INTRODUCTION
Once marginal, knowledge that many other species share characteristics hitherto thought restricted to humans, including language, tool-use and consciousness, is now commonplace across many scientific fields, from ethology to biosemiotics to neurophysiology. Such new scientific understandings of nonhuman life have been one important inspiration for posthuman theorists aiming to replace ontologies of division with those of connection and relative difference. Animal sexual selection, for example, is much more than an instrumental process. As theorized by Elizabeth Grosz, animal courtship and sex provide not merely the means for reproduction and genetic survival, but are playful, exuberant, creative articulations of the active, forward-moving force of life. Similarly, Brian Massumi outlines how the play of young animals shows their ‘capacity to mobilize the possible.’ The wolf cub nipping the ear of another wolf cub enacts a ludic gesture, saying ‘this is play.’ But for the cub to learn how to be an adult wolf, the play bite must also stand in for a real, violent bite. The distinction between violent-bite and play-bite is not simply that one is training for adult wolf-hood and one is childish play. Rather, both ways of biting operate in a zone of indiscernibility without the specific differences of either being erased. The paradox of play is its ‘as if-ness.’ For Massumi, when animals play, ‘they are preparatorily enacting human capacities.’ In this vitalist mode, posthumanism places the human in a continuum with other animals, connected through both lines of descent and contemporary ecological relations. Animals become worthy subjects of academic attention in the humanities, while humans become creaturely beings.

Other varieties of posthumanism emphasise technology. For example, automated financial trade, robot intelligence and algorithmic capitalism mark the most recent evolutions of labour alienation, prompting anxiety that human specificity and difference seems to matter less and less. Most posthumanist thinkers do not, however, suggest that technology is giving rise to an era of post-humans (unlike the hyperbolic claims made by popular science fiction writers and futurologists for the utopian potential of genetic engineering, artificial intelligence, and so on). Rather, technology is not
something added to an already-existing human, but is a defining part of what makes humans, an originary technicity. The human emerges from a system that produces boundaries between self and other, producing in turn self-recognition and partial differentiation of humans from other entities, including technologies. For Dominic Pettman, the ‘human error’ is not simply placing humans above animals, but not seeing ourselves as players in a much broader ‘vital, complex, ahuman dynamic.’ Pettman sees this dynamic as triadic, a cybernetic system of animal, human and machine, and humans as irreducibly technically prosthetic. Animal studies scholars have also explored how, within this dynamic, human-animal encounters are technically mediated in diverse ways: through critter cams, zoological databases, or language. Moreover, one of the great tragedies of our current times is the rise of animals whose very being is constituted through technical systems of livestock husbandry or experiment.

To the vitalist and technological decentring of the human we might add a more recent, third decentring – the planetary. The unprecedented temporal and spatial scale of global environmental change shows that human-oriented activities are now driving forces of Earth systems. A current moment of planetary awareness, usually named the Anthropocene, points on one hand to the extent to which humans (along highly differentiated lines of course) have transformed the planet by capitalizing on what Jason Moore calls cheap nature. Climate change, pollution and land-use change mean that many of the lifeways of our fellow earth creatures are unravelling. On the other hand, even as the extent of human influence on the planet is realised, we are decentred as agents in control of our species’ destiny: human mass extinction becomes a possibility and looming socio-ecological disasters may well exceed capacities for management. Our current planetary-historical juncture performs a double gesture; it at once both elevates the Anthropos to planetary force, and provincializes the Anthropos as beholden to Earth forces beyond its control.

This chapter will discuss how posthumanist animal studies might respond to the mass animal death and extinction characteristic of our times. It will address each of the decentrings outlined above (the emphasis on shared creatureliness; the technological, and the planetary-historical). I argue, however, that animal studies must do more than centre the human or bring the animals back ‘in’ (what we might call a topographic mission). Rather, animal studies’ objective is topological and political: to cultivate new alliances for multispecies flourishing and recuperation, alliances that will be necessarily partial and incomplete. As signalled by my use of ‘flourishing’ and ‘recuperation’, Donna Haraway is one of the key inspirations for this chapter. Haraway emphasises that flourishing with others is a risky, non-innocent practice with no normative guidelines, rulebook or assured outcome. Moreover, attempting to ‘flourish with’ makes creatures vulnerable to each other. One central question of the chapter is therefore the role of vulnerability in posthumanist animal studies. This chapter explores how vulnerability shapes cross-species encounters and alliances, and does so by exploring several examples of ‘recuperation and recomposition’ involving insects and their human allies. The first example is
of bees and heterodox Western knowledge; the second is a science fiction story fabulated by Haraway and her fellow travellers about a butterfly and a fictitious woman living in the future. Both explore the reworking of vulnerability through body and technology as a response to times of biodiversity loss and extinction. A final section reflects on the prospects for multiplying posthumanisms through an engagement with Indigenous ontologies.

