce. Bodies dissolve and distinctions between matter become leaky, for instance, when after a "hiss and fizzle of salt fish and durian" (225), Miranda returns in her dreams to her Nu Wa identity—the "Serpentine" (227) uncoiling and drowning—only to eventually awake to, twinned by Evie, giving birth "from an opening in my scaly new flesh" (Lai 269). Repeatedly, this indistinguishability of matter, the slippage between bodies and imageries, sparks a multitude of jarring 'incoming stimuli' (Moya) that challenge the reader into constant reassessments. This entanglement of characters and matter regardless of species and bioform, the fusion of human, animal, plant, and posthuman, is further stressed by the strong olfactory element in the novel. "On the day of my conception, there was a [strange] scent in the air" (13), Miranda narrates, an "intriguing" scent both "familiar" and "illicit" (13), and potentially dangerous because of its free and untamed nature. Miranda's father warns her infatuated mother that "wild things weren't safe" (14), but still offers her the desired durian, culminating in a sensuous entanglement of fruit and parents which leaves her postmenopausal mother pregnant, giving birth to a "reeking bundle" (15) nine months later. This "stink of durian" that smells of "cat urine" (69), the epitome of both fertility and of being different and unregulated, sensually connects Miranda—like the salt fish girl, like Evie and the Sonias and the Miyakos—with the non-human, just as Evie (and the salt fish girl) is scented with a "faint whiff of salt fish" (220). Human, plant, and animal share an affinity, where boundaries become fluid: the leaves of the durian tree resemble human body parts with the "faint red of their veins as though blood flowed from the trunk"; the durian fruit "nestled in the dark foliage ... distinctly lizard-like" (221), "as though blood flowed from the inside to the pointed tips" (221). Almost magically drawn, Miranda feels "the tree pulling at me" and picks a fruit resembling "a small corpse" (221) with freshly cut "yellow pieces" that resemble "fresh organ meat" (223), so that she feels "cannibalistic about eating it", "as though I'd bitten my own tongue" (224). The novel celebrates multiple entanglements and existences, offering the reader an immersion into the undoing of categories and mental patterns, as we need to readjust our 'perceptual filters' to incorporate a mesh of (post)human-animal-plant characters, to recognize and "articulate connectivities" (Lai 2011, 98) that go beyond species boundaries.

Two other Canadian speculative fictions, Ronald Wright's award-winning novel *A Scientific Romance* (1997) and Michael Murphy's *A Description of the Blazing World* (2011), touch upon human-animal relations but not as a key aspect, while Nalo Hopkinson's short-story collection *Falling in Love with Hominids* (2015), verging on

21 Additionally, the text's poetic description of Evie's and Miranda's sexual intercourse also suggests a queer fertilization through the merging of water, snake, and fish imagery, as Miranda, drawn by Evie's "fishiness" (161), "turn[s] into water ... my body a single silver muscle slipping against hers" (161). Wrapped in "the rot stink of decaying leaves and needles", Miranda muses whether "it was at this moment that the child took root" (162).

surreal fantasy, offers multiple narrative perspectives ranging from the human, the non-human, the supernatural or monstrous, to the post-human. Where Hopkinson's stories question what it means to be human and how to be companion species, suggesting cross-species ethics and new coalitions and collaborations across boundaries, Wright's and Murphy's novels explore (planetary) survival, just as Atwood's trilogy does. Set in twenty-first century Toronto and foregrounding the two male protagonists' losses and disorientations, Murphy's *A Description of the Blazing World* integrates Margaret Cavendish's *The Description of a New World, Called the Blazing World* (1666) as a found book that potentially predicts an apocalyptic ending. One of the two male misfits, a nameless disillusioned teenager, finds an old copy of Cavendish's utopian novella of hybrid animal-men creatures and literally takes it as an access code to Toronto's impending near future.²²

