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"You see the difference": reading the stories of matter through the *more-than-metaphorical*

In June calm, swarms of jelly-fish

drift in the Cafn, pulsing slowly

like gas mantles, translucent

parachutes of intelligence

–Christine Evans, "None," *Island of Dark Horses,* 1995

The turtle and the plastic bag

Since the year 2000, "World Turtle Day" has been celebrated annually on May 23rd. It is the initiative of a group called American Tortoise Rescue, and it was marked on its 12th anniversary by the creation of a special poster by another campaigning association, the Mediterranean Association to Save the Sea Turtles (MEDASSET) (see figure 1). The poster highlights the danger of floating plastic bags for sea turtles, drawing on the hypothesis developed in a number of scientific studies that the animals ingest the bags because they mistake them for jellyfish.[1]

[Figure 1: Image used with permission from MEDASSET].

The poster's strapline reads: "You see the difference. A turtle does not." It is a statement that immediately focuses our attention upon the significance of the ways human and nonhuman animals perceive the world. Though humans might register certain similarities between the floating plastic bag and the gelatinous jellyfish, they can readily differentiate between the two. Surely the difference is clear: the former is a lifeless *thing*, while the latter is an animal, a living being. The turtles, apparently, do not recognise such a distinction. When they ingest plastic bags floating in the sea, mistaking them for swimming jellyfish, they are taking literally what, for humans, might be considered a largely nonliteral correspondence. Narazaki *et al*, for example, studying the foraging behaviour of loggerhead turtles, suggest that these animals primarily use visual cues to locate prey, and note that the movements of a turtle encountering a plastic bag — an event recorded during the course of their study — corresponded with the pursuit of actual gelatinous prey such as jellyfish: "the turtle's movements while approaching the plastic bag were analogous to those of a true foraging event" (n.p.). The turtles are, in a sense, eating a metaphor. However, their "error" suggests that we humans may be seeing *too much* difference: while we may view the plastic waste as inert, dull matter in comparison with the vital, living forms of the jellyfish, and so assume that any connection between the two is coincidental and largely figurative, the turtles appear to recognise and respond to material correspondences of pattern, texture, and movement. For the turtles, the relationship between the two material phenomena is *more-than-metaphorical*. Thus the strapline of the poster, despite its apparent simplicity, provokes urgent questions about how difference is perceived and negotiated.

These questions are especially pertinent to new materialist perspectives, which stress the ubiquity of matter (not least in relation to the material composition of the human body itself), along with its vibrant properties of continuous becoming. They draw attention to the ability of matter to "make things happen," (Bennett 5) especially as it combines with other

actants, in assemblages in which matter and discursive forces intra-act to generate new effects and affects.[2] These concepts have been augmented by a further range of terms designed to articulate such active properties, and which characterise new materialist discourse — terms which include "vitality", "animacy", "thing-power" and "agency".[3] This material turn has breached existing ontologies in a number of ways and, unsurprisingly, its insights have had significant implications for ecological thought. As Jane Bennett has argued, the ongoing conceptual division of the world into "dull matter (it, things) and vibrant life (us, beings)," (vii) has impeded our ability to recognise the generative dynamism of matter, often with devastating consequences for both human and nonhuman life and for the earth's ecosystems. The proliferation of plastic bags, along with numerous other forms of plastic waste, in the world's oceans (items that, as we have seen, can be interpreted as food by marine animals) is, at least to some degree, the result of our hubristic failure to understand our imbrication in the matrix of earthly life, and, more specifically, our failure to recognise that what we discard as trash lives on in the world, entering into new assemblages and developing new capacities long after it has fulfilled its initial anthropogenic function.

Material ecocriticism is specifically concerned with exploring the potential of such expanded notions of agency for recalibrating how we perceive and represent human/nonhuman relations. It also stresses the "material-semiotic," (Haraway 2) or "material discursive," (Barad 132) dimension of matter, which renders it "storied" (Oppermann, "From Ecological" 21) and imbues it with "narrative agency" (Iovino, "Living" 69). A key element of contemporary material ecocritical endeavour is the search for "non-dichotomous modes" (Iovino, "Living" 69) for the interpretation of such narratives. However, given that western thought has been structured for so long around hierarchical distinctions and binary oppositions, how might cultural forms begin to articulate these understandings of complex entanglement? At the same time, how might the "flat"[4] or "horizontal"[5] approaches of the

new materialisms allow for the exploration of conceptions of "difference" while also recognizing the emergent, hybridised nature of the world's phenomena? How might "relationality" in this material-semiotic context, in which sea turtles inadvertently prey on plastic bags, be dealt with in a suitably complex fashion?

