CHAPTER 2

Living Landscapes as Microcosms
Leslie Marmon Silko's Gardens in the Dunes*, Amitav Ghosh's* The Hungry Tide*, and A. S. Byatt's 'A Stone Woman'*

In 1995, David Buell defined the environmental literary imagination as one in which 'the nonhuman environment is present not merely as a framing device but as a presence that begins to suggest that human history is implicated in natural history'.[1] This shift, from the environment as *frame* to the environment as *presence*, has intensified in twenty-first-century climate change discourse. In the first two decades of the century, philosophers such as Bruno Latour, Dipesh Chakrabarty, Baptiste Morizot, and Isabelle Stengers frequently used the image of the backdrop-come-to-life to describe the revolution brought about by climate upheaval in our perception of the Earth.[2] Through that metaphor, they activate the *theatrum mundi* trope, where the stage is a metaphorical microcosm through which we view the macrocosm. Somewhat uncannily, the idea of a living backdrop troubles our sense of scale, as well as the distinction between perceived objects and perceiving subjects.

This chapter examines three works of fiction in which landscapes come to life. Their time of writing makes them early reactions to the second Intergovernmental Panel on Climate Change (IPCC) report, published in 1995, which confirmed the trend of global warming and identified the 'fingerprint' of greenhouse heating in that trend. Leslie Marmon Silko's *Gardens in the Dunes* (1999) was published two years after the signature of the Kyoto protocol, at a time when climate change awareness and questions of sustainability were stimulating a growth of interest in Indigenous gardening practices.[3] Amitav Ghosh's *The Hungry Tide* (2004) and A. S. Byatt's 'A Stone Woman' (2003) were written shortly after the

[1] Buell, *Environmental Imagination*, p. 7.
[2] Hendrickx and Van Baarle, 'Decor as Protagonist'; Chakrabarty, 'The Human Condition', p. 179; Morizot, *Manières*, p. 21; Stengers, 'Gaia'.
[3] Tillett, 'Sand Lizard Warned Her Children to Share', pp. 220–1. Tillett mentions Cajete's *Native Science* (2000), Buchanan's *Brother Crow, Sister Corn* (1997), and Caduto and Bruchac's *Native American Gardening* (1996).

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United States withdrew from the Kyoto protocol in 2001, which was also the year the IPCC published its third report, accompanied by the famous hockey stick graph that showed a stable thousand-year trend followed by a sharp upward turn in global warming. Climate anxiety, without necessarily being identified as a theme, colours these narratives' portrayal of environments as multi-scalar, relational fields.

These stories work against what Morizot and art historian Estelle Zhong Mengual call the ecological 'unreadability' of landscape. Morizot and Zhong Mengual suggest that the aesthetic tradition of landscape painting, combined with the epistemic legacy of Romanticism, have rendered environments illegible to those who seek to read life beyond the human. Making landscape readable, they argue, requires new strategies of awareness towards all scales of life, and new translations of 'all these entangled lives, so strange and yet so intimately familiar'.[4] Like Morizot and Zhong Mengual, I choose to work with the term 'landscape' in order to emphasise how much a multi-scalar, processual view of environments goes against the legacy of landscape painting. That inherited, aesthetic conception of landscape can be viewed as a technology of scale which stabilises perception on one particular scale: Silko's novel, in particular, satirises sublime landscape aesthetics by linking them with capitalist extraction. By contrast, these stories draw the reader's attention to multiple scales of life, and broaden the scopic regime of landscape to other ways of knowing space.[5] To analyse these ways of knowing, I draw on anthropologist Tim Ingold's conceptualisation of landscape as a 'meshwork' of entangled lines of life.

My reading of *Gardens in the Dunes*, *The Hungry Tide*, and 'A Stone Woman' brings into focus the *topos* of the microcosm as a key site of ethical and epistemic relation to landscape. In each of these stories, a localised place or an individual body stands in for the Earth itself. These microcosms function as what Derek Woods calls *scala*: tropes which substitute 'one object for another across at least a degree of magnitude'.[6] In this type of setting, the microcosm as literary trope functions much like an ecological microcosm, a 'small-scale natural ecosystem, regarded as a model of

[4] Morizot and Zhong Mengual, 'L'illisibilité du paysage', p. 96. My translation from the French. '*L'attention au paysage animal et à la sociologie végétale, aux alliances des bactéries et des racines chez les mycorhizes, et la tentative de traduction de toutes ces vies emmêlées, si étranges et si intimement proches, est une forme de lisibilité du vivant largement inexplorée*.' For the idea of landscape as an aesthetic model that cuts us off from other life forms, see also Carlson, 'L'appréciation esthétique', p. 66.

[5] The association of landscape with sight derives from the aesthetic use of the term. See the 'landscape' entry in the OED: '2.a. A view or prospect of natural inland scenery, such as can be taken in at a glance from one point of view; a piece of country scenery' (*Oxford English Dictionary*, online, 13 December 2022).

[6] Woods, 'Scale', p. 120.

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ecological principles'.[7] But such scalar collapse is not politically neutral: it is, as Zach Horton argues, an epistemic move linked historically to capitalism, imperialism, and the pan-scalar humanist reduction of other scales to the human.[8] In the light of this scale critique, reading Byatt alongside Ghosh and Silko allows me to question the scalar collapse and implicit scalability that underpins the microcosm as an epistemic figure, and to bring into focus the role of anthropomorphism in this collapsing of scales. These stories, I suggest, outline a potential new direction for microcosmic poetics at the turn of the twenty-first century.

2.1 Landscape as Telescoping Device in *The Hungry Tide*

Several years after writing *The Hungry Tide*, Amitav Ghosh published *The Great Derangement* (2016), a reflection on the crisis of the literary imagination in the face of climate change. The realist novel, Ghosh argued, is ill-equipped to deal with the *longue durée* of the current upheaval and the magnitude of its unfolding. Looking back at *The Hungry Tide*, Ghosh suggests that it explores the kind of encounters with nonhuman forces that are essential to the imagining of climate change. For Ghosh, when a human being comes face to face with a tiger, or with the 'eye' of a storm, an uncanny realisation takes place, forcing the acknowledgement of 'something we had turned away from: that is to say the presence and proximity of nonhuman interlocutors'.[9] Such moments are indeed turning points for the two characters whose paths we follow in *The Hungry Tide*. These focalisers are a translator and a biologist who become fascinated by the Sundarbans coastal region, and ultimately survive the cyclone and the tsunami-like wave that conclude the novel. In the final chapters, they experience transforming encounters. For the urbane, self-confident translator Kanai, coming face to face with a tiger is a humiliating and illuminating experience that puts an end to his travels, convincing him that this is not '[his] element'.[10] For the self-effacing cetologist Piya, surviving a cyclone and the tsunami-like wave that accompanies it becomes the beginning of a lifelong commitment to studying the area. I propose, however, that rather than focus, as Ghosh does retrospectively, on single moments of encounter with the more-than-human scale, we read the entire

[7] See the 'microcosm' entry in the OED ('Microcosm, 3.a', *Oxford English Dictionary*, online, 13 December 2022). For a narratological reflection on fiction's capacity to modelise ecosystem behaviour, see De Bruyn, 'Everyday Pluriverse'.
[8] Horton, *Cosmic Zoom*, pp. 3, 11, 23. [9] Ghosh, *Great Derangement*, p. 30.
[10] Ghosh, *Hungry Tide*, p. 334.

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novel's portrayal of landscape as shaping a more complex multi-scalar ontology.