In Wright's *A Scientific Romance*, a literal revisiting of or a late twentieth century sequel to H.G. Wells's iconic *The Time Machine* (1895), survival connotes "our world returned Edenic in our civilizational absence" (Percy 424) where humanity no longer fights nature but battles "to survive ourselves" (Percy 419), while "nature will make the best of the mess we've left behind" (Wright 306). Humankind and its global consumption, "this ravaging monster, the world-market" (Wright 256), have polluted and depleted an earth where only poisonous "waste remains and kills" (165). However, nature did not strike back, it "didn't clobber us, except in self-defense" (327). Just as Murphy's teenage protagonist finds Cavendish's book and aligns the present with the past, Wright's protagonist David Lambert, an ailing industrial archaeologist suffering from the Creutzfeldt-Jakob disease, happens to find H.G. Wells's time machine and travels into the 26th century. In the tradition of both Wells's time traveller and Mary Shelley's *Last Man*, he arrives in a devastated Britain in ruins, a world exploited by consumerism and changed by human inflicted global warming, abused by technology and science, and tells his fragmented story shifting between future and past, between guilty memories and present experiences.

Lambert travels with the amiable black puma he names Graham—while his close (human) friend Charles of the past is nicknamed 'Bird'—across this wasteland, returned to a tropical jungle with dangerous wildlife and seemingly devoid of humans (wiped out by a pandemic) save for the bioengineered mutant multi-ethnic black Macbeth tribe in former Scotland. Lambert's animal friend Graham, "the only living creature I can touch, and who touches me, in this whole world" (170), protects him and provides food and companionship, signifying the lost connection between

22 Cavendish's early sf novel, a candid critique of science, follows a young noble lady's fantastic travels to a new 'blazing world' where she not only meets a peaceful and egalitarian society of multi-ethnic humans and anthropomorphic creatures but becomes their queen. The Empress stubbornly engages in discussions of sciences, subjectivity, interpretative acts, logic, and cataloguing with the human-animal members of the learned societies (mocking the Royal Society), arguing for the demolition of scientific apparatuses. Cavendish's hybrid human-animals are, however, essentially allegorical characters representing scientific fields, or animalized scientists.

humans and animals. Simultaneously, Graham's missing ear (a mutation), however, is a reminder of animal suffering from human pollution.

Like Atwood's two main narrators Jimmy and Toby, Lambert needs to communicate, he writes letters and keeps a journal and he is haunted by repetitive memories. Like Atwood's posthumans, the Crakers, Wright's genetically modified survivor tribe is cut off from technology and both authors topicalize capitalism's endless cycle of producing and possessing things. Like Jimmy, Lambert is confronted with the left-over rubble of civilization's obsession with materialism and notes the persistence of human-made, now useless things "[a]ll those things ... that made up the sum of the world, which we had to keep on making and buying to keep ourselves diverted and employed—were just garbage-to-be" (160). Ultimately, Lambert accepts that if "[c]ivilization is the gradual replacement of men by things" (259),²³ the depletion of nature's resources leaves a crumbled civilization that will not rise again, a vision eerily converging with Alan Weisman's ecocritical (journalistic) thought experiment *The World Without Us* (2007). Human extinction will allow other creatures to "replenish the earth" (Wright 347). Yet where Wright's story ends in silence (potentially the fleeting notion of a chronoclastic return), *MaddAddam* ends on a more hopeful note, as the Crakers sing and the future multispecies society evolves.

Rewriting the Canadian Animal Story for the 21st Century: Multispecies Justice in Margaret Atwood's *MaddAddam* Trilogy

Atwood's trilogy addresses most explicitly multispecies justice. Starting from the satirical and highly abusive segregation of classes and genders and a scary species manipulation, her dystopian trilogy moves on to a future of fuzzy (body) boundaries, where a variety of hybrids in a newly emerging society—ranging from the human animal, 'post-humanimals' (Crakers), and sentient human-animal hybrids (pigoons), to genetically modified non-human transanimals (rakunks, liobams etc.)—need to (re)negotiate social justice and questions of identity and affinity within an environment of mass extinction. In this evolving new world, "being human no longer means being categorically set apart from other *biological* species" (2011, 466, my emphasis) as Heise notes, and I would amplify that with 'no longer set apart from other *biotechnologically altered* species'.