In attempting to address these questions, this essay develops its argument through three main sections, which cumulatively put into dialogue the concepts of vital materiality, assemblage theory, biosemiotics, and the poetic deployment of figurative language. The first section focuses on the issues raised by the ingestion of plastics by marine animals, and looks specifically at aspects of material agency in the marine environment. It then explores the usefulness of the concept of the assemblage in this context, particularly in relation to the ability of actants to move between assemblages, and the implications this may have for how we cognitively structure our notions of similarity and difference. The second part takes its cue from Wendy Wheeler's discussion, in the context of biosemiotics, of "natural metaphor," ("Natural Play") and the notion of the natural world as integrally semiotic and interpretive. It investigates the potential of literary metaphor as a means of transliterating the storied world through bringing together conceptually disparate things and evoking their intra-actions and entanglements. To amplify this point, and in the final main section of the essay, I apply these ideas to the work of the British poet Christine Evans, whose densely metaphoric vision of jellyfish swimming in the seas around Bardsey Island, off the coast of North Wales, provides the epigraph for this essay. I suggest that the manner in which Evans expresses her apprehension of nonhuman agency and vitality through figurative language helps to blur existing conceptual boundaries and demonstrates the potential of metaphor — or as I have called it here, the "more-than-metaphorical," in order to reflect both the complexity of the phenomenon of plastic ingestion by sea turtles and the new materialist disruption of existing ontologies — to foster a fuller apprehension of our human participation in the material world.

Material agency at sea

Stacy Alaimo's work has been particularly influential in theorising, from a material ecocritical viewpoint, the implications of nonhuman agencies and the potentially invasive power of these vibrant forces. Her widely adopted concept of "trans-corporeality" ("Trans-corporeal" 238) draws to our attention the way matter, sometimes highly toxic matter, passes indiscriminately through environments and bodies, revealing their porosity. The notion is peculiarly applicable to the pollution of the oceans, as Alaimo herself notes ("States"; "Oceanic"), and to recent developments in our understanding of the implications of marine plastic waste. There is a growing cultural recognition of the kind of oceanic trans-corporeality Alaimo describes, and ongoing scientific research is beginning to confirm that, along with countless marine and avian species, most humans around the globe have ingested micro-plastics.[6]

The vitality of plastic in this respect is also beginning to be dramatized culturally, for example in Chris Jordan's now grimly iconic *Midway Project,* which features film and photographic footage of the corpses of albatross chicks who have perished after being fed plastic debris by the parent birds, and in the more ostensibly light-hearted mockumentary *The Majestic Plastic Bag* (2010), produced by the Californian environmental pressure group Heal the Bay.[7] The narrative of the latter, voiced by the actor Jeremy Irons, parodies the tone of conventional wildlife programmes. It documents the journey of a plastic bag from its supermarket car park "pupping ground" to its final oceanic destination, noting the host of dangers the plucky little bag encounters *en route*, including "the mouths of hungry sea life that feed on the helpless plastic." The narration concludes with the climax of the bag's journey, as it joins the Great Pacific Garbage Patch. Here, "never actually biodegrading, … the plastic bag can live indefinitely, co-existing with billions of other petroleum species before breaking into ever tinier plastic pieces, thus completing the plastic cycle of life." The

film certainly draws attention to the agency of the plastic bag and to the potential fluidity of that agency, for example the bag's ability to morph and find new potentialities in other media (it is "as at home in water as it is on land or in the air"). However, the comic effects of the narration depend upon the same sense of integral difference that informs the MEDASSET poster. As a mockumentary satirising the discourse of nature programmes, *The Majestic Plastic Bag* derives much of its humour from the overt ludicrousness of the idea of the bag as a creature, a species with its own cycle of life. This ironic zoomorphism, which plays on the audience's awareness that the bag is not an animal and does not have a life-cycle, since it simply breaks down into smaller and smaller pieces, shuts down a broader consideration of its agentic properties.

It would perhaps be asking too much of the film, which is highly effective in terms of foregrounding the "after-life" of plastic and has very specific political policy objectives, to suggest that it should consider why it is that the bags are so attractive to hungry sea creatures. Nor would it be alone in this omission, given the lack of existing scientific research into the sensory mechanisms that drive plastic detection and consumption by marine organisms (Savoca *et al* 1). But what strikes one in relation to the turtles and the plastic bags (and indeed Jordan's albatrosses and the plastic debris) is that this is not an accidental interchange of matter, of imperceptible flows of substances between the porous membranes of bodies, or inadvertent consumption, as it is with the human ingestion of plastic matter.[8] In the case of the turtles, the creatures are reading signs in their own environment, and, as already noted, following visual clues relating to a combination of the plastic bags' movement, colour, pattern and shape. For the turtles, of course, the interpretation of these signs has a specific imperative, since they signal "food." Nevertheless, even without such an imperative, we as humans are failing to register and interpret these agentic signs, in part (though not exclusively) as a result of our conception of material things as essentially inert, which

prevents us from "detecting (seeing, hearing, smelling, tasting, feeling) a fuller range of the nonhuman powers circulating around and within human bodies" (Bennett ix). It is an example of how our restrictive ontologies potentially compromise our own embodied understanding of the world.

How far human sensory perception might be expanded as a result of ontological shifts is a moot point, but ongoing scientific research into the ingestion of plastic by seabirds certainly gives Bennett's basic assertion — that we lack the ability to detect the fuller capacities of material things — greater weight. While, according to the studies already cited in this essay, the turtles are largely following visual clues, recent discoveries about why the tube-nosed or *procellariform* order of seabirds (which includes the albatrosses photographed by Jordan) have such a tendency to eat plastic debris suggest that this is because marine-seasoned plastic (possibly through its colonisation by marine biota) emits dimethyl sulphide (DMS). This is the same infochemical that is produced in pelagic ecosystems when zooplankton (small aquatic animals) graze on phytoplankton (microscopic plant-like organisms), which, in turn, triggers foraging activity in tube-nosed seabirds (Savoca *et al* 1). In other words, the plastic, as it experiences biofouling in the ocean, gives off a scent marker signalling the availability of food to the seabirds — a phenomenon that Savoca *et al* speculate might also help to explain the ingestion of plastic by other species, including baleen whales and sea turtles (4). These findings and hypotheses help to further erode the apparently clear difference between the plastic bags and the jellyfish. They suggest that material ecocriticism, in addition to highlighting the kinds of material vitality and agential kinship that blur the human / nonhuman divide, should extend the investigation specifically to thinking about how we might cognitively and imaginatively restructure our perceptions of difference and relationality within that extended ontology.