First, however, I want to signal a distinction between two ways of doing posthumanism: critical anti-humanist and ontological-ethical. I see the three decentrings outlined above as the content of posthumanism; the further distinction I am making here is more about the style and aims of posthumanist thought (thus one could have a critical anti-humanist reading of technological decentring, and an ontological-ethical reading of technology, and so on). One key point in the history of anti-humanism is Foucault’s argument that ‘man’ was ‘an invention of recent date’ – the effect of a change in the arrangements of knowledge. To simplify crudely: feminist, post-colonial, critical race and queer theorists have elaborated on the effects of the invention and distribution of ‘man’ and the bundle of gender, race, sexual and species normativities associated with intraspecies inequalities. Critical animal studies, too, building on Derrida’s famous insight that the animal question was not a question like any other, but one fundamental to thought, have created a growing momentum ‘challenging the logic and biopolitical practice of human-animal binarism.’

This first style then shows the historically configured limits of the ‘human’. The second way of doing posthumanism is what we might call a more ontological-ethical approach. Here the ‘human’ is replaced by a relational, ‘nomadic subject’ with embodiment, sexuality, affectivity, empathy and desire as its qualities. As Rosi Braidotti puts it: ‘the common denominator for the posthuman condition is an assumption about the vital, self-organizing and yet non-naturalistic structure of living matter itself.’ Organisms are not self-contained units, but are driven always on by forces of life, flowing out into the environment. This second form of posthumanism is more oriented to the future and to praxis than the first, more critical variation.

Haraway’s famous chiding of Derrida for his lack of curiosity about his cat captures the distinction I am trying to make here. This is the scene of the great philosopher standing naked in front of his cat, in the bathroom, at the outset of his essay The Animal That Therefore I am, through the course of which we learn nothing about his actual car, or about any cat. Although sympathetic to Derrida’s project, Haraway prefers to begin from ‘mortal entanglements’ in which one is always already entangled, and holds curiosity about the other as a virtue and a necessity to understand one’s relations. The second, ethical-ontological strand of posthumanism, then, while indebted to anti-humanist critique, begins from amid ‘the trouble’, as Haraway would put it, of multispecies life, rather than from critiques of the human. In the next section, however, in order to understand the role of vulnerability in posthumanist animal studies, I turn to the work of Cary Wolfe. Wolfe helps us to open up an important corollary to the vitalist tropes of connectivity and flourishing: finitude and vulnerability. Notably,
while they are key thinkers of posthumanism addressing similar biophilosophical problems, neither Braidotti nor Haraway really engage directly with Wolfe’s work, and vice versa. This perhaps signals something of the difference between a critical anti-humanist and an affirmative worldly-ethical style of doing posthumanism, but I want to make some connections across this gap.

POSTHUMANISM AND VULNERABILITY
Cary Wolfe begins his seminal *What is Posthumanism* by reminding us that, “‘the human’ is achieved by escaping or regressing not just its animal origins in nature, the biological, and the evolutionary, but more generally by transcending the bonds of materiality and embodiment altogether.”¹⁹ One response is to show that humans, like all life, are defined by finitude and vulnerability.²⁰ Since organisms are temporary amalgamations in the flow of becoming life, they must necessarily end: beings die (although ‘life’ carries on). Drawing on Derrida’s ‘non-power at the heart of power,’ Wolfe reminds us that since creatures are necessarily finite, there is a non-living predicate at the heart of life.²¹ What we call the human, and the animal, covers over a radical ‘not being able’, an uncreatively substratum to life itself. This non-living predicate makes a creature constitutively prosthetic: the posthuman is not sufficiently captured by biological or technological decentring, but must acknowledge this trace structure that exceeds the life/death relation and which always precedes us as a precondition of being. Humans and animals ‘share a fundamental “non-power at the heart of power” … passivity without limit as fellow living beings.’²² A generative finitude thus rests at the heart of creaturely life.

Creaturely life is united in vulnerability to forces that work to dissolve the subject. On one level vulnerability potentially diminishes being, as through disease, infection, injury, and so on, a creature’s capacities are reduced or changed in some way detrimental to its flourishing. Forces and events that make a being vulnerable arrive from the outside; by the same token, any being is constituted such that vulnerability may arrive. As Wolfe argues, since corporeal life wraps matter, information and energy into its ongoing performance, life is always open to the outside, is always exposed beyond itself to forces that may, or may not, be internalized. Vulnerability represents the ‘inherent susceptibility of corporeal life, its inherent and incessant exposure to what exceeds its abilities to contain and absorb.’²³ Vulnerability is a condition of receptivity as much as it is a condition of susceptibility. In other words, to be vulnerable to that which arrives from the outside is also to be capable of receiving and incapable of not receiving. Vulnerability, much like finitude, is not just something that ‘happens’, but is in a Derridean sense a necessary supplement: life begins with exposure and with the potential to receive, life must be vulnerable even before life can do anything. Thus even as vitalist posthumanism has brought specific forms of recognition, co-habitation and care into view, it has also tended to ignore the non-relational, what may not be vital, and what may precede or be obscured by existing relations.²₄
But for Wolfe, posthumanist animal studies cannot stop at this revelatory move. Simply emphasising vulnerability as well as shared embodiment is insufficient, since it leaves unaddressed the constitutive repression of those bonds as definitive of the human. For Wolfe, neither animalising the human nor ‘adding in’ animals to our studies are in themselves anti-anthropocentric or posthumanist. For showing humans as entangled and co-related creatures, finite and vulnerable like all the others, leaves untroubled the human as the thinker, the revealer, the knower. Wolfe suggests that this leaves the knowing subject untroubled, and does not go far enough in deconstructing the ‘human’. He therefore argues that posthumanism must confront the thinking subject and thinking itself, not just re-draw the boundaries of what constitutes the human. So Wolfe goes further, by reminding us that – after Derrida – ‘we’ humans are made through a second form of finitude flowing from thought itself. The ‘human’ is constitutively ahuman, but we are estranged once again from ourselves by knowledge of this and by the way that thought expresses this estrangement. We humans have a certain passivity towards thought, as it always exceeds us:

‘We’ are always radically other, already in- or ahuman in our very being – not just in the evolutionary, biological, and zoological fact of our existence but also in our subjection to and constitution in the materiality and technicity of a language that is always on the scene before we are, as a precondition of our subjectivity.  