The literary relation between animals and humans, the animal story, is distinctly Canadian (cf. Fiamengo 2007). With the *MaddAddam* trilogy, Atwood significantly moves away from her earlier view of animals as intrinsic part of the Canadian experience or even identity.²⁴ Influenced by Northrop Frye's notions of adversarial nature cum wilderness as "sinister and menacing" and the "garrison mentality" (1943), At-

23 Similarly, Murphy's teenage protagonist feels suffocated by materiality, "capitalism ... a suicide machine" (167).

24 For an excellent discussion of Atwood's move towards human-animal interdependence, see Maria Moss, "'Their deaths are not elegant' – Portrayals of Animals in Margaret Atwood's Writings" (2015).

wood outlines nature as malevolent and monstrous in *Survival* (1972, “dead and unanswering or actively hostile to man” (49), where “death by bushing” is “an event of startling frequency in Canadian literature” (54). The trilogy reverses this view to ‘humans as malevolent force’ and extends the ‘Canadian survival’ of the individual (community) *against nature* to a planetary one *against humankind*. Significantly, in the chapter titled “Animal Victims” in *Survival*, Atwood sees this very “Nature-as-Monster pattern” (75) reversed in Canadian animal stories, which she considers as “distinctively Canadian in literature” and “an important facet of the Canadian psyche” (73).²⁵ Where British literature (e.g. Potter, Kipling) anthropomorphizes animals conversing in perfect English and represents class-conscious or colonial “social relations” (74), and American literature’s ‘imperialist mindset’ equates animals with nature as the *other* that must be hunted, conquered, and killed (e.g. Melville, Faulkner, Hemingway), Canadian animal “failure stories” (74) sympathetically focus on the (narratively impersonated) animal’s point of view, “as felt emotionally from inside the fur and feathers” (74). For Atwood, the “Canadian animal stories present animals as victims” and a “trait in our national psyche” (75), positioning the US in the role of the conquering nation/human and Canada as animal/victim. *MaddAddam* then rewrites the Canadian animal story for the 21st century on a planetary scale, where the “threatened and nearly extinct” (79) ‘Canadian (non-human) animal’ triumphantly resurfaces.²⁶ The victimized human ‘Canadian protagonist’ Jimmy-the-Snowman sympathizes with his fellow animal brothers— “he thought of the pigeons as creatures much like himself” (OC 27)—while his ‘American’ adversary, the scientist Crake, kills (human) animals as part of a *rite de passage*. Is the trilogy then a Canadian animal story or a posthuman story? Both it seems.

The pre-crisis, recognizably 21st century American society is clearly materialist and consumerist, segregated into gated megacorporation communities and slum-like ‘pleeblands’ where social justice is not even a memory. In the logic of speciesism and supreme human superiority (of some), nature, nonhuman animals, and those humans deemed inferior, (animalized) women in particular, are all biomaterial up for maximizing profits. The neoliberal economy permeates all sections of life, origins and originality are obliterated (but retained as a matter of distinction for the ruling elite), every-thing is subjected to “reproduction”, “there was supposed to be an original somewhere. Or there had been once. Or something” (OC 30). Science’s cloning and gene-splicing is matched by art’s ‘copy and paste’ as the prevalent method of

25 One chapter epigraph quotes from Ernest Thompson Seton’s realistic short story “Redruff” (*Wild Animals I have Known* 1898), a compassionate depiction of wild animals, particularly wolves: “Have the wild things no moral or legal rights? What right has man to inflict such long and fearful agony on a fellow-creature, simply because that creature does not speak his language?” (71).