At first, *The Hungry Tide* contrasts those who focus on humans with those who focus on wildlife, as the chapter structure alternates rigorously between the two main characters and their parallel journeys through the Sundarbans. After meeting on the train to Canning, Piya and Kanai follow separate paths during the first section of the novel, 'The Ebb'. While Piya moves along the water on various boats, attempting to map out the presence and behaviour of the Irrawaddy dolphin, Kanai stays with his aunt on the island of Lusibari and reads a manuscript left to him by his uncle. In this manuscript, the retired teacher Nirmal recounts his involvement with a settlement of Bengali refugees on the island of Marichjhapi, up until their violent expulsion and extermination by the police in 1979. These two journeys join up in the second part of the novel, 'The Flood', where Kanai and Piya meet again and travel together in search of the dolphins, after Kanai offers to act as an interpreter for her. Their journey is guided by a fisherman, Fokir, whose knowledge of crab population behaviour helps them through the labyrinth of the mangrove. These different perspectives allow Ghosh to first contrast different relations to the land, and then progressively weave together the attention paid to different life forms.

The Sundarban mangrove forest is introduced in the first pages as 'a universe unto itself' (7), and thus literally a microcosm. This 'universe' brings into view the interaction of multiple scales of life, from the movements of crabs and humans to shifts in the Earth system's tides and weather. In the title and opening description, human and nonhuman scales overlay each other. The title personifies the tide, and the first pages present many allegorical images of entanglement where the landscape is personified: the 'tangled strands' of the river are described as a 'heavenly braid' formed by the locks of hair of the divinity Shiva 'com[ing] undone' (6). Focusing on personification, however, just like focusing on encounters, does not do justice to the novel's multi-scalar poetics. These poetics do not simply add a nonhuman protagonist to the *dramatis personae*; instead, they draw attention to the kind of multi-scalar interactive agency that Latour associates with Gaia theory: '*waves of action*, which respect no borders and, even more importantly, never respect any fixed scale'.[11] When Nirmal teaches the young boy Fokir to read the landscape, he takes him to listen to the *bādh*, the embankment that protects the villagers' settlement. Listening to the *bādh* is an act of multi-scalar hermeneutics: for

[11] Latour, *Facing Gaia*, p. 101. See also Chapter 1 of this book.

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Nirmal it is '*our abacus and archive, our library of stories*' (202) because it contains the marks of previous storms. But the scene is also a lesson in multi-scalar perception: Nirmal asks Fokir to put his ear to it so that he may hear the scratching that tells him '*multitudes of crabs are burrowing into the* bādh'. How long, asks Nirmal, '*can this frail fence last against these monstrous appetites – the crabs and the tides, the winds and the storms?*' (206). Agency here is not located on one particular scale but distributed as a tension field containing human and nonhuman forces.

In addition to alternating in focus between small-scale life and planetary forces, the novel draws attention to the fact that the tidal country compresses human and nonhuman temporal scales. In the lessons he teaches to school-children, Nirmal emphasises the affinities of geology and mythology, noting that both produce narratives where '*vast durations are telescoped in such a way as to permit the telling of a story*' (180). The verb 'telescope' is an apt metaphor for the novel's microcosmic poetics, where the Sundarbans function as a viewing instrument for the slower upheavals affecting the rest of the planet: Nirmal remarks that '*the very rhythms of the earth were quickened here so that they unfolded at an accelerated pace*' (224). The timescale of nonhuman life forms becomes perceptible to the human eye: '*forests take centuries, even millennia, to regenerate; but mangroves can recolonize a denuded island in ten to fifteen years*' (224). Such accelerations also characterise the daily life patterns of local fauna: Piya is puzzled by the local dolphins' behaviour until she realises that they have 'compressed the annual seasonal rhythms of their Mekong relatives so as to fit them into the daily cycle of tides' (124). This temporal compression engages with the narrative challenge of climate change, and thus with the narrative challenge of the Anthropocene, even though this was not yet a well-known concept when Ghosh wrote the novel.

What Ghosh calls the scalar resistance of planetary change to the form of the novel is strongly bound up with the temporality of realist fiction. As Ursula Heise has theorised, the genre of science fiction has long experience in solving problems of timescale discrepancies: well before the Anthropocene was coined as a concept, science fiction developed timescale-extending devices such as time travel, time leaps, species narrative, and time *collage*. These devices, Heise suggests, answer a technical difficulty that hampers deep-time storytelling: the difference between the duration of storytelling and the duration of story, or, in Gérard Genette's terminology, a problem of *anisochrony*.[12] Here Heise takes Genette's term to mean a discrepancy between the duration of

[12] Heise, 'Science Fiction', p. 283.

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reading and the duration of plot. In fact, Genette points out in *Figures III* that this discrepancy is impossible to measure, as the duration of reading is not fixed. Genette therefore proposes to define narrative *isochrony* not as an identity between those two durations but, rather, as a stable relation between them, and *anisochrony* as a variation in that relation, and thus a change of pace.[13] Perfectly isochronous stories, in other words, do not exist. But Heise is right to point out the usefulness of Genette's concept for the temporal devices she analyses. Anisochrony, essentially, names a change in *scale as ratio*: just as a change of geographical scale on a map changes the relation between the size of what is represented and the size of the representation, a narrative anisochrony changes the relation between the speed of narrative and the speed of events.

The microcosm, I suggest, is a trope through which realist fiction produces accelerations, and thus anisochronies, comparable to those analysed by Heise in science fiction. Without resorting to time travel or narrating the lifespan of entire species, the realist setting can thus produce a comparable compression of scales. It should be pointed out that deceleration is also an important form of anisochrony in contemporary ecofiction: as Marco Caracciolo argues in *Slow Narrative and Nonhuman Materialities*, narrative slowness is a crucial experience for readers to be able to engage with an often abstract, imperceptible ecological crisis. But it is narrative acceleration that occurs in *The Hungry Tide*. Nirmal's musings on geology and mythology, or Piya's biological analysis of the dolphin's compression of the 'rhythms of the earth', all perform anisochronies that compress the planetary movements so much that they become perceptible to the human.

In a key scene, Ghosh depicts the development of multi-scalar awareness as an interweaving of biological, geographical, and technological lines. The first time Fokir leads Piya to the dolphins, she reflects that she has his knowledge of the crabs' movements to thank. She enlists his help in mapping the contour lines of a natural pool where the dolphins are sighted, which she can measure precisely through GPS coordinates and depth-soundings. Since the process entails crossing the pool in straight lines, the fisherman uses this as an opportunity to fish for crabs, paying out a long line of nylon with baits knotted along it. The line-setting of fishing translates into a form of measurement: the nylon thread guides the boat along a straight line and leads them back to a precise starting point, thereby effectively reducing Piya's need to use her GPS. Piya is amazed by this

[13] Genette, *Figures III*, p. 123.

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convergence of purposes, and the lines that Fokir traces help her to establish the dolphins' behavioural pattern. I read this scene through Ingold's anthropological conception of landscape as meshwork: Ghosh, like Ingold, narrates landscape through lines of movement, so that space is structured by the trajectories of multiple life forms as well as by weather patterns. In effect, Ghosh structures the landscape through an association of human and nonhuman movements: as in Ingold's descriptions, the land is held together by 'the tangled and tangible lifelines of its inhabitants'.[14] Strikingly, Ghosh structures the encounter between different forms of knowledge through the contrast between GPS measurements, which establish the coordinates of a *point* in space, and the *lines* traced by fauna and fisherman. This contrast resonates with Ingold's essays, which formulate a meshwork view of space through a contrast between lines and points: it is necessary, he explains, to resist the *inversion* or misrepresentation by which the lines of life, growth, and movement that constitute landscapes are construed as fixed, separated points. The anthropologist's aim is to reveal, 'behind the conventional image of a network of interacting entities, [. . .] the *meshwork* of entangled lines of life, growth and movement'.[15] The word 'mesh' is thus employed, in Ingold's work, to counter representations of environments as networks of connections between points. This is precisely what the collaboration between biologist and fisherman enables in Ghosh's somewhat idyllic scene: the lines traced by crabs, dolphins, fisherman, and GPS co-construct a multi-scalar perception of living space.