Humans cannot erase this trace structure; this is the fundamental paradox at the heart of a critical posthumanism. In occupying the position of the knowing subject, posthumanist animal studies scholars risk remaining rather humanist.

Wolfe’s work has done much to elaborate the ways that humans share finitude and vulnerability with fellow creatures, and the contradictions at the heart of posthumanist ‘thought.’ It remains, however, on a hauntological register. Wolfe’s posthumanism is closer to the critical-deconstructive anti-humanist variety of posthumanism that I contrasted to the strain of ethical-worldly posthumanism in the introduction to this chapter. Claire Colebrook, a theorist closely allied to Wolfe, complains about the rise of this ethical-worldly style:

If anything “theory” as it is now practiced – with its emphasis on the lived, bodies, multitudes, emotions, affects, the political, the ethical turn – is indeed practiced; it avoids the problem of theory – what we can say there is, or the limits of existence – by grounding itself in what one ought to do.

While my preference for the more affirmative, worldly strand of posthumanism signals a certain impatience with certain strands of critical anti-humanist ‘theory,’ I have here discussed the work of Wolfe in order to begin to think how vulnerability, a hauntological predicate at the heart of life, might be allowed to speak to the grubbier, messier questions of what is to be done. This is not to reduce ‘theory,’ as understood by Colebrook, to a
question of its utility. My point is that in order to cultivate new multispecies alliances for ‘partial and robust biological-cultural-political-technological recuperation and recomposition,’ vulnerability needs to be seen in particular lives and creatures: the world must be allowed to trouble theory. For it is not ‘life’ that is vulnerable and finite, but particular lives. In the next two sections we see attempts not to share vulnerability in the abstract, but rather attempts to share this vulnerability, here and now; less ambitious than attempting to rework thought itself, but more modest attempts to change certain ways of thinking.

THE STING: BECOMING VULNERABLE

It is no secret that bees are in trouble. Populations of *Apis mellifera*, the pollinator for seventy-one out of 100 commercial crop species, have crashed. There has been a 26.5% drop in bee populations in Europe and a 49.5% drop in North America between 1961 and 2007, though these figures mask considerable local and regional variation. Bee decline is widely attributed to Colony Collapse Disorder (CCD). CCD is driven by a range of processes, including habitat loss and deterioration, pollution, pathogens (such as the Varroa destructor mite), chemical drifts from spraying, climatic changes, and neonicotinoids – widely-used (though currently banned in the EU) chemicals which affect bee behaviour and hive reproduction. Some bee advocates also blame commercial management practices: artificial breeding of queens; reduction in numbers of male drones; using chemicals to maintain hive hygiene. These bee advocates see pervasive interference in bees’ carefully-maintained hive environment as inimical to colony health. We might see the bee’s vulnerability as the result of modern kin-making practices. For Haraway, kin-making is a form of ‘multispecies alliance, across the killing divisions of nature, culture, and technology and of organism, language and machine.’ In the case of commercial bee-keeping, kin-making is reduced to an instrumental relationship as nonhuman labour is put to work in industrial agriculture, making the modern bee – and other pollinators such as solitary wasps – vulnerable.

Against this exploitative form of kin-making and the threat of extinction a growing number of alternative bee-keepers are finding ways to recuperate the human-bee relationship. I want to focus on one particular group of alternative apiculturists. I will suggest that their practice and philosophy is rooted not in attempts to solve CCD but rather to respond to the bee’s vulnerability. The British-based Natural Beekeeping Trust is headquartered in Ashurstwood, Sussex, amid the genteel villages and leafy hills of the North Downs. While it shares much in common with other attempts to re-work the relations between humans and bees (from the roof tops of New York to development projects), natural beekeeping at Ashurstwood follows a particular philosophy: the idea of biodynamic agriculture laid out by the Austrian philosopher and scientist, Rudolf Steiner (1861–1925). Steiner wrote and lectured widely on the dangers posed to soil fertility and human and animal health by industrial agriculture, setting out many of the precepts for what has become known as biodynamic...
agriculture. The relative merits of biodynamics are not of concern here. Rather, it is Steiner’s ideas about bees in which we are interested.