Assemblage theory has some insights to offer such an enquiry. The assemblage is a concept that facilitates our understanding of the intra-actions and material-semiotic properties of matter, since it brings together heterogeneous phenomena that, in combination with each other, exhibit a range of powers and capacities. As Manuel DeLanda stresses, following Deleuze, assemblages are not discrete, finite entities, but rather "wholes characterized by *relations of exteriority*" (10 emphasis in the original, see also note 2). The components of an assemblage exhibit properties that can be attributed to the whole in which they currently operate, but also carry latent capacities that might be activated in their interaction with other entities, particularly through their ability to enter into different assemblages, in which they take on new potentialities and meanings. "A component part of an assemblage," DeLanda writes, "may be detached from it and plugged into a different assemblage in which its interactions are different" (10). Thus, the capacities of the plastic bag in relation to the assemblage of the supermarket car park — which includes the raw ingredients of plastic production, the supermarket and the economic systems in which it is embedded, the cars in the car park, human consumers, and the weather effects that carry the bag into the sky — are quite different from its capacities within the assemblage involving the intra-actions of ocean currents, marine biota, zooplankton, DMS, and sea turtles, though the agentic powers of each assemblage ultimately infiltrate and are implicated in the other, in the sense that they all participate in the earthly continuum of vital matter.

Within those contextually disparate assemblages, the meanings of the plastic bag for the human are radically different from those of its meanings for the turtle, but our own understanding appears to be restricted by our anthropocentric conceptualisation of the bag's emergence and function within the initial supermarket assemblage. Even when we extend our vision to the discursive and socio-economic dimensions of that assemblage, which vastly increase its spatial and temporal reach, and even as we attempt to see all matter as inherently

vital, we still appear to base our assignation of similarity and difference on what we perceive as the (fixed) nature of an actant within the particular, anthropocentrically-determined situation with which we associate it most readily. As such, we fail to consider how that component might take on new meanings, properties and capacities in its intra-actions within a new, predominantly nonhuman assemblage.

Difference, biosemiotics, and literary metaphor

As we have already seen, a vitalist understanding of the world implies, as in the case of marine plastics, seeing less difference. This is not to say, however, that the notion of difference can or should be completely erased. Gregory Bateson, considering the way in which living beings orient themselves in the world through using information, argues that "what we mean by information — the elementary unity of information — is a *difference which makes a difference*" (*Steps* 459, emphasis in the original). The notion of difference is also integral to Levi R. Bryant's development of Object-Oriented Ontology (OOO) through his "Ontic Principle," which begins with the premise that "*there is no difference that does not make a difference*" ("Ontic" 263, emphasis in the original). Moreover, for Bryant, and in a manner that chimes with Bateson's formulation, "[T]o be is to make or produce a difference" (263). In these knotty formulations, what emerges is the two-fold sense both that the negotiation of difference fundamentally structures being and knowing, and that difference itself is a shifting, relational category.

The foregrounding of difference here certainly pulls against any notion that the "onto-story" (Bennett 3) of matter negates differentiation. Rather, it requires us to see relationality and difference not as static states but ones that morph and fluctuate as material and discursive forces intra-act. Karen Barad's sense of the differential when it comes to meaning and knowing is helpful here: she sees the world as a "differential dance of intelligibility and unintelligibility" (149) in which agential intra-actions both make a difference in their material

effects and at the same time reconfigure meanings. It is important to note, too, that Barad's sense of knowing challenges traditional humanist accounts in which intellection is restricted to human subjects. For Barad, intelligibility is "a feature of the world in its differential becoming," (149) a "differential responsiveness […] to what matters," in which "'nonhumans' (even beings without brains) emerge as partaking as in the world's active engagement in practices of knowing" (149).[9] Similarly, in her exposition of "storied matter" ("From Ecological Postmodernism") in the context of material ecocriticism, Serpil Oppermann draws on Bateson's argument that "thinking in terms of stories does not isolate humans as something separate from the starfish and the sea anemones" (Bateson, *Mind* 13). From this perspective, then, the sea turtles (like the starfish and the sea anemones) are engaged as animate minds, thinking in stories, and responding differentially to things that matter, and make a difference, in their environments.

This vision of a world in which all life is involved in pursuing these practices of knowing is also, of course, central to the field of biosemiotics, which holds that "all life, and all our experiences, are perfused with signs" (Wheeler *Whole* 142). In this framework, individual organisms can be regarded as having a specific semiotic and interpretive relationship with their environments — their *umwelten*[10] — in which they are attuned to and can interpret a range of signs.[11] The interpretation of the *umwelt* is made via an organism's *innenwelt,* which, according to Kalevi Kull, is "like a cognitive map that relates the self to the world of objects" (348). Given this insight, there is a sense in which we as humans are *required* to be the readers of our environment, just as other creatures must interpret their own *umwelten*. Iovino gestures towards this necessity when she writes,

> Even if matter is per se endowed with agency, the *narrative agency* of matter acquires its meaning and definition not merely *per se*, but chiefly if it is referred to a reader.