Ingold, as I noted in Chapter 1, argues that narrative is best able to capture a meshwork view of landscape, where things 'are their stories, identified not by fixed attributes but by their paths of movement in an unfolding field of relations'.[16] Similarly, Ghosh draws attention to the narrative quality of Fokir's knowledge: the fisherman's routes are structured by the mythical stories his mother sang to him as a child, giving him knowledge of the area's aquatic life. Telling stories and fishing are not separate approaches but intertwined ways of practising the environment. In the final chapter, after Fokir's death in the storm, Piya explains to his aunt that she will be able to retrace their movements through the region thanks to her GPS monitor. The resulting map will provide the foundation of an ambitious research project, in which she plans to involve local organisations and fishermen. On the screen, Fokir's movements over one day resemble 'a strand of wool that had come unravelled from an old scarf' (340), a 'sinous zig-zag line' that represents 'decades of work and

[14] Ingold, *Being Alive*, p. 74. [15] Ingold, *Being Alive*, p. 61. [16] Ingold, *Being Alive*, p. 160.

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volumes of knowledge' (398). This narrative metaphor echoes Nirmal's diary, where the Sundarbans are described as a 'book' whose pages '*are ruled with lines that are invisible to some people, while being for others, as real, as charged and as volatile as high-voltage cables*' (224). The line is thus a metaphor for entanglement that draws attention to the epistemic role of narrative.

Notwithstanding this positive note, the way in which the biological strand of the novel de-hierarchises and de-politicises relations between scales is highly problematic. The quasi-providential intervention of the GPS monitor masks the power relations at work in these multi-scalar relations. Fokir's life undergoes a form of sublimation through the global perspective of American technology, but the price for this is the Indian fisherman's death. By turning travel into a map, the GPS effectively turns narrative, Indigenous knowledge into scientific knowledge. A particularly optimistic reading would be that Piya's transformation of *path* into *knowledge* turns the global of the GPS against itself, resisting the global view's reduction of living processual lines to separate points, and thereby undoing inversion. But the novel's eagerness to portray complementarity between different ways of knowing and to translate what Ingold calls the 'complex-process perspective', where 'movement *is* knowing', into scientific knowledge obfuscates the resistance of movement-based knowledge to scaling operations.[17] If knowledge is movement along a matrix of paths, it does not easily zoom out to wider systems. Ingold's framework invites, at the very least, suspicion towards epistemic moves that translate the local directly into a global view. Whether Piya can succeed in performing the reverse operation, and translate the global into the local, is a question that the novel does not answer. From a political perspective, the equivalence she perceives between different epistemic scales is not entirely convincing.

This tension between the epistemic and the political significance of the novel's 'telescoping' effect produces several conflicting allegories. The ecological strand appears to offer a tale of human and other-than-human resilience in the face of environmental disruption. But the historical strand of the story reminds us that different narratives of landscape are set within and at odds with each other. When Nirmal first joins a Bengalee refugee camp on the island of Morichjhapi, he sees it as a political utopia, a thought experiment where Marxist revolutionary politics can play out in an accelerated form. The community is occupying forest reserve land, and is first besieged then forcibly evicted in the name of animal and land conservation.

[17] Ingold, *Being Alive*, p. 160.

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The island as microcosm therefore highlights the conflict between certain global conservation politics and the local reality of human refugees. As Elizabeth DeLoughrey has theorised in her work on Caribbean and Pacific Island literature, the use of islands as allegorical spaces is a kind of 'scalar telescoping' that 'follows a long tradition in postcolonial studies in which universalizing narratives are troubled, contested, and provincialized'.[18] In *The Hungry Tide*, the *topos* of the island draws attention to issues posed by scale-free, globalised conservation policies and their focus on allegorical actions such as saving the tigers. As Heise has argued, 'charismatic megafauna' like tigers tend to function as synecdoches for endangered environments in conservation rhetoric.[19] Heise's choice of the term synecdoche draws attention to the reality of scale variance that certain conservation narratives elide. Whereas the imperative 'save the tigers' implies the allegorical saving of nature or biodiversity itself, designating the tiger as synecdoche reminds us that this animal is only one part of a complex ecosystem, a part that is not scalable. Of course, the same could be said for dolphins. Yet *The Hungry Tide*, despite its critical relation to global conservation narratives concerned with tigers, seems to encourage an allegorical reading of Piya's relation to dolphins.

The novel's somewhat contradictory microcosmic poetics therefore raise issues of scalability. On the one hand, the Sundarbans are viewed as a representative space, a window onto vaster scales and a model for broader politics and environmental dynamics. The setting allows the reader to view large-scale events in this condensed microcosm, so that the story of the storm contains an ecological fable of vulnerability and resilience, a scalable allegory for a planet facing impending climate catastrophe. On the other hand, both the ecological and the historical strands of the novel suggest caution towards allegory as a mode of reading that relies on a smooth movement across scales but denies scale-specificity. The region is portrayed as a non-scalable ecosystem: for the biologist, the variations in salinity and turbidity create 'micro-environments', each of them 'a floating biodome, filled with endemic fauna and flora' (125). Similarly, Nirmal writes that each of the channels formed by the river 'is a "river" in its own right', and each mangrove forest 'a universe unto itself' (7). This sense of proliferating worlds is later repeated in his reflections on the region's cultural confluences, where '*rivers of language*' create a '*proliferation of small worlds that hang suspended in the flow*' (247). These descriptions all rely on the figure of the microcosm, but defy scalability.

[18] DeLoughrey, *Allegories*, p. 10. [19] Heise, *Imagining Extinction*, p. 24.

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Ultimately, the novel's poetics hesitate between unscalable and scalable microcosms: the Sundarbans are full of infinitely diverse, scale-specific miniature worlds, yet also portrayed as a microcosm that is representative of humanity's entanglement with the Earth system. This scalability is seductive when we read the fishing-measuring scene as an ecological model, inviting us to view the Earth itself as co-constructed by many life forms without hierarchies of scale or species. It is less convincing when we read the novel as political allegory, since the idealised convergence between the scientist and the fisherman appears naïve once it is scaled up into a broader ecopolitical view.[20] These contradictions highlight the tension I identified in Chapter 1 between the necessity for trans-scalar rhetoric in environmental thought and the politically problematic conflations of different scales performed by multi-scalar tropes.

2.2 Damaged Landscapes as Microcosms in *Gardens in the Dunes*

Gardens in the Dunes presents many structural similarities with *The Hungry Tide*. Both novels focus on a friendship between a character representing indigenous knowledge and a wealthier member of, in Zygmunt Bauman's terms, the 'global elite' who can afford to escape the ties of the local.[21] Silko and Ghosh depict lands shaped by a history of eviction, appropriation, and exploitation, which has turned displacement into a defining element of human inhabitants' relation to place. Accordingly, their novels construe landscape as a multi-scalar meshwork whose lines are both biological and political: just as crab fishing leads Ghosh's characters through the Indian mangrove and the complexities of postcolonial conservation, flower hunting and seed gathering lead Silko's characters through intricate webs of ecological and colonial interdependence. In both novels, microcosmic poetics ask to what extent a localised, site-specific relation to landscape can counteract or expand to a global perspective.

Gardens in the Dunes uses gardens as models for ecological relations across three continents, bound together by the ties of colonisation and capitalism. The title refers to the old gardens of the North American Sand Lizard tribe, described in detail in the opening chapter of the novel. Here the entanglement of plants reflects the interdependency of species, woven together by Indigenous harvesting practice:

[20] This issue of scalability has been theorised by Pieter Vermeulen as a recurring blind spot in contemporary post-apocalyptic fiction, where imagined models of survival are often inapplicable to the scale of a global population. See Vermeulen, 'Depopulating the Novel'.