Steiner’s 1923 lecture series on bees informs the practices and philosophies of beekeeping at Ashurstwood. The central tenets are: minimizing disruption to hive functions; allowing bees to retain most of their honey; hive design that more closely mimics ‘wild’ hives; restraint or abstinence from chemical use; allowing swarming and hive reproduction. Natural beekeeping aims to put the health of the colony first. As a response to bee decline, this practical philosophy rejects instrumentalism. Hives are not maintained for pollination services. Honey is collected only when it does not disrupt usual bee activities. Bees’ resilience to winter conditions and disease is thus maintained, and external replacements for honey (such as sugar feeding, common in commercial apiculture) are not needed. Neither commodity nor condiment, honey is a sacred substance; sacred, since the transformation of sunlight and pollen is part of the bees’ specific excellence, a capacity that has knotted bee and human together for millennia. Hence honey is eaten rarely, always on its own, mindfully and with full attention.

The ceremonial way honey is consumed draws bee and beekeeper together. Taking small amounts of honey puts the beekeepers in the position of having received, and thus obliged to return the favour. Honey is used, we might say, as a gift. The bees offer the gift of honey; in return the beekeepers strive towards conditions in which bees may flourish. Of course a gift is never free, but is given and received by interested parties to reflect and produce social obligations. As Derrida noted, since the gift demands a response of whoever receives it, the gift becomes an imposition, and an opportunity for the giver to take something. Derrida argues that the only way for there to be a gift as such is for both parties to be unaware of its very existence: ‘for there to be gift, it is necessary that the gift not even appear, that it not be perceived or received as gift.’ And of course if the gift is not perceived as such, then it cannot really qualify as gift. The gift is riven by paradox: the condition of the possibility of the gift is also its impossibility. For Derrida the true gift must go beyond reciprocity or calculation into an infinite responsibility. Derrida’s sense of the ambivalence of the gift, in which we are driven because of – rather than despite – the gift’s paradoxical nature to aspire to give and receive well, captures something important about the role of honey in Steiner-inspired beekeeping.

Entering into this uncertain gift relationship makes both giver and receiver vulnerable. If the gift of honey draws people and bees into a relationship of giving and receiving, there is still always the chance of being cheated. The giver will never know for certain, in advance, that the gift will be accepted – they have to take a chance. Nor does the giver know in advance if the gift will be returned in kind: giving a gift makes one vulnerable to exploitation. A gift always involves taking a chance that the net of obligations the gift entangles us in will be more porous than we anticipated, more fragile, more transitory or that there is some other, hidden, game going on. Thus, honey draws bees and beekeepers into a web of obligation which is deep yet fragile, and which makes each party beholden and so vulnerable to the other.
We can begin to see how Steiner-inspired beekeeping reworks not only the bee’s vulnerability to modern, industrial kin-making practices, but also lines of connection across species. There is another more bodily way through which these humans cultivate vulnerability to the bee. Approaching beehives elicits physiological reactions including elevated pulse, sweat, rapid eye movement and adrenaline spikes. These very responses actually provoke a heightened sense of alert in bees. The bee sting is powerful: too many stings in the wrong places can have lethal consequences, regardless of allergic reaction. Under normal conditions, beekeepers will therefore wear some form of protective clothing, anything from a full bee-suit to a protective veil or gloves. Beekeepers are vulnerable to bee poison, and although that vulnerability can be managed and taken into account in practice, it is also an irreducible part of the human/bee relation. But the alternative beekeepers at Ashurstwood strive (with varying degrees of success) to minimise or eliminate protective clothing. Experienced beekeepers can approach the hives with no protection at all. Their accounts of how they do this centre on calmness and “holding space open” for the meeting.  

Not using bee suits is about more than exposure to poison. It expresses a profound longing for connection: to expose oneself and not be stung; to acknowledge the bees and want the bees to look back, to return the acknowledgement with friendship and not hostility. Furthermore, honey bees die after stinging. Eschewing the bee suit and meeting the bees in an ‘open space’ with ‘generosity of spirit’ is an attempt to rework the bodily boundaries of vulnerability in a situation of mortal danger. But to address the bee, and to seek to be addressed by the bee, is to make oneself vulnerable at a deeper level than the body. Certainly, one asks: What if I get hurt in the address, what if the bee stings me? But perhaps more importantly, one also asks: What if the creature just ignores me, what if it spurns my address? Another question arises: What if I am surprised by who I become during the meeting? Rather than coming to and leaving the encounter unchanged, the recognition of being vulnerable to the other changes one. As Judith Butler puts it, when we ask for recognition from the Other we are not asking them to see us ‘as we are, as we already are, as we always have been’ since we are changed by the very ‘petition’ to be recognized. Butler’s work has been criticised for its anthropocentrism, but there is no reason why the Other to which she refers need be human. Butler continues:

To ask for recognition, or to offer it, is precisely not to ask for recognition of what one already is. It is to solicit a becoming, to instigate a transformation … it is also to stake one’s own being, and one’s own persistence in one’s being in the struggle for recognition.

As much as they seek to help the bees in the face of CCD, beekeepers also stake themselves on the bee, giving themselves, or at least some part of themselves, to the insect’s power.
Steiner-inspired beekeeping is an idiosyncratic example: less a solution to CCD, more an example of how the boundaries and responsibilities of being human shift when vulnerability is shared. For Haraway, such practices open up ethical spaces that go well beyond programme, calculation or instrumental intervention. They are an attempt to reach some sense of sharing creaturely life – not knowing or understanding, but yet still grasping towards some relation with another creature and its own particular vulnerability (a vulnerability moreover in which we are often complicit). There is the possibility for mis-communication, for harm and for confusion, but these risks are part of any attempt to reach across lives.