> This practice of 'reading' is our participation in the world's 'differential becoming' and is itself responsible for crafting further levels of reality. ("Living" 77)

As the ingestion of plastic by marine animals reveals, we are also required to develop an understanding that other creatures' *umwelten* have different stories from our own. What has been assumed to be an example of the lesser capacities of the turtle (in comparison with those of the human) to differentiate between the plastic bag and food, and framed as an "error" of perception, is just as much an example of the failure of relational understanding within anthropocentric perspectives. It betrays our inability to see the fuller powers of the bag, both in relation to ourselves[12] *and* as it enters into the *umwelt* of the turtles, intra-acting with its new environment and attaining new meanings and properties. In the marine environment, the differences between the plastic bag and jellyfish have been radically diminished while their similarity has been radically, and tragically, enhanced.

What emerges here is a complex ethical picture in which we urgently need to develop an augmented understanding of our own *umwelt* in all its vital materiality, while at the same time developing an apprehension of how anthropogenic activity might disrupt the *umwelten*, and the integral functioning of the material-semiotic, metaphorical, and differential systems of other creatures. Insights such as these perhaps constitute Iovino's "further levels of reality." But while our bodily senses may be extended through such ontological shifts, we also need a form of human semiosis to carry this more complex understanding for us cognitively and imaginatively, in order that we might become more astute and expansive readers of the material world. Iovino and Oppermann's summation of the new materialist paradigm as being premised on finding "integral ways of thinking language and reality, meaning and matter together" (4) and the expressed need for a means to represent these complex relationships culturally, perhaps offers us the stimulus to look more intently at the possibilities offered by metaphor.

For Wheeler, interpretation, whether human or nonhuman, revolves around "the recognition of similarity and difference (metaphor)" ("Natural" 70). She continues, "But notice that *difference* is not a thing but a *relation*" (70). As we see here, Wheeler views metaphor as immanent in a world structured by relationality. Hubert Zapf strongly concurs. In contemplating "Communicative networks, feedback relations, and connecting patterns between life and mind, natural and cultural evolution," Zapf notes that, "[A]s in biosemiotics, metaphor emerges as a mode of biological, mental, and textual-semiotic operation that translates these processes into language and cultural discourse" (54). He continues, referencing Bateson, "[E]cological thinking […] is therefore akin to metaphorical thinking" (54). This is an interesting and persuasive assertion, but one that begs a closer look at the structures of both metaphorical and ecological thinking.

In fact, the last forty years have seen significant developments in the understanding of metaphor in relation to human perception. This shift has been generated in large part by the work of cognitive linguists George Lakoff and Mark Johnson, who argue that metaphor is a function of embodiment, "like seeing or touching or hearing, with metaphors providing the only ways to perceive and experience much of the world" (239). Likewise, Iain McGilchrist emphasises the importance of metaphor from a neuroscientific perspective. Drawing on research investigating the different functions of the two hemispheres of the brain and their complex interplay, he argues that they attend to the world quite differently:

> In the one [the right hemisphere], we *experience* — the live, complex, embodied, world of individual, always unique beings, forever in flux, a net of interdependencies, forming and reforming wholes, a world with which we are deeply connected. In the other [the left hemisphere] we 'experience' our experience in a special way: a 're-presented' version of it, containing now static, separable, bounded, but essentially fragmented entities, grouped into classes, on which predictions can be based. (31)

McGilchrist's concern is that western post-Enlightenment thought has seen a gradual favouring of the left hemisphere, with its fragmented and "re-presented" version of experience, a tendency that has impacted negatively on our ability to assess the structures and interdependencies that characterise our being-in-the-world. His description of the assemblage-like experience of the right hemisphere, however, includes, significantly for this essay, its ability to understand metaphor, a function that, he argues, "goes to the core of how we understand our world, even our selves" (4).

This is not to suggest, however, that metaphor is without its limitations, or that metaphorical thinking can somehow simply open a door of understanding into nonhuman experience, through which we might freely access the storied *umwelten* of the turtles, the starfish and the sea anemones. Ecological and metaphorical thinking may be intrinsically related, but in ways that resist too simplistic an interpretation of either — in other words, in ways that move beyond ecological models that depend too heavily on notions of a seamless web,[13] or naïve understandings of metaphor that assume it can fully encapsulate the world's complex entanglements. OOO retains a strong sense of the ultimate unknowability of entities to each other, whether human or nonhuman, living or differently animate. In Graham Harman's formulation of OOO, "tool-beings [objects] withdraw *from each other* no less than they withdraw from us," (127, emphasis in the original) an assertion that troubles the kind of access to relationality proposed within the material ecocritical, biosemiotic and neuroscientific perspectives discussed so far. In relation to ecology, Timothy Morton, in his blending of OOO and ecocriticism, challenges biocentric notions of a web of life, proposing in their place the concept of the "mesh," a "radically open form without center or edge" which "does away with boundaries between living and non-living forms" (22). Within this mesh, the closer we get to the "other," the stranger it becomes (Morton *Ecological* 15); just as intimacy seems possible, objects withdraw "into the ontological shadows" (*Hyperobjects* 3-