26 “And for the Canadian animal, bare survival is the main aim in life, failure as an individual is inevitable, and extinction as a species is a distinct possibility” (*Survival* 79).

the humanities at the Martha Graham Academy, where Jimmy sticks out as eccentric because he actually writes his own papers (OC 194-195).²⁷

Multinational corporations bioengineer transgenic nonhuman animal hybrids or 'transanimals' (e.g. the dangerous liobams, a lion/lamb hybrid; the ferocious wolvogs, a cross-over breed of wolves and dogs, as watchdogs; or the spoot/gider, a spider-goat hybrid for industrial usage of spider silk etc.). Another project involves transgenic sentient "*sus multiorganifer*" (OC 25), pig hosts with a human neocortex, the intelligent 'pigoons' (Pig Ones), as multiple human organ donors. Extrapolating from current intensive livestock farming practice and as a terrifying potential answer to growing food problems, the corps produce transgenic living headless and legless chicken (parts) reduced to rapidly growing multiple drumsticks ersatz meat (ChickieNobs Nubbin), "bulblike object[s] ... [with] twenty thick fleshy tubes, and at the end of each tube another bulb was growing" (OC 237).²⁸ In the post-apocalyptic world the roles of human hunter and animal prey become interchangeable, as liobams, bobkittens, and the pigoons are serious predators. Building a multispecies society necessitates thus a pact between human and nonhuman animals.

Changing the human genetic code is another extensive field of pre-crisis science. Undesirable human features or hereditary diseases are rectifiable solely for the rich who order genetically modified designer babies. Perfidiously, the corps profitably spread disease *and* cure via pharmaceuticals and secretly experiment with genetic splicing to create posthumans. Nature is a commodity that humans cut up, rearrange, transplant, and abuse at will. Science is a machinery that instrumentalizes all material forms. Taking this logic of commodification to its extreme, the high-strung genius scientist Crake—a bioterrorist from an anthropocentric perspective and a deep ecologist²⁹ from a post-anthropocentric planetary perspective—clandestinely

27 Since art cannot be commercialized the same as science, science cannibalizes art, now reduced to slogans and commercials. It is art (Jimmy) which sells science (Crake's deadly BlyssPlus pill).

28 Food continues to cause trouble in the trilogy: Jimmy needs protein and pressurizes the non-violent Crakers into killing fish in exchange for the desired stories; Toby is virtually threatened to be turned into meat; and the settler species of the new world need to negotiate food matters and the involved killing of lifeforms. Eating human-pig chimeras verges on cannibalism and renders multispecies justice impossible. Future food is, of course, a staple of sf—poignantly captured in, for instance, the American classic SF movie *Soylent Green* (1973), where starving millions are fed with "Soylent Green", an artificial plankton really made of human protein—and a problem current science tackles. Potential solutions include Mark Post's 200.000 \$ Beef Burger made of cell-cultured beef (harvested muscle cells from living cows) first eaten in 2013, or Josh Tetrick's vegan chicken-less 'egg' with a protein taken from the Canadian yellow pea.

29 While the sectarian God's Gardeners follow a moderate deep ecology approach—a term Norwegian philosopher Arne Naess coined in 1973 to focus on the equality and interrelatedness of all lifeforms in contradistinction to a 'shallow' materialist or anthropocentric ecocriticism that hierarchizes and ranks lifeforms—Crake epitomizes an extreme version when he seeks to remedy humankind's destructive interference with the complex web of balanced nature. Wiping out humanity to save future biodiversity presupposes a misanthropic social justice approach that acknowledges all lifeforms *except* humans. Crake's determination to return the posthuman