However, one final aspect of alternative beekeeping shows the limits of this kind of reworking of interspecies vulnerability. The diagnosis that modern industrial agriculture has made the bee vulnerable leads to a series of interventions, and one of the most fashionable is the sun hive. This is a low-tech hive modelled on natural bee architecture and made of mud or similar material. Whether or not these hives ‘work’ is of less interest for this chapter; of greater importance is that they represent what McKenzie Wark calls a ‘romantic refusal.’ The rationale underlying the sun hive is that, since industrial agriculture has rendered the bee vulnerable, modern technology is the root problem. Sun hives reflect the belief that intrusive techno-modernity has no part to play in desirable multispecies community. The only solution can be the return to some low-fi romantic culture of nature. This technophobic argument conflates specific arrangements of agricultural technoscience and the big beast of Modern technology. Becoming vulnerable to the sting is an exercise in reworking the vulnerability of human and bee subjects, but an exercise that – unlike posthumanism more broadly – eschews technical prosthesis in favour of creaturely co-relation. The next section therefore discusses an imaginative project of becoming vulnerable, but one that retools biotechnology and is avowedly forward-looking.

**HARAWAY’S SF WORLDING**

Originally a rejoinder to feminism’s hostility to science and technology, and birthed in ‘the terrifying times of George H.W. Bush and the secondary Bushes,’ Donna Haraway’s cyborg remains a key posthuman figure. Emerging from Cold War technoscience, the cyborg is the ‘illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism.’ The cyborg was designed to help Haraway’s allies ‘learn from our fusions with animals and machines how not to be Man, the embodiment of Western logos.’ While the cyborg’s work is not yet done, Haraway has continued to produce more material-semiotic figures appropriate for changing times. Her turn to companion species, messmates at table of all kinds, grew from the wreckage of the twentieth century’s modern evolutionary synthesis; the companion species is not a philosophical concept, but a figure in conversation with the rising currency of theories of symbiogenesis and symbiosis in evolutionary science.

Just as Steiner-inspired natural beekeeping is an experiment in kin-making, so too is Haraway’s speculation with figures. Figuration is a key
technique for Haraway. Figures collect up people and things, shared meanings and incompatible stories. They are, she writes, 'performative images that can be inhabited … contradictions that do not resolve into larger wholes.'

She remains reluctant to parse these figures’ naturalcultural heritages into neat blocks; they thrive on unhygienic alliances, and incubate new styles of thought. In this section, I want to focus on one particular example of her figurative story-telling practice. This story shares some similarities to beekeeping: it is also about an insect, and it is also a response to biodiversity loss and threats of extinction. It is also a story about ‘recuperation … in multispecies alliance.’ But in contrast to the emphasis on creaturely co-vulnerability in beekeeping, Haraway’s speculative fiction story draws in machinic fusion and flirts with the technological promise of posthuman technological enhancement.

Haraway’s story (though as I discuss shortly it is not really ‘hers’) features an individual, Camille, and five generations of her ancestors, as well as a multi-sited community, the Children of Compost. It is told as a speculative fiction from the perspective of the future. The Children of Compost came together as a molecular, planetary network of like-minded folk of ‘every economic class, color, religion, secularism, and region’ and moved - at some point in our near future - to ruined places left behind by capital’s relentless search for resources. Haraway’s story focuses on one group who moved to an area of West Virginia devastated by mountain-top removal mining. Their work was to make these damaged lands flourish once more and to foster new forms of human kin-making. Taking seriously the projections of a planetary population of ten billion humans, the Children of Compost experimented with post-hetero-normative and non-natal reproduction. Every child has at least three parents, kin relations are fluid, forming and deforming through life, ‘undoing the widespread destructive commitment to the still-imagined necessity of the tie between kin making and a tree-like biogenetic reproductive genealogy.’

The Children of Compost illustrate what Haraway means by her slogan, ‘Make Kin, Not Babies.’ The ‘Not Babies’ part of this slogan is clearly tricky, flirting as it does with population control and against hard-won reproductive freedoms. Haraway stresses that the Children of Compost cherish individual-but-collective rights to have offspring, but that no-one can be coerced to have children. The baby in her slogan is not only a fleshy, crying human being, but also the continuation of the Human – an idea of the Human as an autonomous, rational being abstracted from its environment and brought into the world through natal ties and heteronormative reproductive labour.

However, the Children of Compost’s mission of ‘Making Kin’ goes beyond human sociality. Each child born into the community has an animal symbiont of an endangered species assigned to them. They must learn how to live with and nurture the future of their symbiont, and pass down that knowledge to their ancestors, a relay of ‘inheriting and inventing practices of recuperation, survival, flourishing.’ These symbionts are also migratory, pulling their human partners to other places and to other communities. Camille, the named character in the Children of Compost stories, has the Monarch butterfly as her symbiont. Each autumn, Monarchs
travel between 1,200 and 2,400 miles from North America to Mexican forests or to California, where they hibernate. During their return migration north, the butterflies reproduce through four generations. They have a complex migration pattern, requiring nectar on their way south, and nectar and food plants – almost exclusively milkweed – for their larvae on their way north. Due to habitat loss and agricultural chemicals, populations of Monarchs have been crashing. Camille’s work and play was to connect with other communities along the monarchs’ migratory routes, rehabilitating land, learning about their symbionts and responding with dedicated care to the vulnerability of the species.