[21] Bauman, *Liquid Modernity*, p. 13.

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> The pumpkins and squash sent out bright green runners with huge round leaves to shade the ground, while their wiry green-yellow tendrils attached themselves to nearby weed stalks and tall dune grass. [. . .] Sand Lizard warned her children to share: Don't be greedy. The first ripe fruit of each harvest belongs to the spirits of our beloved ancestors, who come to us as rain; the second ripe fruit should go to the birds and wild animals, in gratitude for their restraint in sparing the seeds and sprouts earlier in the season. Give the third ripe fruit to the bees, ants, mantises, and others who cared for the plants. (14–15)

This relation to the land is strongly contrasted throughout the novel with the behaviour of the rich white American characters Edward and Susan Palmer. Edward travels the world to collect seeds and rare plants, on botanical expeditions funded by private collectors, trading companies, as well as Kew Gardens and the Secretary of Agriculture. His wealth is derived from the theft of plants and of botanical knowledge carried out by the British Empire and the United States. On American soil, the domestic counterpart to this logic of extraction and plantation is provided by his sister Susan. When they stop at Long Island on their way to Europe, Edward and his wife Hattie find Susan in the process of breaking up a Renaissance garden to create an English landscape in its place. Littered with torn-down statues, her property is receiving transplants for her annual ball, including two giant beech trees uprooted from a farm on the south shore. Situated among the Long Island properties that Silko refers to as 'robber baron gardens',[22] Susan's landscape is thus filled with forcefully displaced bodies, which are not meant to survive beyond the ball.

Through the space of the garden, the novel draws on several key concerns for contemporary Indigenous environmental justice, including bioprospecting and extraction.[23] Edward's colonial-capitalist relation to the land is contrasted with the perspectives of two Native American sisters from the Sand Lizard tribe, Indigo and Sister Salt, who escape from the school where they have been forcibly placed. Sister Salt forms new alliances with other Indian girls and a Black cook on the banks of the Colorado River, on the fringes of a huge dam construction site. The sections of the novel that follow her loves and friendships place her as a witness to the violence inflicted upon the American landscape and its inhabitants. Her younger sister meanwhile is befriended by Edward's wife Hattie, who discovers her hiding from the police in his garden. Indigo, who first enters

[22] Arnold and Silko, 'Listening', p. 19.
[23] See Schlosberg, *Defining Environmental Justice*, p. 84, quoted in Gemein, 'Seeds', p. 492.

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Hattie's life as, quite literally, the body hidden in the bushes of the American garden, soon becomes her travelling companion, returning and upsetting the colonial gaze.

Ecocritical and ecofeminist readings of *Garden in the Dunes* have focused on its vision of alternative, sustainable practices, exemplified by the Indigenous gardens and by the gardens of other women that the main characters visit in Britain and Italy. As Mascha N. Gemein suggests, the balance Silko evokes reflects the relational ontologies of Indigenous law, 'with their inherent expansion of rights to complex nonhuman entities and their focus on community rights, in contrast to the liberal rights focus on the individual'.[24] This type of reading approaches the novel as an allegory of the conflict between Indian desert practice – what Gary Nabhan calls 'a wild kind of mutualism'[25] – and capitalist relations to the landscape. My reading, however, focuses on Silko's multi-scalar poetics and the ways in which these poetics politicise relations between scales. This line of reading complexifies the binary oppositions to which *Gardens in the Dunes* tends to be reduced. I am particularly interested in the novel's relation to issues of scalability and non-scalability, and I suggest that these issues put pressure on allegorical modes of reading, making it necessary to distinguish, as I did for *The Hungry Tide*, between ecological synecdoche and ecological allegory.

In the description quoted earlier, the gardens connect different physical scales of organic life, but also different temporal scales: the pattern of harvesting compresses the longer duration of ancestral traditions, weather patterns, and growth, replaying the whole history that leads up to fruit in the rhythm of its picking. Vegetal entanglement serves as an image of the processual interdependency of life forms, so that the novel anticipates the more recent work of multispecies anthropologists whose terminology I will use here. Like Anna Tsing's studies of mushroom growth and trading, *Gardens in the Dunes* examines what emerges in the 'damaged landscapes' of capitalism.[26] Much as in Ingold's essays, life itself is presented as 'an unfolding of the entire meshwork of paths in which beings are entangled', and landscape is 'woven from the lines of growth and movement of inhabitants'.[27] This double spatial and temporal 'weaving' of the landscape is, in effect, what Silko's novel performs, as it emphasises the movement of travel alongside the depiction of growth. The novel's conflicting

[24] Gemein, 'Seeds', p. 489.
[25] Nabhan, *Gathering the Desert*, p. 55, quoted in Tillett, 'Necessity', p. 192.
[26] Tsing, *Mushroom*, p. 18. [27] Ingold, *Being Alive*, p. 151.

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epistemologies are enacted in different practices of seed collecting and the ways in which they configure travel and growth. Both Indigo and Edward collect seeds, but their purposes differ sharply. Edward gathers specimens: his plants and seeds are selected for classification, and even Indigo arouses his interest mostly because of her synecdochic value, because he finds himself 'intrigued by the notion that the child might be the last remnant of a tribe now extinct, perhaps a tribe never before studied by anthropologists' (111). When Hattie explores her husband's collection, she is disappointed by the contents of the envelopes contained in his oak cabinets: opening one of them, all she finds is 'a single shriveled stalk with fragments of dry plant material' (78). The image hints at Edward's lack of interest in sexual relations, emphasising that his prize collection is severed from living lines, both of living growth and of genealogical descendance. Indigo, meanwhile, collects seeds wherever she goes like her grandmother did, for future planting. The tribe's autonomy is derived from alternating crops, where beans and squash are replaced by amaranth and sunflowers in dry years. Amaranth is particularly significant in colonial history because its cultivation was forbidden by the Spanish colonisers among Aztecs.[28] Collecting and growing seeds is thus a political act, and, as Yeonhaun Kang points out, the novel 'destabilizes the Lockean concept of private property'.[29] The lines of travel depicted by the novel, whether of seeds, animals, or people, enmesh different spaces and turn gardens into transnational commons.

Ingold, as I have noted, contrasts enmeshment with inversion, the deceptive process whereby 'lines of life – of movement and growth' are wrapped up into bounded points so that 'the places where life lines meet or bind with one another' are represented as 'sites of external contact or adjacency'.[30] The Palmers systematically practise inversion: they separate life forms from their environments, by extracting, cutting, and transplanting. Susan's garden and hothouse are horticultural equivalents to Edward's oak cabinets: both are sterile microcosms where the visual display is disconnected from reproduction. When they tour her collection to prepare the ball, Indigo's focalisation is contrasted with Susan's and Edward's aesthetic considerations:

> Edward chose the blue globe thistle and the blue datura for the background, with bluegrass planted with blue *Gladiolus bysantius*. Jacob's ladder and blue

[28] Adamson, 'Medicine Food', pp. 213–19. [29] Kang, 'The Garden in Motion', p. 106.
[30] Ingold, *Being Alive*, p. 63.

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> balloon flowers went next to the blue Carpathian bellflowers. [. . . Indigo] picked up seeds and saved them in scraps of paper with her nightgown and clothes in the valise so she could grow them when she went home. (185)

As the insistent repetition of the word 'blue' suggests, the Palmers' gardening syntax is paratactical, ruled by juxtaposition and similarity: the flowers are placed adjacently, 'with' or 'next to' each other, designated as background or foreground in a landscape. A discordant, syntagmatic energy is introduced by Indigo, whose name and behaviour reconnects the colour blue to lines of growth, generation, and storytelling. The seeds she gathers are stories: in Ingold's terminology, they represent storied knowledge which, in contrast to classification or to the network, 'is neither vertically nor laterally integrated'.[31] Ingold's formulation helps me draw attention to the fact that Indigo resists integration not only as a social, colonising strategy but as an epistemic process. Narration is foregrounded as an epistemic-political practice which both Indigo and Silko carry out.