4). As Morton warns, in this ontological uncertainty, there is no meta-language that can rise above its own implication in the mesh.[14]

Nevertheless, and bearing these caveats in mind, insights from vital materialism, biosemiotics, cognitive linguistics and neuroscience all gesture towards metaphor's potential for fostering at least an *expanded* sense of vital materiality and complex interconnection. While it might not interpret for us the meanings of the world for nonhuman creatures or objects, metaphor's deployment of "strategic anthropomorphism," for example, (Bennett; Iovino "Living") can, as Bennett argues, uncover resonances that blur the human/nonhuman divide and lead us to perceive a world "filled not with ontologically distinct categories of beings (subjects and objects) but with variously composed materialities that form confederations" (99). Morton, notwithstanding his acknowledgement of "withdrawal," sees metaphor as a necessary form of "translation" when one object influences another — a translation which, for the human, involves anthropomorphising: he confesses, "I can't help anthropomorphizing everything I handle" ("An O-O Defense" 207). Moreover, in feeling our way into the lives of nonhumans, even by simply allowing that they have worlds and ways of encountering them that are different from our own, we open up the possibility of some sense of commonality (Morton, *Humankind* 12-15). He also adds the curious insight that even as humans anthropomorphise all they encounter, nonhuman entities are equally engaged in their own forms of morphising: "just as I fail to avoid anthropomorphizing everything, so all entities whatsoever constantly translate other objects into their own terms" (207).[15] This idea gives us another angle on the ingestion of plastic bags by the turtles,[16] if we allow that they are reading them in relation to their own nonhuman environment and species-specific mode of understanding, translating the plastic bags into jellyfish-like creatures, turtlemorphing as they go.

Wheeler and Louise Westling see metaphor's potential to augment human understanding of the world as operating especially effectively within literary writing. It is a means by which

> humans sing and model the world to themselves, testing possibilities, balancing discordant elements of experience, considering meanings and adaptations to challenges and emergent forces in the dynamic matrix of the world's life. (224)

As such, they argue, "Literary metaphors are real, not just figures of speech — they are living vectors of new knowledge" (218). As I will go on to suggest, *poetic* metaphor in particular has the capacity to open our minds to commonalities between human and nonhuman matters, and to accommodate recent, more mesh-like conceptualisations of ecology as well as the complex, shifting properties of the assemblage. In this, it offers not only a means of negotiating the inherent resistance of objects and their intra-actions to being known (for example, through interpretive morphisms), but also a way of bodying forth that very resistance and letting its strangeness and complexity resonate.

Such capacity for fluidity and openness derives at least in part from metaphors' own structure as assemblages: they bring together apparently heterogeneous objects and concepts,[17] have internalised relations which, even in themselves, augment the meanings of their individual components through their intra-actions,[18] and they also have relations of exteriority, where the component parts have cognitive and imaginative trajectories that lead away from the initial comparison and can conceptually and imaginatively be "plugged in" elsewhere. Moreoever, poetic metaphor links the poet's world with that of the reader in a further enactment of differential becoming, as the reader interprets the components of the metaphor through the lens of their own *innenwelt*. As such, poetic metaphor constantly reaches beyond itself, becoming, in effect, *more-than-metaphorical*. In the paragraphs that follow I explore the work of the British poet Christine Evans, in order to assess whether her

poetic use of metaphor can be seen as an articulation of relationality that potentially expands and enhances our ways of encountering and modelling the world.

"Parachutes of intelligence": seeing in metaphor

Based in North Wales, Christine Evans divides her year between the Llŷn peninsula and Bardsey Island (Ynys Enlli), and her poetry collection *Island of Dark Horses* (1995) takes the island as its subject, exploring its geologies, biologies, and human and nonhuman histories. Evans envisions a vibrant island world pulsing with agency and intelligence. In an unpublished interview she describes the experience of landing on the island: "When you arrive it feels as though [the island] wraps itself around you, and then as you walk up you get the sense of everything — it's like a whole breathing, living, regenerating world that's constantly remaking itself" ("Unpublished interview" n.p.). These perceptions of vitality and processes of becoming, already articulated through figurative language, are further iterated in poetic and metaphoric form in the *haiku* "Tide": "First, seepage, then, flux: / as the great heart pumps and sucks/ every inlet whispers" (26). The poem, with its beating heart of immense tidal flows and whispered messages of the coast, reflects a deep-seated understanding of the world as animate and communicative. Indeed, Evans is acutely attuned to nonhuman semiosis, noting in "Sext" that "Water has its own runes" (82). The phrase conjures the sense of a language that is of our world but distant from our understanding, simultaneously implying intelligibility and unintelligibility, knowledge and mystery. The runic allusion also hints at the notion that language — including human language — is itself magical, that it might function as a form of divination in relation to an animate material world that lies tantalisingly beyond our grasp. While the sea has its runes, written in the waves and inscribed in the sand by the ebbing tide, we have poetry.