Camille’s sensibilities are similar to those of the beekeepers described in the previous section: curiosity for nonhuman allies; a keenly felt mission of recuperation and mutuality; desire to share vulnerability across species lines. Much as the beekeepers at Ashurstwood stake some of their selves on being recognised by bees, so too do Camille and her ancestors. But Haraway’s figures meet and mingle: Camille may be shouting ‘Make Kin Not Babies!’ but she also shouts ‘Cyborgs for Earthly Survival!’ The second generation Camille opted to implant butterfly feelers on her chin, so that she could better taste the worlds of her flying insect symbiont. The Children of Compost adopt such bodily modifications for pleasure, aesthetics or work, ‘as long as the modifications tend to both symbionts’ well-being.’

Wellbeing should be understood here as risky; aligning human capacities to endangered migratory butterflies is not simply ‘adding’ new human affective apparatus but also sharing vulnerability. As the cyborg took the technologies of Cold War technoscience and repurposed them, so too does Camille take the tools of genetic engineering and repurpose them for multi-species flourishing.

The Camille stories exemplify the kind of ‘non-innocent, non-pure histories [Haraway] has inherited and attempted to rework.’ The stories are not some low-fi retrograde localism hostile to modern biotechnologies. Human enhancement is the hallmark of a form of posthumanism generally disliked by leftist critics, a drugged up version of what Wark calls the California Ideology. This is hyperbolic posthumanism: the belief shared by certain libertarian, masculinist sf writers and techno-optimists claim that science and ingenuity will usher in a new era of limitless human potential as genetic enhancement, digitised selves, space exploration and so on free us from bodies with leaky plumbing, faulty wiring and built-in use-by dates. Such posthumanist tales usually ‘only deviate slightly from a thoroughly modern imperative that seeks to harness the potential of posthuman developments for … profitable ends.’ They extend a libertarian and neoliberal concept of individuality, unifying posthumans and other species in freewheeling cosmopolitan marketplace. Rather than duck entirely this ‘blissed out techno-idiocy,’ (though she reserves a particular ire for it), Haraway’s Camille story flirts tangentially with it. She inherits, though not uncritically, the tools of bioengineering and faces up to the way genetic material has been commodified and enclosed since the late twentieth century. This approach eschews the tendency of progressives, including animal studies scholars, to insist ‘on the necessary domination of technics’
and recall us to ‘the imagined organic body to integrate our resistance.’ To
draw a distinction with beekeeping, Camille’s story rejects the fetish of
vitalism – any attempt to side with ‘life’, even progressive articulations of
symbiotic knottings of human-animal life – over and above technoscientific
entanglement.

The story is not simply Haraway’s alone; there are other authors. The
story emerged as a collaborative writing exercise during a colloquium on
gestes speculatifs in 2013, involving Haraway, the filmmaker Fabrizio
Terranova and Vinciane Despret. The stories they developed have several
iterations, and have evolved. Haraway also discloses that ‘Camille came
into our lives,’ and that Camille gave the slogan ‘Make Kin Not Babies.’ Camille
is wilful and certainly not under authorial control. Haraway’s story-
telling practice draws on Ursula Le Guin, another self-described ‘angry,
aging woman’ and her ‘carrier bag theory’ of fiction. A lauded science
fiction writer, Le Guin has consistently argued for the need for the powers
of imagination in brutal times.

Her story-telling philosophy rejects the linear Hero narrative in favour of a ‘carrier bag’ fiction – a loose container
that can hold technology, science and nature together without Promethean or
Soterian extremes. Following this philosophy, no redemption occurs in the
Camille story: the fourth generation of Camille witnesses the extinction of
monarch butterflies. Camille’s task, shared by her fellow butterfly-human
hybrids in other communities, then became one of speaking for the dead –
travelling to tell other Communities of Compost about the work they did so
that others could learn from it. Camille, then, exemplifies Haraway’s
commitment to ‘finicky, disruptive details of good stories that don’t know
how to finish.’

Haraway’s play with sf is very serious. She is invested in its potential
and the figurations of its posthuman protagonists to suggest possible futures,
futures that might lie latent in the present. Her readings of technoscience
and patriarchal, heteronormative reproductive culture exhibit this ethos; her
critiques are also always asking how things could be done differently. In
this, Haraway’s story-telling exemplifies the positive, worlding take on
posthumanism I contrasted to the critical anti-humanist posthumanism in the
introduction. She is allied to other feminists, who, as Rosi Braidotti puts it,
see posthumanism as the call from an open future to craft new forms of
‘collectively enacted, non-profit-oriented experimentation with intensity …
with what we are capable of becoming.’