Through the key tropes of the garden and the seed, the novel politicises relations across scales. The sections where Edward is the focaliser draw attention to the importance of scalability in capitalist relations to land. His botanical thefts are intended to permit a widespread commercialisation of resistant varieties of precious plants, including citrus trees, orchids, and rubber trees. Each specimen is chosen with the scalable logic of the plantation in mind. While the denunciation of plantation logic is a fairly widespread *topos* of ecofiction, what is remarkable is that Silko connects the economics of scalability with a Romantic aesthetics. Edward is an amateur photographer, and Silko politicises his photography in a traumatic scene which takes place while he is gathering orchids on the banks of the Para river in Brazil. Edward is accompanied by an emissary of the American department of agriculture cooperating with the British Kew Gardens, whose mission is to obtain seedlings of a variety of Brazilian rubber trees resistant to rubber tree leaf blight – a virus threatening to decimate British rubber plantations in the Far East. In a politically charged context, where Brazil is refusing visas to British horticulturists, the American botanist thus masks the presence of the British Empire, and only realises too late that another member of the expedition has been mandated to destroy the source of rare orchids to increase their value.

That revelation occurs while Edward is photographing the orchids on a hill above the river. Focusing on a single orchid through his close-up lens,

[31] Ingold, *Being Alive*, p. 63.

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he is absorbed by 'the sublime, luminous glow from the profuse orange-red blossoms that resembled shooting stars' (139) and loses sight of 'the antlike figures of his companions on the riverbank' (140) until he changes his lens, literally and figuratively:

> He was near the top of the granite ledge with the river hundreds of yards below when he stopped to change lenses for a wide-angle view of the granite cliff face with hundreds of wild orchids in flower. The subtle fragrance of hundreds of orchid blossoms wafted in the cool air rising off the mist from the river. As he attempted to focus the image on the camera's ground glass, he noticed the first gray feather of smoke, followed by another and another. He stepped back from the camera, unable to believe what he saw, when suddenly a greasy black ball of smoke rolled into the sky followed by spidery blossoms of red-orange flame. (140)

This passage switches abruptly from a purely aesthetic multi-scalar perspective, which finds Romantic sublimity in the resemblance between flowers and stars, to a politicised one, where the narrow focus of the botanist is broadened to the wide-angle view of destruction carried out in the name of Empire and market monopoly. Forced out of his posture of sublime contemplation, Edward faces what his own bioprospecting practices entail once they are scaled up by corporate investment and world markets. In the chiasmus 'orange-red blossoms' and 'red-orange flame', ironic metaphor highlights the ecological and economic connections between scales: the virus decimates rubber forests across the world, while the burning jungle resembles a giant orchid. Yet the revelation is a failed one. Despite his horror once he understands he has been abandoned by his companions, despite his fall as he makes his way down the cliff, which results in his camera crushing his leg, Edward continues to believe in his own higher purpose as a scientist and in the 'noble' value of the mission for Kew Gardens. Crippled for life by his camera and the relation to landscape that it represents, the bioprospector remains blind to scalar politics.

Scalability is thus portrayed as a violent episteme in the capitalist model that Silko satirises. Yet the novel does not seem to question the scalability implied by its own allegorical poetics, which collapse the scale of the garden and the body with that of the planet. The novel presents several gardens, particularly the Sand Lizard gardens and Hattie's aunt Bronwyn's garden in Britain, as allegorical models of ecological mutualism and resilience. It also repeatedly allegorises landscape through anthropomorphic metaphors. Sister Salt sees the earth 'blasted open' by the damn, 'moist and red as flesh' (211), and the river 'forced from her bed' (211). Watching the beech trees carried into Susan's garden, Indigo is similarly shocked to see 'a great tree

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lying helpless, [. . .] the stain of the damp earth like dark blood seeped through the canvas' (183). In her theorisation of eco-sickness in contemporary fiction, Heather Houser has demonstrated that the merging of body and land functions as both 'a trope and an experiential claim'[32] in American environmental writing, often derived from indigenous belief. Houser places Silko's earlier novel *Almanac of the Dead* (1991) within this pervasive narrative and notes that it resists the expected pattern of somatic restoration, forcing the reader 'to adjust to a world of pervasive sickness in which body and land are vectors for an anxious feeling'.[33] This remark can be extended to *Gardens in the Dunes*, where both Edward's and Hattie's bodies are permanently affected not only by violent incidents – Edward's initial accident in the jungle is answered by Hattie's rape at the end of the novel – but by chronic malaise. Unidentified ailments, from which both suffer, echo the wounded American landscape. These connections between land and body imbue the novel with a diffuse feeling of continuity and equivalence between scales that sits uneasily with its satire of capitalist scalability.

Silko's allegorical poetics, moreover, effect a questionable gendering of landscape through the many parallels with sick or attacked female bodies, as well as Edward's ailment – which arguably feminises him since it results in impotence. This gendering effects the kind of identity politics that Catriona Sandilands critiques in *The Good-Natured Feminist*, where 'women share a common experience of oppression, including relations to nature, that renders women a coherent group with a discernible set of interests' and which represents 'women as privileged speakers of a new and unique transformative consciousness that includes nature'.[34] Sandilands's historical analysis, which was published in the same year as *Gardens in the Dunes*, notes that this kind of identity politics is grounded in 1970s ecofeminism, predicated on viewing women as privileged mediators between nature and culture, and environmental degradation as the result of patriarchy. The sisterhood portrayed by Silko echoes in particular the imagery of Susan Griffin's influential essays, which called on her readers to listen to the Earth as their 'sister'.[35] But, as Sandilands argues, this line of essentialist thinking confines ecological thought to dualist structures. From the perspective of scale critique, I find that it effects a scalar collapse that unhelpfully conflates questions of large-scale ecology with the scale of individual trauma and recovery.

[32] Houser, *Ecosickness*, p. 178. [33] Houser, *Ecosickness*, p. 216.
[34] Sandilands, *Good-Natured Feminist*, p. 27. [35] Griffin, *Made from This Earth*, p. 219.

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Wounded bodies and invaded gardens clearly function as microcosms in Silko's writing. But interpreting these microcosms as ecological allegories is problematic: viewing the body as allegory leads us back to a potentially conservative narrative of nurturing and healing, while reading the gardens as planetary allegory leads us to the paradox that what makes them models is precisely their non-scalability because they represent scale-specific practices, which makes them uneasy metaphors for the macrocosm. The point is not to find fault with the novel but to view the tension between meshwork and allegory as a productive site where poetics raise epistemic issues. For Silko's enmeshed landscape, synecdochic readings might serve better than metaphorical ones. If we read *Gardens in the Dunes* in search of ecologically allegorical gardens, we fall back into the trap of scalability and its 'cutting-off' of entanglement. If, instead, we view the *unscalable* microcosm as the main form of Silko's multi-scalar poetics, then we can read her gardens as ecological synecdoches. The hopeful *pars pro toto* logic of the old gardens, which stand in for a world of scale-specific entanglements, contrasts with the darker, *pars totalis* logic of the imperialist garden.