In "Compline", the concluding section of the title poem "Island of Dark Horses," Evans further demonstrates her sense that the nonhuman creatures of the island are alert to

the signs that suffuse their world. In her respect for these creatures, the poet aspires to live as they do, attempting to read her own world as well as they do theirs, having chosen her island home:

> The tiny power of choosing where to be
> lends us the dignity of moth or swallow
> stream-reading eel, or shearwater
> learning the whirl of stars
> letting them focus its hunger. (93)

In light of this essay's argument thus far, the apparent anthropomorphisms that attribute intellectual powers to the stream-*reading* eel or the shearwater *learning* the whirl of stars, rather than simply imbuing animals with human characteristics, are more a case of the poet recognising the existence of nonhuman worlds and of nonhuman minds that far surpass those of the human, all engaged in navigating their own mysterious *umwelten,*. While the images reflect elements of those creatures' lives that have been scientifically documented and that demonstrate the extraordinary complexity and sophistication of their interpretive powers,[19] the metaphors remain open, gesturing towards an interpretive world, but not one which we can fully access. If we see that the eels read the stream and the birds read the night skies, we fall short of knowing what narratives they find there.[20]

The poem "Gannets" builds on this sense of the diverse ways in which signification is bodied forth and read by the creatures that inhabit the island environment, as it focuses on the eponymous seabirds hunting for food in the waters of the Irish Sea. Evans describes their white plumage catching the morning light before it reaches the houses on the western side of the island, which are overshadowed by Mynydd [Mount] Enlli:

> Far out on the west, their whiteness
> Signals the early simple message

Sun, before any warmth

Spills over the hunched shoulder

We were glad to lie against all night. (12)

The idea of the birds' feathers visually signalling sunrise, before the sun's warmth can be felt in the shadow of the mountain, shows the poet reading the semiosis of her environment in an embodied, more-than-metaphorical fashion. It also begins to hint at ways in which the *umwelten* of different species can, in moments of extraordinary luminosity, overlap and achieve a hint of mutual intelligibility.

The "hunched shoulder" refers to the rising contours of the landscape, and introduces an ostensibly anthropomorphic aspect to the description, with the western side of the mountain, which is yet to feel the warmth of the rising sun, being imagined as a part of the human body and attributed with a kind of sensitivity to the cold that makes it appear "hunched". Again, this has interesting implications for a materialist view that blurs distinctions between living and non-living, human and nonhuman forms. The conjunction of mountain and human body (compounded by the image of the narrator and companion being "glad to lie against" the mountain through the night as if it were another body) sees the poet's body simultaneously registering the landscape as human[21] and the human as landscape, noting the shared mutual components of shape, form and the capacity to be acted upon by temperature. As Bruno Snell comments on a Homeric metaphor that brings together a rock and a warrior, while regarding the rock anthropomorphically, we are at the same time looking at ourselves "petromorphically" (cited in McGilchrist 117). Evans's metaphor brings the material human and the material earth a little more closely together.

The extracts we have looked at so far evoke the vitality and semiosis of the nonhuman world, and perhaps speak more strongly to a relatively harmonious notion of the entanglements of the human and nonhuman world — an observation in keeping with Evans's

own expressed view of the island as a living, breathing whole[22] — than to the more discordant elements of vibrant matter that characterise assemblages (including those involved in the kinds of oceanic pollution with which this essay began). However, certain poems in the collection, while still evoking vitality and semiosis, speak to a greater complexity. The brooding poem "Storm" presents a littoral assemblage in which sea, sky, and shore constantly threaten the eruption of new capacities, as distinctions are eroded by the oncoming weather event:

> And yes, the sky was feathered
> for the coming wind, the bay at Solfach full
> of smashed kelp, warm and gastric-smelling;
> murk building on the horizon
> and sea's smooth skin crawling
> remembering storms, sweating messages
> in beery scum to warn the shore. (67)

The description is powerfully kinaesthetic in its effects, evoking all of the senses at once and mixing and blurring the objects being described, with a host of tangled morphisms coming into play. The cloudy sky is feathered like a bird, the seaweed smells like the contents of a creature's stomach, and the water has a membrane that crawls and sweats like a mammal's skin. In these evocations of gastric juices and sweating skin, we are reminded of our own shared embodiment with nonhuman life. Both sea and sky are intellective and interpretive, responding in a predictive fashion to the coming storm. The whole assemblage is engaged in a constant production and interpretation of signs, a dynamic process of biosemiotic meaning-making, powerfully evoking Patricia Yaeger's marine "swarm of agencies" (535, see also note 14) or Bennett's confederations of vibrant matter.

Although these metaphoric articulations relate predominantly to organic phenomena — the landscape, the ocean, humans and animals — the complexity of Evans's vision also extends to the products of human technicity, as the reference to "beery scum" suggests. It also speaks more obliquely to the broader material-discursive assemblages in which these phenomena intra-act. In "None," this effect is taken further. Evans describes jellyfish floating in one of the island bays, writing,

> In June calm, swarms of jelly-fish
> drift in the Cafn, pulsing slowly
> like gas mantles, translucent
> parachutes of intelligence (85-6)

The imagery here conjures a powerful sense of the creatures' movement, colour, pattern and shape, blurring the distinctions between categories that might be regarded as ontologically distinct. The jellyfish, while possessing their own immanent intelligence and animacy, are also imaged as man-made material structures: floating white parachutes and pulsing gas mantles. In a manner that might be compared to that of the turtles, Evans reads these creatures in terms of her own material-semiotic frame of reference (her own *umwelt* and *innenwelt*) in order to reach for a greater understanding of their meanings.[23]