MULTIPLYING POSTHUMANISMS
Ultimately, the louder posthumanism pronounces the death of the Human,
the more it relies on the Human for its force. Posthumanism appears as ‘a
recuperative gesture which enables Man to continue surviving vampirically
by appearing to be dead while appropriating his previously excluded
others.’ Various scholars have noted this trick at the heart of posthumanist
thinking: Cary Wolfe calls it a humanist posthumanism; Clare Colebrook an
ultrahumanism, an alibi under which the work of Man continues. Even the
vitalist uptake of posthumanism – the ‘sacrifice of man as Cartesian subject
in favor of a posthuman ecology of systems’ – performs a similar trick.
dissolves the human into constitutive more-than-human flows, acknowledging its constitutive finitude and shared vulnerability. But at the same time as negating a ‘humanism that never was’ this move relies on that figure for its revelatory force.\textsuperscript{72} Thus, invoking posthumanist sympoietic figures covers over the human lying hidden at the heart of posthumanism.

One response has been to decolonise posthumanism by multiplying its epistemic imaginaries. Sited squarely in Western thought, posthumanism relates awkwardly to all those other human worlds that never adhered to enlightenment dogmas of the human and its separation from nature and technology. Sami scholar Rauna Kuokkanen calls this ongoing exclusion of other-than-Western traditions ‘epistemic ignorance.’\textsuperscript{73} One solution in the face of this epistemic ignorance is to act ‘pluriversally,’ as Escobar and Blaser have it.\textsuperscript{74} Acting in this manner means learning of other ways of being creaturely humans – not appropriating and enclosing knowledge ‘about’ the Indigenous, but rather engaging in ways that transform posthumanist theory. This goes beyond antihumanist critique to forward-looking projects that see multiple worlds and multiple ways of being human, beyond those bequeathed by settler colonialism.\textsuperscript{75} For example, Haraway’s Children of Compost pick up on the Anishinaabe philosophy of considering the impacts of one’s actions seven generations hence.\textsuperscript{76} The intention behind multiplying posthumanism is less to loosen the cord anchoring the posthuman in the Human, and more to step around it: to begin from nomadic points of difference, embedded in distributed lifeworlds, rather than a dead, unitary figure. The goal, then, is not a ‘melding of Indigenous and settler’, but realising a ‘more-than-human world that requires new ways to see, trial and sponsor on-the-ground experiments.’\textsuperscript{77}

Continuing the insect theme of this chapter, we can see the dilemmas of Indigenous posthumanism through the example of weta conservation in New Zealand. Weta is the common name for a group of 70 insect species in the families Anostostomatidae and Rhaphidophoridae. They are endemic to New Zealand. Like many of those islands’ species, weta continued to evolve in near-total isolation after New Zealand split from Gondwanaland 80 million years BP. Giant weta, of which there are eleven species, are among the largest and heaviest insects in the world. They are wingless and spiny with enlarged legs; their genus, Deinacrida, means ‘demon grasshopper’. Unlike their tree-dwelling kin, giant weta – products of island gigantism – have been particularly susceptible to predation by introduced mammals and habitat loss.\textsuperscript{78} Eight species of weta are threatened; two are critically endangered.\textsuperscript{79} There are intensive conservation plans in effect, consisting of relocation to predator-free islands, predator control and captive breeding.

As a result of the historic Waitangi Tribunal and increasingly strident Māori voices, New Zealand’s conservation architecture now has a duty to consider matauranga Māori – Māori worldviews and knowledge of the natural world. Slowly, Indigenous conservation concepts, such as rāhui (temporary restriction) and tapu (sacred restriction) have entered New Zealand’s conservation lexicon, with the aim of fostering bi-cultural integrated biodiversity management. However, such shifts in postcolonial conservation regimes circumscribe Indigenous claims within the
preservationist regime of the state: ultimately, Indigenous knowledge is used instrumentally and only when it assists the mission of securitizing nature. The weta conservation ‘recovery plan’, for example, is expressed solely in the language and philosophy of conservation biology. Symptomatically, despite public engagement being a key pillar of this recovery plan, there is only one brief mention of Indigenous views, with the Department of Conservation ‘acknowledging the need to take account of the views of the tangata whenua [people of the land, implying all Māori] and the application of their values in the conservation of natural resources.’

When such deliberative engagement does occur, it usually precludes larger ontological questions and reduces Indigenous peoples to one ‘stakeholder’ among many. Since giant weta (and many other endemic species) are so endangered, questions of tenure or co-management come only after all parties have acknowledged the biocentric agenda of western conservation biology, leaving its preservationist and managerial philosophy remaining uncontested. Co-management is often offered as a token, ignoring resolution of land grievances or sovereignty. Postcolonial conservation is therefore a form of pluralism with one master narrative and one world. If Camille and the beekeepers of Ashurstwood exhibit some dismay at the shortcomings of conservation regimes based in humanist thought, so too might Indigenous peoples.

The implications for multiplying posthumanisms are obvious. Historic colonialism, cultural marginalisation and on-going struggles over resources all shape Indigenous cosmopolitics. As Coombes et al. put it, ‘Indigenous negotiators become frustrated or feel co-opted when they discover that the remediation of environmental legacies from colonial development triumphs over their expectations for self-determination.’ When posthumanists, in their laudable attempt to multiply signs of vitality and to provincialize Western ways of being human, turn to Indigenous thought without acknowledging asymmetries of power in the colonial present they become complicit in ongoing colonial violence. The danger is that the old humanist model of extension and appropriation remains, as divergent ‘posthumanisms’ are ‘added in’ to make up One World. Decolonising posthumanism does not mean multiplying perspectives, but multiplying worlds, worlds which come into being and interfere with other worlds. This will necessarily involve unlearning much of what we think about posthumanism by placing it – like humanism – in its biographic, historical and geographical place.