2.3 The Body as Petromorphic Allegory in 'A Stone Woman'

Where Silko's *Gardens in the Dunes* uses anthropomorphic terms to describe damaged landscapes, Byatt's 'A Stone Woman' portrays a damaged body turning into a landscape. When the story begins, the main character, Ines, is a middle-aged woman grieving for her mother. After undergoing urgent surgery for a gangrenous gut, Ines finds herself without a navel. Instead, she is left with 'an asymmetric whorl with a little sill of skin', insensitive to touch (132). Over the following weeks, the 'blemish' turns into hard matter that slowly spreads to her whole body in beautiful layers of silica, basalt, quartz, and many other minerals. Like Niobe in Ovid's *Metamorphoses*, or Hermione in Shakespeare's *Winter's Tale*, Ines is turning to stone. Petrifaction is a recurrent theme in Byatt's fiction: the image of the woman turned to stone appears at different points in her best-known quartet of novels, which engages in dialogue with John Milton's masque *Comus* as well as with *The Winter's Tale*.[36] But 'A Stone Woman' takes the figure in a multi-scalar direction, and I will suggest here that Byatt engages with a Gaian imaginary and with the Earth's becoming-subject in the context of ecological upheaval. Reading Byatt after Ghosh and Silko, I continue to question the epistemic implications of

[36] See Lara-Rallo, 'She Thought'.

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anthropomorphic microcosmic poetics, but, in this case, anthropomorphism ironically turns into petromorphism.

'A Stone Woman' subverts the Ovidian metaphor of grief as petrifaction by equating turning-to-stone with becoming-alive. Ines is an etymologist who researches the different types of stone she becomes. Rather than an inert world, she discovers a mimetic relation between organic and mineral worlds, noting that the 'earth itself is made in part of bones, shells and diatoms' (147). She first assumes that she will be gradually paralysed and decides that her place is in a graveyard with other statues. But she soon abandons this idea when she realises that she moves more freely than she used to. One day she cuts herself and finds that her veins are full of lava. Byatt's story thus rapidly twists away from the Ovidian model of petrifaction as paralysis,[37] to tell the story of a living, erupting landscape. As she watches different minerals erupt out of her body in shifting formations, Ines understands that her 'casing' is 'not static – points of rock salt and milky quartz thrust through glassy sheets of basalt, bubbles of sinter formed like tears between layers of hornblende' (139). In a Victorian graveyard, she meets Thorsteinn, an Icelandic sculptor who invites her to accompany him back to his homeland in the summer. On this 'geologically young' island, Ines, whose name resembles the Celtic word for island, *inis*, can continue her transformation into a living, dancing rock. She perceives the shifting shape of Iceland as bodily forms, 'glacial tongues pouring down into the plains', and volcanic eruptions spouting up 'from under the thick-ribbed ice' (166), where she soon learns to sense 'earth bubbles and earth monsters shrugging themselves into shape in the air and the falling fosses' (177). This modified perception internalises the kind of sensation that Jeffrey Jerome Cohen has theorised as the *strange intimacy* of geology, where 'stone triggers the vertigo of inhuman scale'.[38] Byatt creates this sense of dizzying closeness to inhuman scales by placing a petromorphic body in an anthropomorphised landscape.

As Ines becomes stone, she finds that she is thinking 'human thoughts and stone thoughts' (164). Marzia Beltrami notes that this shifting perception reflects Byatt's interest in recent research on embodied cognition.[39] For my reflection on scale poetics, it is striking that thinking like a stone results in a shift from the mono-scalar to the multi-scalar, producing a consciousness where the human scale meets the scale of mountains. This extension of her scale of perception occurs early on in her

[37] Gentilcore, 'Transformation', p. 94.
[38] Cohen, *Stone*, pp. 23–4.
[39] Beltrami, 'Too Strange', pp. 250–63.

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transformation, when Ines looks at her scar and discovers, instead of her absent navel, 'a raised shape, like a starfish, like the whirling arms of a nebula in the heavens' (137). In this image reminiscent of Jeanette Winterson's *Gut Symmetries* (1997),[40] Byatt uses the image of the starfish to connect the organic to the cosmological. As she becomes stonier, Ines perceives life at many different scales, both spatial and temporal, from the lichen that 'seemed to grow at visible speed' (177) to the stirring mountain. Her multi-scalar gaze recalls Randolph Henry Ash in Byatt's earlier novel *Possession* (1990), who takes '*an intelligent interest in the minuter forms of life and the monstrous permanent forms of the planet*'.[41] Ines, however, senses the impermanence and unpredictability of both. She feels uncanny presences in the landscape, 'things which seemed to crowd and gesture just beyond the range of her vision' (176), until she finally leaves Thorsteinn and joins the dancing stones.

Like the Sundarbans in *The Hungry Tide*, the 'turbulent' Icelandic landscape serves as a microcosmic space that accelerates time and produces anisochrony: '[t]he whole south coast of Iceland is still being changed – in a decade, in a twinkling of an eye – by volcanic eruptions' (166). The country sees 'several climates in a day – bright sun, gathering storm, snowfall, great coils and blasts of wind' (172). Byatt's use of the word climate, rather than weather, emphasises the blending of meteorological timescales. Time is further compressed by Thorsteinn's stories, which recount the first and second centuries 'as though they were yesterday' (166). Iceland's geography and culture thus facilitate the writing of what Astrida Neimanis and Rachel Lowen Walker have called 'thick time', a 'transcorporeal stretching of past, present and future'.[42] Neimanis and Walker explain that such stretching is necessary to perceive the implication of humans in phenomena, such as climate change, that occur on inhuman scales of space and time. Thick time allows us to 'hold together the phenomena of a weather pattern, a heat-absorbent ocean, the pleasure of a late-fall swim, and the turn of a key in the ignition as the interconnected temporalities we call "climate change"'.[43] Byatt effectively thickens the time of the short story by first slowing down human time to stone time, when Ines needs 'weeks of patient watching' (142) to observe her own metamorphosis, and then accelerating, via the Icelandic landscape, climatic and geological changes to a scale perceptible to humans. The body, like the

[40] The starfish is a key image for Paracelsian connections between scales in Winterson's *Gut Symmetries* (pp. 72 and 162).
[41] Byatt, *Possession*, p. 200. [42] Neimanis and Walker, 'Weathering', p. 558.
[43] Neimanis and Walker, 'Weathering', p. 572.

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landscape, becomes a viewing instrument that accelerates geological movements to the narrative pace of human perception: the rocks around Ines begin 'to dimple and shift' (176), and lichens 'grow at visible speed' (177).

By bridging the scalar gap between the human body, climate, and geology, Byatt's story reverberates a twenty-first-century awareness of accelerating, large-scale transformations in a way that troubles our sense of object and subject positions. Bronislaw Szerszynski notes that, whereas the Modern episteme placed Man in the position of a subject knowing the object nature, the Anthropocene demands the 'taking up by "man" of a geological *object* position – his pressing into geological service, a becoming-mineral, to be contemplated by the geologist to come'.[44] Rather than Szerszynski's petrifaction of humanity into a geological object, Byatt's story explores the becoming-subject of the Earth. By the word 'subject', I refer here to the syntactical analysis proposed by Latour in his reflection on the new climatic regime. Comparing Michel Serres's philosophical work *The Natural Contract* with the Gaia hypothesis formulated by James Lovelock and Lynn Margulis, Latour notes that Serres, Lovelock, and Margulis all registered a 'subversion of the respective positions of subject and object' in humanity's relation to the Earth.[45] Approaching the notion of subject as a question of syntax, Latour points out that taking Gaia seriously entails redefining this term: '[b]eing a subject does not mean acting in an autonomous fashion in relation to an objective context; rather, it means *sharing* agency with other subjects that have also lost their autonomy'.[46] This redistribution of agency is precisely what Ines experiences as she transforms herself into a microcosm: 'She had planted small gardens in the crevices of her body, trailing grasses, liverworts. Creatures ran over her – insects first, a stone-colored butterfly, indistinguishable from her speckled breast, foraging ants, a millipede. There were even fine red worms, the color of raw meat, which burrowed unhindered' (181). As it did in Ghosh's description of the *bādh*, human agency dissolves here into waves of action involving different life forms and different scales. Ines plants gardens on herself, but worms burrow through Ines, and the land moves her to dance.