But there are more far-reaching connotations, which emerge as the metaphors open out exponentially and gesture towards a hybridity of human and nonhuman matters and an ontologically, spatially, and temporally complex relationality. The comparison of the jellyfish with the pulsing gas mantle brings the creatures into conjunction with the anthropogenic manipulation of organic materials and fossil fuel use. Gas mantles were traditionally made from silk (produced by silk worms) impregnated with metal nitrates, and they remain to this day a component of gas lamps on the island, in which the burning gas causes the metal mesh of the mantle to intermittently glow more brightly. This pulsing of energy, as well as the

domed shape of the mantle, resembles the shape and hints at the movement of a jellyfish as it opens and closes its bell in order to propel itself. Similarly, the image of the parachutes, while again providing a visual connection (in terms of pattern, shape, colour and movement) to the jellyfish floating in the sky-like medium of the sea, also brings in other associations that extend the picture and reveal further entanglements of human and nonhuman. Again, parachutes were originally made from silk, though they were later made from nylon,[24] a fabric whose manufacture involves petroleum. Both items trouble distinctions between "natural" and "artificial" or "man-made" materiality, showing how closely the two are interwoven. Moreover, parachutes played a major role in the military offensives of the Second World War. As the components of the metaphor "plug into," to use DeLanda's phrase, other material-discursive assemblages, the lines obliquely suggest a world in which the materiality of the jellyfish inhabits the same continuum as that of the gas mantle and the parachute — and, by extension, the plastic bag. At the same time, the quatrain draws the exploitation of the natural world, empire, and war into the material-discursive environment of Evans's animate, lyrical island, conjuring the "June calm" Cafn as a mesh-like assemblage.[25] This shows metaphor spilling beyond its porous boundaries, the words and associations intra-acting in vibrant, vital assemblages of language, in which the images and concepts "make a difference" to each other, and stimulate subtle recalibrations in the reader's understanding, in a dance of complex relationality.

Conclusion

The ingestion of marine plastics by sea turtles and other fauna is a tragic example of the way in which anthropogenic activity can infiltrate and disrupt the relational, interpretive worlds of nonhuman animals. The phenomenon indicates a human need to work towards more expansive ways of encountering the world such that we might resist seeing difference too starkly and readily, and instead recognise more subtle forms of relationality. My brief

analysis of Christine Evans's use of metaphor reveals metaphor's potential for modelling the world in a manner that reveals us as participants in confederations of vital matter while at the same time gesturing towards its assemblage-like capacity to extend our material-discursive frame of reference — in other words to evoke, cognitively and imaginatively, the mesh of earthly existence. David Punter argues that "we construct metaphors for our times, but we also construct *a concept of the metaphorical* for our times" (139, emphasis in the original). The *more-than-metaphorical* might provide us with just such a concept, both facilitating the interpretation of storied matter as an ecocritical practice and fostering timely articulations that begin to register a fuller account of the complex, differential world we inhabit. Instead of unquestioningly "seeing the difference" in MEDASSET's image of the ocean, we might instead reach towards a recognition of the entanglements and commonalities of the material world in which we are immersed. It might assist us in beginning to see the distortions of relationality that have come into being through anthropogenic action: a relationality in which sea turtles let the pulsing of water-borne plastic bags and the infochemicals that leak from them focus their hunger, as they read the differential signs of their more-than-metaphorical, animate world.

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[1] See, for example, studies by Schuyler *et al*, and Narazaki *et al*.

[2] Readers will recognise notions of bodily materiality, processes of material becoming and the ability of matter to make things happen from a range of new materialist texts, including Diana Coole and Samantha Frost's edited collection *New Materialisms* and Jane Bennett's *Vibrant Matter;* the term actant as it is used here derives from Actor-network theory, especially the work of Bruno Latour, for example, in *The Politics of Nature* where it is helpfully glossed as "any entity that modifies another entity in a trial" (237); the concept of the assemblage originates in the work of Gilles Deleuze and Félix Guattari, but its use here is based on Manuel DeLanda's development of the concept in *A New Philosophy of Society* in which assemblages are groupings not reducible to the sum of their parts, and which, significantly for the argument of this essay, are composed of components that have the capacity to enter into new, different assemblages and thus reveal new capacities (10); intra-action is Karen Barad's eloquent term, drawn from physics, to signify the "*mutual constitution of entangled agencies,"* (33, emphasis in the original) found in *Meeting the Universe Halfway.*

[3] The terms vitality, animacy, and agency, along with the compound noun thing-power, all have slightly different connotations and have been variously employed by particular thinkers in different areas of new materialist enquiry, though Jane Bennett, for one, employs all of them as conjoined aspects of her vision of vibrant matter. For some scholars, assumptions linking the idea of agency with intentionality render the term inapplicable to non-living objects, but Serenella Iovino and Serpil Oppermann argue that agency should not be exclusively associated with human beings and human intentionality, and can instead be understood to be "a pervasive and inbuilt property of matter, […] part and parcel of its generative dynamism" (3). In my use of agency in this essay I adopt Iovino and Oppermann's understanding of the term.

[4] See, for example, Levi R. Bryant's account of "flat ontology" at https://larvalsubjects.wordpress.com/2010/02/24/flat-ontology-2/.