experiments with genetic splicing and bioengineers the less destructive posthuman Crakers (in his name) to repopulate the planet, once he has killed violent humankind with a genetic pandemic distributed via the BlyssPluss pill. To destroy “civilization as we know it All it takes,” said Crake, “is the elimination of one generation. . . . Break the link in time between one generation and the next, and it’s game over forever” (OC 261-262). In his high-tech lab sneeringly called *Paradice Dome* (implying that evolution is nature’s game he participates in), he decidedly constructs the Crakers as an interspecies lifeform, with “interspecies gene and part-gene splicing” (OC 356). Pitting biodiversity’s, the planet’s against humans’ right for survival, his objective is clearly to save the overpopulated planet from the death of *all* life.³⁰ Secretly, Crake and the MaddAddamites, top-notch scientists, sabotage the system from within, “*Adam named the animals. MaddAddam customizes them*” (OC 253). They design bioforms to counteract the system, “[a] tiny parasitic wasp had invaded several ChickieNobs installations, carrying a modified form of chickenpox, specific to the ChickieNob and fatal to it” (OC 253). In the end and rather consistent in his desire to eliminate humankind, Crake provokes his (vaccinated) helpmate Jimmy into killing him. Symbolically, as the scientist, the Crakers’ origin and scientific knowledge, expires and the artist, Jimmy, survives to ‘supervise’ the Crakers’ entry into a new symbolic order, this multiple parentage or fatherhood mirrors the Crakers’ biological multiple ‘fourfatherhood’.

The narrative web of stories reflects this biological entanglement, as Jimmy’s narration (OC) and Ren’s and Toby’s voices (YF) merge with Blackbeard’s, the post-humanimal’s ‘postscript’ (MA). Jimmy becomes the Crakers’ teacher, prophet, and myth-maker, seemingly reinstating human superiority (undercut by his dependency on trading stories for food), a role Toby inherits. When the Craker Blackbeard inherits Toby’s/Jimmy’s story-teller cap, learns how to read and write, and takes over the role of historian, the narrative shifts from an anthropocentric view to a post-humanimal perspective. Yet, the other nonhuman animals, the pigeons and liobams etc., are not granted a narrative voice. Instead, the Crakers function as a mouthpiece to provide the missing link of communication between humans and pigeons: “It’s easier for

Crakers to a pre-human, decidedly non-superior status in harmonic balance with nature reflects Fritjof Capra’s ‘new physics’ of interrelatedness explicated in *The Systems View of Life* (2014) that moves away from a mechanistic to a systemic understanding of nature as a living, self-generating network in which the process of life (matter) is a cognitive process (mind). The non-violent, self-sufficient, non-consumerist attitude of the Crakers and their thus changed cognitive process would thus change the process of all life, as all lifeforms interact cognitively. The need to change cognitive patterns becomes obvious in the process of building a multispecies society in *MaddAddam*.

30 While an intentional (virus-induced) genocide to save the overpopulated planet occurs less frequently, a pandemic killing of (most of) humanity is not new in speculative fiction or film; see, for instance, Mary Shelley’s early *The Last Man* (1826), Richard Matheson’s *I am Legend* (1954), William C. Heine’s *The Last Canadian* (1974), Stephen King’s *The Stand* (1978), Emily St. John Mandel’s *Station Eleven* (2014), or Terry Gilliam’s film *12 Monkeys* (1995).

them to talk to us" (MA 270) Blackbeard explains. Perhaps, *not* (directly) representing but acknowledging other lifeforms' views, avoiding the ventriloquist's pitfall, is in fact an honest and post-anthropocentric narratological stance.

In the last book messmates of blurred boundaries and origins inhabit this radically changed world: a social mix of 'natural' human survivors (God's Gardeners, Madd-Addamites, former pleeblanders and residents of the gated communities as well as three violent painballers); the sometimes predatory transanimals (liobam); the intelligent animal-human hybrids (pigoons); the bioengineered, well-adapted post-humanimal (Crakers), and the new hybrid Craker-human offspring, named for the remembrance of the dead (like Jimadam) or joining the dead and the living (Pilar-en). This hybrid offspring epitomizes the human characters' shifting cognitive schema as they realize that building a new society involves recognizing the *other(s)* as partners with equal rights with different duties.³¹ Instead of excluding Crakers and pigoons on the grounds of their genetic difference the human survivors acknowledge that "we ... are *all people* ... though we have different gifts" (MA 386; my emphasis).