Ines's metamorphosis reverses and highlights the recurrent process of personification that runs through mythological and philosophical representations of the Earth. As Ines's body becomes landscape, she is able to perceive the landscape around her as a monstrous body, where dancing shapes are 'like parasites on the back of some moving beast so huge that the

[44] Szerszynski, 'The End', p. 179. [45] Latour, *Facing Gaia*, p. 62. [46] Latour, *Facing Gaia*, p. 62.

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mountain range was only a wrinkle in its vasty [*sic*] hide, as it stirred in its slumber, or shook itself slightly as it woke' (178). Does this symmetry make the stone woman an allegory for Gaia? She is certainly a microcosm that represents a Gaian-like perception of the environment as agent. But 'A Stone Woman' tells the story of a parting of ways: first Ines's departure for Iceland and then the separation from her only human friend. This parting is announced by her cognitive transformation: the more she feels the living geology around her, the less she can see and hear Thorsteinn, whose eyes become 'charcoal blurs' (179) and whose loud voice soon sounds to her like 'the whispering of grasshoppers' (176). Conversely, the story does not make Gaia more legible or intelligible to humans: Ines imparts no Gaian wisdom, and the final sentences describe her disappearing from sight as Thorsteinn closes his door against the blizzard. The stone woman, then, is a disjunctive allegory that brings two terms together – humanity and the Earth – the better to part them. This disjunctive figure is well suited to a twenty-first-century episteme haunted by the unpredictability of a laughing Gaia, who refuses to conform to expected behaviour.

In *Facing Gaia*, Latour notes that defenders of the Gaia hypothesis and Anthropocene stratigraphers are engaged in dialectic figurative work: '*[a]nthropo*morphism of the critical zones, *petro*morphism of humans'.[47] 'A Stone Woman', I suggest, engages in this dialectic process through its relation to Byatt's earlier short story 'The Thing in the Forest'. 'A Stone Woman' and 'The Thing in the Forest' both appeared in *The New Yorker*, in 2003 and 2002, respectively. In the earlier story, two women spend their lives trying to come to terms with their childhood encounter with a horrific 'Thing':

> Its colour was the colour of flayed flesh, pitted with wormholes, and its expression was neither wrath not greed, but pure misery. Its most defined feature was a vast mouth, pulled down and down at the corners, tight with a kind of pain. Its lips were thin, and raised, like welts from whipstrokes. [. . .] It had a tubular shape, as a turd has a tubular shape, a provisional amalgam. It was made of rank meat, and decaying vegetation, but it also trailed veils and prostheses of manmade materials, bits of wire-netting, foul dishcloths, wire-wool full of pan-scrubbings, rusty nuts and bolts. (16–17)

Like 'A Stone Woman', 'The Thing in the Forest' centres on a monstrous figure but in an eco-Gothic vein, connecting perceptions of the environment to mourning and trauma. In 'A Stone Woman', when Ines first begins to notice her transformation, she also refers to it as 'the thing' (130)

[47] Latour, *Facing Gaia*, pp. 115–16.

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or 'the blemish' (138). It leads her to the symbolic location of the graveyard, which, like the enchanted forest for the characters of 'The Thing in the Forest', is a space where trauma is confronted. And yet, unlike the Thing of the earlier story, Ines undergoes a liberating transformation. While Ines's wild dance evokes the unpredictable reactions of Gaia, her counterpart carries the haunting stench of Anthropocene guilt. The environment fused into its body is not a beautiful geological formation but a decaying landscape of largely man-made refuse. Ines's absent navel, like the Thing's mouth in the former story, is a defining site that troubles the boundaries between self and environment. But where the Thing's mouth is an abject feature, Ines's navel is a site of unbinding metamorphosis.[48]

Early twenty-first-century fiction, according to Peter Boxall, tends to engage with the shifting limits of the human as category by opening up the boundaries of the human body.[49] Boxall argues that the unravelling body has become a recurring figure which provides a way of envisioning the human beyond the 'biological and symbolic unity of skin'.[50] I suggest that Byatt's monstrous bodies participate in this unravelling: her descriptions focus on those features that are openings – the navel, the mouth – and particularly on the skin, which is turned inside out by the 'flayed' colour of the Thing or Ines's starfish-navel that has the colour of 'raw flesh' (137). The flayed flesh and wormholes of the Thing answer the 'fine red worms, the color of raw meat' burrowing through Ines's rock. But the originality of Byatt's figures is that their unravelling is a becoming-Earth. These paradoxical figures – a worm made of wormholes, a rock-woman full of burrowing, meaty worms – weaken distinctions between environment and organism. In 'The Thing in the Forest', the body unravels into an Anthropocene assemblage of living refuse. In 'A Stone Woman', the unravelling woman reflects Byatt's interest in late twentieth-century developmental biology. Developmental biologist Susan Oyama likens the difficulty of establishing useful inside–outside distinctions in the human body to the infinite task of measuring a coastline: each of our cells, she notes, 'resolves, if we look closely enough, to a maze of structures, channels and pores, constantly changing their configurations and traversed by frantic traffic'.[51] Similarly, the microcosmic body imagined by Byatt is traversed by the traffic of butterflies, ants, and worms, who are 'indistinguishable' from her flesh. This unravelling body mirrors the constant reshaping of the

[48] Following Kristeva's definition of the abject in *Powers of Horror*.
[49] Boxall, *Twenty-First-Century Fiction*, pp. 84–122.
[50] Boxall, *Twenty-First-Century Fiction*, p. 95. Here Boxall is quoting the artist-performer Orlan.
[51] Oyama, 'Boundaries', p. 279.

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coast of Iceland and contributes to a meshwork poetics of landscape, where 'skin', as Ingold explains, 'like the land, is not an impermeable boundary but a permeable zone of intermingling and admixture'.[52]

In Boxall's analysis, the unbound body is a trope through which art can explore the weakening of the boundaries of the human by contemporary technology, and question distinctions between the human and the animal. In these two short stories, however, the opening-up of the human as category blurs the limits between human and environment. Byatt unravels the body's boundaries by describing skin as soil, and thus as Earth – a transformation which turns an envelope into a layer of exchange between the organic and the geological. Two facets of the same environmental awareness, the Thing and Ines are microcosms that trouble the scale of reading.

2.4 The Unbounded Microcosm as Disjunctive Trope

The microcosm emerges from these readings as a complex heuristic figure, where the scale of the Earth system cohabits uneasily with the local and the individual. At the turn of the twenty-first century, Ghosh's, Silko's, and Byatt's microcosms raise issues of anthropomorphism, boundedness, and scalability – issues whose epistemic and political implications are crucial for our current imagination of the planetary scale.

Microcosmic poetics have clear epistemic and ethical advantages because they act as mediators between human and nonhuman scales. These literary microcosms compress physical scales, bringing into view small forms of life as well as planetary relations. The spaces chosen by Silko and Ghosh provide heuristic spaces for narratives of ecological upheaval: like ecological microcosms, they provide a 'small-scale natural ecosystem, regarded as a model of ecological principles'. In these spaces, models of resilience emerge, particularly through the images of permeable boundaries and repeated flooding, a common feature of the islands of the Sundarbans and of Aunt Bronwyn's garden. These microcosms, as I have noted, also compress and bring into focus different temporal scales: Byatt's Iceland, like Ghosh's tide country and Silko's gardens, bridges the gaps between human time and the temporal scales of climate change or ecological upheaval, including slow environmental violence. If anisochrony is not only, as Heise argues, 'the problem of deep-time storytelling'[53] but a challenge encountered by all multi-scalar storytelling, then the

[52] Ingold, 'Bindings', p. 11. [53] Heise, 'Science Fiction', p. 283.

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microcosmic poetics I have analysed in this chapter are one answer to this difficulty. The ethical traction of these narratives is produced by bodies and landscapes that compress invisible scales and render them visible. When time is sufficiently accelerated, ecological short-sightedness becomes blatant.