[5] Iovino sees the notion of distributed agency as providing an opportunity to recognise "agential kinships" and as enabling an "ecological horizontalism and extended moral imagination" ("Material" 52).

[6] See Liebmann *et al*.

[7] See also Iovino's insightful critique of the film ("Living").

[8] Stacy Alaimo's discussion of the short film *Plastic Seduction,* in which a loving couple obliviously feed each other items from a seafood platter piled with plastic, interprets the film as suggesting "the power of plastic to seduce us all into a state of blissful ignorance" ("Oceanic" 197). However, the humour still rests on the "clear" difference between the plastic and the food and on the notion that humans would never knowingly choose to eat plastic. As such, the film does not challenge our conception of the materiality of the plastic itself or offer insight into its ingestion by nonhuman animals.

[9] In terms of creatures that manifest intelligence without possessing brains, Barad gives the example of the brittlestar, a marine animal that is nevertheless "attuned to processes of differentiation" (377).

[10] The concept of *umwelt* derives from the semiotic theories of Jakob von Uexküll and Thomas A. Seboek. It suggests that "all species live in a 'world' that is constructed out of their own signs, the latter being the result of their own sign-making and receiving capacities" (Cobley, 4).

[11] Kalevi Kull interprets *umwelt* as "the demonstration of how an organism maps the world, and what, for that organism, the **meanings** of the **objects** are within it" (43, emphasis in the original).

[12] As already noted, we are only beginning to grasp the ways in which those powers are ultimately threatening human health through our own inadvertent ingestion of plastics.

[13] See also DeLanda's critique of the metaphor of the "seamless web" in his discussion of assemblage theory (9-10).

[14] Whatever the promise of metaphor, then, it is important to note its shortcomings. These include social and political entanglements, for example the role of figurative language in the perpetuation of unequal power relations. Oppermann (following postcolonial scholars) notes that figurative language can be "inadvertently complicit with global powers of capitalism" ("Storied Seas" 447), a case in point here being the tropes of island isolation and dysfunction, which have underpinned the colonial project throughout history (see for example, DeLoughrey). In terms of marine environments, Patricia Yaeger argues, "The sea functions in literature and culture as a trope instead of a biotic world or swarm of agencies" (535); thinking of the sea as "endless", "empty" or "free" has legitimised the use of the marine environment as a dumping ground for waste products of all kinds. And, as we have already seen, even the ironic metaphor of *The Majestic Plastic Bag*, while in one sense cleverly and effectively foregrounding the agency of this object in order to serve the environmentalist cause, risks limiting our perception of the object in its new assemblage, such that we underestimate its powers as it participates in the "swarm of agencies" of the Pacific Ocean.

[15] See also, for example, Morton's observation that a bamboo forest "ruthlessly bamboo-morphizes the wind" (*Hyperobjects* 81).
[16] This notion chimes powerfully with Wheeler's concept of natural metaphor and with biosemiotic understandings of the interplay of *umwelt* and *innenwelt.*
[17] While Samuel Johnson's famous critique of the bad poetry of his day complained of the way in which it featured metaphors in which "the most heterogeneous ideas are yoked by violence together," (133) the new materialisms, with their erosion of ontological boundaries, might see less of a problem in bringing apparently heterogeneous ideas together while at the same time disputing the very concept of heterogeneity.
[18] Even the relatively simplistic definition of literary metaphor as a poetic device "by means of which one thing is made to stand in for another thing," (Punter 2) expressed by I.A. Richards as an equation in which there is a "tenor" (the thing being described) and a "vehicle," (the thing to which it is being compared) reflects a complex relationship which produces more than the sum of its parts. As Richards notes, "the co-presence of the tenor and the vehicle results in a meaning […] which is not attainable without their interaction" (100). Moreover, it is a meaning "of more varied powers than can be ascribed to either [tenor or vehicle]" (100).
[19] Evans alludes to a range of behaviours that have been the subject of numerous studies, for example, the seasonal migrations of moths and swallows, the movement of eels inland from their ancestral spawning grounds and back again many years later, and the practice observed in Manx shearwater chicks of coming out of their burrows and staring at the stars, which is believed to be a way of developing navigational abilities once they begin their hunting forays and longer migratory journeys.
[20] Notwithstanding scientific advances in these areas, much remains unclear. An internet search reveals multiple and ongoing debates around, for example, why the shearwaters stargaze, or how the eels navigate their way to the Sargasso Sea, demonstrating how far we are from understanding these nonhuman animals.
[21] A "backmorphic" translation, to use Morton's term ("An O-O Defense" 207).
[22] In this respect (though, as we shall see, not exclusively), Evans's world view leans towards the kind of holism with which Morton (in relation to ecology) and De Landa (in relation to assemblage theory) seek to dispense.
[23] Evans told me in conversation that the image of the gas mantles was drawn from her experience of living on the island, where, in the absence of mains electricity (the Bird Observatory has its own generator), gas lamps are still used in the majority of the houses.
[24] The use of nylon became increasingly necessary when the Allied Powers could no longer source silk from Japan during WW2 since they had become enemies.
[25] In her brilliant study of lyric poetry, *Romantic Things: A Tree, A Rock, A Cloud,* Mary Jacobus shows how the apparently delicate container of the lyric can be a site of powerful tension — a form that can bring disparate things into dialogue, while recognising that these things ultimately resist understanding.

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