Multiplying posthumanism, then, must not add signs of life to an existing world, but strive to transmute the legacies of colonialism and humanism with a multiplicity of beings - from endangered bees and butterflies to transgenic humans-to-come - as peers, with an eye to past injustices as well as posthuman futures, are needed.

This puts the cases of shared vulnerability I discussed in the chapter in a fuller context. They can now be seen less as blueprints for what should be done, and more as localised experiments in multiplying the forms of humans, made through their relations with other species. From the weta we can see the need for pluiversal posthumanisms, starting not from critiques of the human, but from multiple worlds. Steiner-inspired beekeeping inherits
heterodox Western thought; Steiner’s anthroposophical lectures on bees – which go far beyond what I have discussed in this chapter – are spiritual, sexual, cosmic, empirical and non-reductionist. The beekeepers inspired by his writings do more than recognize the bees’ vulnerability; just as Camille does more than recognize the Monarch butterflies’ vulnerability. They each seek, through different means – more or less comfortable with prosthetic enhancement – to reconstitute their vulnerability to their companion insect. Becoming less uncomfortable with vulnerability and seeking to put ourselves at risk can be a productive ethical practice, loosening the grip of a self-certain subject to whom an outsider arrives to disrupt. Instead, becoming vulnerable pushes the protagonists in these tales to recognise corporeal debts to the other, as gifts of grafted feelers or sacred honey draw them together. Co-species vulnerability, far from a simply negative force, here becomes a condition for a sense of community.

There is an irony in using Haraway to think about posthumanism: she remains at best ambivalent to the term, and reluctant in general to ‘go postal.’\(^87\) One of the reasons: ‘Human/posthuman is much too easily appropriated by the blissed-out, “Let’s all be posthumanists and find our next teleological evolutionary stage in some kind of transhumanist techno enhancement.”’\(^88\) I noted in the previous section that she still plays with this form of posthumanism in the transgenic Camille figure. Another reason is that she sees posthumanism as too restrictive, too rooted in species thinking; it is the companionate relationalities from which species emerge that interest her: ‘we are all compost, not posthuman.’\(^89\) The question of becoming after the human requires acknowledging the earth forces – vegetal, fungal, geological, technical, animal and so on – out of which actual, differentiated humans congeal. Yet bringing to awareness the varied human debts to earth forces is no longer a sufficient manoeuvre. Instead, the more political mission is to reorient some of those forces and to transform their conjuncture to create more just, collective forms of co-flourishing. This means beginning not with the unitary ‘human.’ Nor can it mean beginning with ‘the posthuman’ – for that too ultimately hides the human at its core. Rather, it means multiplying posthumanist experiments, beginning from nomadic points of difference, perhaps thickening some tangled multispecies webs of co-vulnerabilities and cutting others.
Notes


4 Ibid., p. 8.


15 Braidotti, The Posthuman.

16 Ibid., 2.


20 As Wolfe puts it, there is a ‘bond between human and nonhuman animals as beings who … live and die as embodied beings.’ Wolfe, Posthumanism, p. 123.
21 Derrida, ‘The animal that therefore I am,’ p. 28.
22 Wolfe, Posthumanism, p. 95.
25 Wolfe, Posthumanism, p. 89.
29 Ibid.
30 Haraway, When Species Meet, p. 136
31 Portions of this chapter were previously published as Green, Kelsey and Franklin Ginn. ‘The Smell of Selfless Love: Sharing Vulnerability with Bees in Alternative Apiculture.’ Environmental Humanities (2014) 4: 149–170, and reproduced here with permission. Kelsey undertook the fieldwork on which the article was based.
38 Ibid., p. 163.
41 Butler, Precarious Life, p. 44.
43 Haraway, Donna. ‘Sowing Worlds: A Seedbag for Terraforming with Earth Others.’ In Grebowski, Margaret and Helen Merrick, Beyond the

45 The Cyborg Manifesto remains Haraway’s most-cited work, according to bibliometric analysis in Grebowicz and Merrick, Beyond the Cyborg.


47 Haraway, Simians, Cyborgs and Women, p. 173.


49 Haraway, Donna.

Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™: Feminism and Technoscience (New York: Routledge, 1997), p. 11;

Haraway, Simians, Cyborgs and Women, p. 149.

50 Haraway, ‘Sowing Worlds,’ p. 137.


52 Ibid., p. 11.


54 Haraway, ‘A Curious Practice,’ p. 11.


58 Wark, Molecular Red.


61 Braidotti, Posthumanism, Chapter 2.


63 Haraway, Simians, Cyborgs and Women, p. 154.


65 Haraway, ‘Sowing Worlds,’ p. 139.


68 Braidotti, Posthumanism, p. 22.

70 Colebrook, *Death of the Posthuman*.

71 Ibid., p. 163.

72 Ibid., p. 163.


86 Sundberg, ‘Decolonizing Posthumanist Geographies.’

87 Haraway and Gane, ‘Never Been Human.’

88 Haraway and Gane, ‘Never Been Human,’ p. 140.