Initially, sharing the earth requires negotiations of co-habitation, first resulting in "a cacophony of voices" (MA 12) and processes of "major cultural [mis]understanding[s]" (MA 13). The Craker men want to copulate with human females 'smelling blue' (sexually reproductive); unwittingly the Crakers release the captured predatory Painballers, former convicts epitomizing human violence and a rampant sadistic killing drive. Initially ferocious attackers and competitors for food, the pigoons offer to cooperate in the Painballer chase, if the humans stop killing and eating them, whereas the Crakers reject any involvement in violence and rather indulge in stories and explanations. In fact, the humans depend on help, while both Crakers and pigoons could potentially survive without humans, if it were not for the most dangerous surviving human specimens, the Painballers.³² To recapture the Painballers the species must cooperate: each group provides skills according to abilities to collectively defend against the Painballers, a threat to them all. Incapable of intrinsic violence, the Crakers who have reluctantly learned killing as a cultural practice—"Every week ... the [Craker] women ... call the unlucky fish by name ... [Then] the men kill it That way the unpleasantness is shared among them and no single person is guilty of shedding the fish's blood" (OC 116)—send Bluebeard as a witness

31 Inversely, the pre-crisis society sexualizes the human-animal link as a male human dominance game, dressing women with biofilm body suits imitating an animal to serve customers at the "Scales and Tails" sex club. Here, "beautiful girls covered completely with shining green scales, like lizards" (YF 74) and "[d]ragon ladies winding around them, snake women slithering over them" (YF 307) uphold a twisted illusion of the tamed and exotically alluring female/animal *other*. As Zeb, one of MaddAddamites sarcastically comments, "We like to think you're wild animals Underneath the decorations" (MA, 171).

32 Epitomizing the survival of the cruelest and fittest, the chief painballer's name "Blanco" blatantly denotes a history of white people's ruthless survival measures.

to tell the story of the battle and translate.³³ With their superior olfactory sense the pigeons locate and chase the Painballers, until the human survivor group takes over, the Paradise dome's stairs being an insurmountable obstacle for the pigeons. Only pigeons and humans participate in the ensuing trial, where the pigeons "vote collectively, through their leader, with Blackbeard as their interpreter" (*MA* 369-370). The Crakers refrain from the incomprehensible 'trial' and 'vote', feeling wholeheartedly uncomfortable with a judgement that inflicts death. In effect, the need to cooperate according to each bioform's capabilities comes close to Nussbaum's capabilities approach.

Although the Crakers clearly undergo a process of humanization and culturization—they create effigies (*OC*) and commemorative statues (*MA*), insist on rituals, wear shoes, symbolically discover their mirror-images, begin to speak in recognizable voices instead of a pluralistic 'we'—their rejection of the battle, the trial, and any notion of superiority runs counter to Heise's reading of the Crakers as "a new version of the old humans" with "a return to attributing a special status to authentic humanness" (2011, 464-465).³⁴ Do the Crakers, however, truly revert to humanity (much like Dr Moreau's Beast People backslide into animality)? They are certainly wired to stereotypical gender roles: Craker men protect (with their deterrent urine), Craker women bear and raise the children, but they do not revert to violence, human morals, possessiveness, or claims of superiority. As posthumanimal companion species they disturb inadequate boundaries, linking parts of the nonhuman animal with the human animal as 'messmates'. Certainly, the Crakers, but also the pigeons, disturb nature and culture in 'unexpected ways' in Haraway's sense. Both represent 'significant otherness' and will presumably co-evolve in a 'natureculture' way. Symbolically, the simple and gentle Crakers, seemingly literary descendants of H.G. Wells's docile Eloi of *The Time Machine* (1895),³⁵ represent humanity returned to a

33 Naming the Crakers after historical personages (Napoleon and Blackbeard, Abraham Lincoln and Marie Curie), indicates Crake's anticipation of a resurgence of the "Blood and Roses" game, a play-off of human atrocities and human art and science achievements. Yet, Blackbeard's role as the scrivener, the historian and chronicler, symbolically indicates the Crakers' discontinuation of the human cycle of violence. Constructing a multispecies society involves recognizing the imperial gesture of naming and claiming, hence Toby begins to wonder "[w]hat are their own names, and is it polite to ask" (*MA* 36)?