The first issue raised by my readings is the anthropomorphism at work in these microcosms. Ghosh's and Silko's anthropomorphic landscapes, like Byatt's petromorphic character, resist the perception of environment as a stable décor. These narratives begin to give shape to the 'geostory' that Latour views as essential to twenty-first-century environmental thought. But the allegorical connection between body and environment risks subsuming new sensitivities to the living beneath inherited forms of anthropomorphism. *The Hungry Tide*, for instance, valorises tracking – an activity shared by biologists, hunters, and fishers, and which, as Morizot and Zhong Mengual have argued, can decentre the human, by 'deciphering and interpreting the clues and traces of the living, to reconstitute their perspectives on a shared environment, their constitutive relations in their historicity, and their style of existence interwoven with others'.[54] But Kanai and Nirmal frame the narrative with a strong Romantic lens, where land is personified and reflects inner environments – precisely the type of analogical reading from which ecocritics such as Morizot and Zhong Mengual urge us to move away, cautioning that the search for analogies among body, land, and cosmos prevents us from perceiving the dense web of biosemiotic relations that constitute living environments. *The Hungry Tide* lets the Romantic microcosm subsist *within* the ecological microcosm, so that the figure of the microcosm itself becomes a space of conflict, between a humanist perspective and an eco-evolutionary perspective closer to posthumanism.

The second question I have highlighted is that of boundaries. In contrast to the microcosms of laboratory ecology, which are defined by isolation,[55] the microcosms in these narratives present permeable, fluctuating boundaries. These places are shaped by water, by weather, and by the growth and movement of living organisms. Such intricate interdependence conveys a sense of what Ingold calls 'fluid space',[56] a space defined by moving lines, where organisms are not stable, bounded entities but rather entanglements whose many threads include the movements of life and weather. This

[54] My translation from Morizot and Zhong Mengual, 'L'illisibilité du paysage', p. 90. '*Pister, c'est [. . .] décrypter et interpréter indices et traces des vivants pour reconstituer leurs perspectives sur un milieu partagé, leurs relations constitutives dans leur historicité, et leur style d'existence tissé aux autres.*'

[55] Beyers and Odum, 'Introduction', p. 3. [56] Ingold, *Being Alive*, p. 86.

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fluidity is strengthened, in Ghosh's and Silko's novels, by the importance of flooding in the shifting landscapes of Bronwyn's garden and the Sundarbans, and in Byatt's short story by the images of lava. Byatt's intimate geology is an experiential coming-to-terms with such entanglements, in a body that binds the human form with the movement of wind, worm, lichen, and rock. These three narratives therefore renew the microcosm as an epistemic and poetic tool, producing an unbounded version of the figure that combines a sense of correspondence between scales with a scale-defying continuity between organism and environment. As a result, *The Hungry Tide*, *Gardens in the Dunes*, and 'A Stone Woman' defeat categorisation as *ecocentric* or *biocentric*: ethical priority is granted neither to ecosystems nor to organisms because their multi-scalar poetics bind these two modelisations of life tightly together.[57]

Unbounded microcosms thus entail a paradoxical form of synecdoche: the part may represent the whole, but it is so permeable and entangled that its very identification as a part is questionable. And although these poetics are haunted by organic metaphors, they resist organicism, in the sense of the subordination of parts to their function in an overarching whole.[58] Through these paradoxical poetics, contemporary fiction engages with the same dilemma that Latour identifies in Margulis and Lovelock's choice of a name for the Gaia hypothesis: the fact that in the feedback loops of life that they studied '*there are neither parts nor a whole*'.[59] Gaia, then, is already a figurative contradiction which speaks to the haunting presence of organicism in Earth system science, and the fiction I have analysed here brings this contradiction into focus. But if we consider these tensions alongside Boxall's study of the unbound body as a recurrent *topos* in twenty-first-century fiction, we can infer that anthropomorphism is a complex poetic move that should not be cast off as a reductive simplification. If the human body, as Boxall argues, is no longer construed as a bounded site in contemporary imaginaries, then anthropomorphism is an operation which is no longer reducible to organicism. The figure of Gaia and the figure of the unbound human body overlap, as sites that enable and complexify environmental response-ability.

The third issue that these microcosmic poetics raise, and which is closely connected to the first two, is that of scalability. If the microcosm as analogical trope suggests the epistemic validity of scalar collapse and the

[57] Robin Attfield distinguishes between ecocentric ethics, which give priority to ecosystems, and biocentric ethics, which focus on organisms, in *Environmental Ethics*, p. 39.
[58] See Hallyn, *Structure poétique*, p. 18; Pepper, *World Hypotheses*.
[59] Latour, *Facing Gaia*, p. 95. See also Chapter 1 of this book.

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political validity of considering localised environments as scalable models, how can it function in fictions that expose the violence of ideologies of scalability? In *The Hungry Tide*, the inhabitants of Morichjhapi's fragile microcosm question the scalability of conservation rationales elaborated in other regions of the world. In *Gardens in the Dunes*, Indigenous food cultivation is contrasted with capitalist monoculture, plantation, and monopoly. Like Tsing, Silko uses an organic form as a metaphor for non-scalable entanglement that resists capitalism: the novel developed from a short story called 'The Gladiolus Man', and Indigo is fascinated by gladiola's reproduction in 'cormlets', which spread through an underground rhizome. Eventually, Indigo fills the old gardens with the hybridised gladiola, until the plants are 'woven crisscross [. . .] through the amaranth, pole beans, and sunflowers' (474). The rhizomatic gladiola thus figure entanglement, just like the matsutake in *The Mushroom at the End of the World*. For Tsing, the mycelial filaments of mushrooms are both an epistemological model for thinking of entanglement in the margins of capitalism and a practical obstacle to the privatisation and capitalist scalability of capitalism, since they are the basis of non-scalable forest economies. But Tsing's allegorical streak sometimes chafes against her biological point because she uses the mushroom both as an example of unreproducible, scale-specific life *and* as a universal model. Silko's novel encounters a similar difficulty in its search for scale-specific yet allegorical relations to the land.

These tensions lead me to view the microcosm, in these narratives, as a disjunctive ecopoetic trope. Microcosmic poetics, because they work across scales, can bridge epistemic gaps between human perception and the scale on which ecological problems play themselves out. However, from the point of view of scale critique, this bridging is in itself a problematic epistemic gesture that relies on scalar collapse, an epistemic move that has historically been essential to colonial and capitalist expansion.[60] Kenneth Burke once wrote that the 'noblest' or 'ideal' form of synecdoche could be found in those metaphysical doctrines that posit a relation of identity between microcosm and macrocosm.[61] But the search for identity between different scales becomes problematic once we consider scalability as a tool of extraction and globalisation. Ultimately, Silko's and Ghosh's microcosmic aesthetics are poised between scalar collapse and resistance to such collapse, acknowledging the allegorical pull of living landscapes while attempting to resist the simplification of scalable models.

[60] Horton, *Cosmic Zoom*, p. 11. [61] Burke, 'Four Master Tropes', p. 427.

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Byatt's story is equally ambivalent in the way it anthropomorphises the Earth yet unravels the boundaries of the human body. Such tensions are enabled by the figure of the microcosm itself, where metaphor can operate alongside the more disjunctive work of non-analogical synecdoche.

Synecdochic poetics thus allow critiques of scalability to coexist with the search for models of ecological resilience. In a context of ecological crisis, this questioning of mereological relations is crucial because the ways in which we imagine ties between local and global environments, and between humans and the landscapes in which they are entangled, determines how we distribute agency and responsibility. In Chapter 3, I extend this reflection beyond the figure of the microcosm to the broader category of environmental synecdoche, to define the critical potential of this trope.

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