34 For Heise, Atwood returns to "conventional humanism" (2011, 464), whereas, for instance, Sheri S. Tepper's *The Family Tree* (1997) or Dietmar Dath's *Die Abschaffung der Arten* (2008) represent more radical posthumanist visions, as the former "rejects human superiority" (2011, 465) and the latter blurs all species boundaries of animals, humans, and cyborgs into a "postspecies" (2011, 465) bio-data flow.

35 Yet while Wells's dark 'ustopia' allegorically sketches an extreme Darwinian evolution that leads to a reversal of classes if not to two different races, Atwood's series clearly indicates multiple biological links and affinities between species. While Wells's horrific Morlocks, archaic hominids living underground, breed and feed on the childlike, idle Eloi, their human cattle, in a superficially Edenic future world (only to eventually meet annihilation as the whole planet dies in the far future), the Crakers are not only independent but also crucial and benevolent kinkeepers, or

more animal-like, early human (pre-human) status while their porous biological setup, a blend of human and animal genetic material, perforates species boundaries and renders the human-nonhuman divide obsolete. The herbivorous Crakers profit from inbred protective animal features combined with a limited human intelligence oriented towards communality and lacking (a)morality and human concepts aimed at possession or exclusion.

More a companion of the human self than an animal *other* (if we remain in an anthropocentric frame, categorizing bioforms according to their near-human or human status), the pigoons possess high cognitive capabilities, compassionately carry injured Jimmy, develop flowery funeral rites, and are capable of elaborate preplanning, tool use, and cross-species communication. Humanity becomes a 'contested concept', no longer exclusively harboured by the human animals but visibly shared with Crakers and pigoons and the hybrid offspring, even though these similarities initially lead to uncomfortable denigrations ("Frankenbacon", "Frankenpeople" (MA 19), "Frankenbabies" (MA 216) and the other species's equal contempt for the carnivorous humans). Humanity turns into messy instable perspectives and human superiority must make way for multiperspectivism and equal rights.

The trilogy combines the two possible outcomes Elizabeth Kolbert envisions in *The Sixth Extinction* (2014), a recount of the past five mass extinctions and the disturbing implications of the Anthropocene.³⁶ In version one, humanity as the agent of the sixth extinction wipes itself out, taking much of biodiversity with it; this is the interactive online game Jimmy, Crake, and the MaddAddamites play: "*EXTINCTION, Monitored by Maddaddam. Adam named the living animals, Maddaddam names the dead ones*" (OC 251). In version two, humanity's ingenuity "will outrun any disaster" (Kolbert 268). *MaddAddam* twists both versions: yes, humanity wipes itself almost completely off the face of earth, but gets another chance at inhabiting earth *if* we learn a new form of cohabitation, a relational interspecies cooperation working towards a citizenship approach and multispecies justice. While the new society is grounded in genetic manipulation and, therefore, materializes messmates and natureculture as forms of interspeciesism, Jimmy and the God's Gardeners stand for a pre-crisis companionship approach. Back in the compounds Jimmy rejects eating pigoon meat "because he thought of the pigoons as creatures much like himself" (OC 27) and shrugs off his father's warning that they might kill him if he falls into their pen, "No they won't, said Jimmy. Because I'm their friend, he thought. Because

'specieskeepers'. Wells's chimera of a harmonic 'social paradise' quickly rubs off and culminates in the extinction of all life – while the Crakers persist.

36 In Chapter 5 "Welcome to the Anthropocene", Kolbert briefly outlines the scientific research on how humans deny incongruities in their environment until the erupting crisis can no longer be rationalized but requires "paradigm shifts [Thomas Kuhn's term]" (93) which spawned, for instance, the then new concept of extinction in the late eighteenth century. While the previous five mass extinctions are linked to natural causes, humans have caused the current sixth extinction.

I sing to them" (OC 30). Singing in fact seems to connect humans, Crakers, pigeons, and other animals, and is one trait Crake cannot eliminate, "[w]e're hard-wired for singing" (OC, 352). The Crakers communicate with the pigeons and other animals by singing:

'I was talking to the bees,' says Toby. Blackbeard's face lights up with a smile. 'I didn't know you could do that,' he says. 'You talk with the Children of Oryx? As we do? But you can't sing!' 'You sing to the animals?' says Toby. (MA 214)

The God's Gardeners' hymns, sermons, and festivals praise the connection of all lifeforms, reject humans' "false Justice" (YF 426) and supremacy, "in reality we belong to Everything" (YF 52-53; my emphasis), and "affirm our Primate ancestry" (YF 51), the close relation "to our fellow Primates" (YF 52). Both God's Gardeners and the Crakers close their gatherings with singing to create a calming community spirit (and both *The Year of the Flood* and *MaddAddam* end with singing), just as Zeb sings to calm himself, "when he was locked inside the closet [by his abusive father]. He sang" (MA 109).

As readers we follow the human survivors' cognitive schema shift that requires a dismissal of human superiority and exclusivity, acknowledging that "[t]hey're people [the Crakers]" (MA 34) even though "[t]hey're definitely not like us No way close" (MA 35), and the realization that humans are irrelevant for planetary evolution, "[n]othing in the material world died when the [human] people did" (MA 33). As settlers in a ruined Garden Eden, this 'posttranshumanimal' community needs to share, translate, communicate, and change the ingrained 'deep cognitive structures'. In a similar vein and explicitly linking the human and animal fate, Graham Huggan and Helen Tiffin argue that Atwood rightly follows the "ecological dictum that human liberation will never be fully achieved without radically challenging the historical conditions under which human societies have constructed themselves in relation to other societies, *both human and non-human*" (214).

Atwood's and Lai's perforation of species boundaries renders the human-inhuman divide obsolete and provides a speculative foil to rethink human singularity and social justice along a pluralistic bioform continuum, for humans and other lifeforms indeed share the majority of genes.³⁷ Both Murphy's and Wright's texts

37 In fact, only profitable cooperation has allowed some lifeforms to effectively meet evolutionary challenges, suggesting an advantage for parasitic coexistence in natural selection. In 1867 Swiss botanist Simon Schwendener revolutionized botany with his suggestion that lichen is formed of fungus *and* algae, which German botanist Anton de Bary then termed "symbiosis" in 1878. The most momentous symbiosis, however, was the fusion of archaic bacteria to eucaryotic cells approximately 1,7 billion years ago, the living basis of all plants, animals, and fungi and their ensuing collaborations and fusions. Animals and microbes do share quite a number of genes, and about 37% of the human genome is almost identical with that of bacteria or the ar-

remind us of human insignificance, “We’re a fraction of a second. We were never here” (Murphy 234), and the likeliness of impending implosion. These imaginative “key interventions” offered to characters allow readers to follow the process of changing schemas as speculative fiction’s close relationship to contemporary social and scientific developments eerily creates a reading process of fiction thinly overwriting a reality we *almost* experience, crafting a palimpsest of interlaced present and future, fiction and reality. Literary imagination can chip at dominant power systems, and we as critics can highlight the mental shifts suggested in fiction. Or, as Toby tells Blackbeard when he is desperate because the words on paper can’t ‘talk’ but need to be ‘read’: “You need to be the voice of the writing” (MA 202; my emphasis).

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chaea. Only a very small percentage of genes (roughly 0,6-6,5%) are exclusively human. In the trilogy, Jimmy’s symbiotic relationship with the Crakers (a fish for a story) and the increasing networking of species illustrates this necessity of coexistence and shared interests. When Toby wears a Mo’Hair (transgenic human-sheep hair) transplant, a Mo’Hair sheep licks her, “[i]t thought she was a relative” (MA 30).

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