## The Universe of Things

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I begin with a short story called "The Universe of Things," by the British science fiction writer Gwyneth Jones (2010). The story is about an encounter between a human being and an alien. It is part of Jones's "Aleutian" cycle: a series of novels and stories set in a near-future Earth that is visited, colonized, and ultimately abandoned by an alien humanoid race. The Aleutians (as these aliens are called) have technologies that are superior to ours. Also, they are of indeterminate gender; human beings tend to be discomfited by this. If anything, the Aleutians vaguely seem to be more "feminine" than "masculine"; but human beings usually refer to them with the pronoun "it." For both of these reasons, the Aleutians' presence on our planet is traumatic and humiliating. It's not that they do anything particularly nasty or unpleasant; but their very existence somehow diminishes us. We find ourselves in a position of abject dependency; even the most affluent white male Westerners must now count themselves among the ranks of the colonized.

The Aleutians' presence on Earth undermines our inveterate anthropocentrism. "Man" is no longer the measure of all things. We can no longer think of ourselves as being special, much less take ourselves as the pinnacle of creation. Modernity is often seen as a long series of displacements and decenterings of the human; just think of Copernicus, Darwin, and Freud, or for that matter of Deep Blue defeating Garry Kasparov. Jones's Aleutians mark the *ne plus ultra* of this tendency; their effortless superiority leaves us blank and at a loss. And this is not just a matter of First Contact, so frequently mythologized in science fiction narratives. Jones's aliens stay on the Earth for centuries. The fact of their existence never loses its disturbing edge, even as it comes to be woven into the habits and assumptions of everyday human life. In this way, the Aleutian cycle is a narrative about – among other things – the adjustments forced upon us as we enter a posthuman era.

Within Gwyneth Jones's overall Aleutian cycle, "The Universe of Things" fo-

cuses upon one of the most striking differences between the aliens and ourselves: the fact that their technology, unlike ours, is intrinsically alive. The Aleutians' tools are biological extrusions of themselves: "they had tools that crept, slithered, flew, but they had made these things... They built things with bacteria... Bacteria which were themselves traceable to the aliens' own intestinal flora, infecting everything." In effect, the Aleutians literalize Marshall McLuhan's thesis that all media are prosthetic extensions of ourselves. The Aleutians exteriorize themselves in every aspect of their environment. Their networks extend far beyond their own bodies and immediate surroundings. They are even able to share feelings and memories, as these are chemcially encoded in the slime that they exude, and exchange with one another. In consequence, "the aliens could not experience being *a-part*. There were no parts in their continuum: no spaces, no dividing edges." They are alive in the midst of an entirely "living world."

The living world of the Aleutians stands in sharp and bitter contrast to the way that we remain trapped by our sad Cartesian legacy. We tend to dread our own mechanistic technologies, even as we use them more and more. We cannot escape the pervasive sense, endemic to Western culture, that we are alone in our aliveness, trapped in a world of dead, or merely passive, matter. Our own machines, Jones writes, "promised, but they could not perform. They remained *things*, and people remained lonely." It seems to some of the people in Jones's stories that, in contrast to this situation, "the aliens had the solution to human isolation: a talking world, a world with eyes; the companionship that God dreams of."

"The Universe of Things" tells the story of a human auto mechanic whom an alien hires to fix its car. The mechanic, like most human beings, both regards the aliens with awe, and at the same time feels a bit afraid of them. He is honored and humbled, but also made extremely anxious, when the alien entrusts the repair of its vehicle to him. He doesn't know why he has been singled out for this job; nor does he know why the alien uses an inferior (and ecologically harmful) earth technology in the first place, instead of sticking with the Aleutians' own mode of living transport. In any case, the mechanic focuses all of his confused feelings upon the car. Wanting to maintain "the mystique of craftsmanship," the one sort of human pride that remains to him, he turns off all the machines that usually do the repair work in his shop, and resolves to fix the alien's car by hand.

In the course of a long evening, as he works on the car, the mechanic has an epiphany – or a hallucination. He experiences, for a moment, what the aliens' "living world" is actually like: his own tools seem to come alive. The experience

is disconcerting, to say the least. "He stared at the spanner in his hand until the rod of metal lost its shine. Skin crept over it, the adjustable socket became a cup of muscle, pursed like an anus, wet lips drawn back by a twist on the tumescent rod." The living world is obscene and pornographic. Existence is suffocating and unbearable. Everything is suffused by "living slime...full of self, of human substance," but somehow rendered *other*. This is what happens when you have "succeeded in entering the alien mind, seen the world through alien eyes. How could you expect such an experience to be pleasant?" The mechanic is terrified and nauseated. All he wants is to return to the loneliness and security of the customary human world: a world in which objects remain at a proper distance from us, because they are "dead, and safe."

"The Universe of Things" encourages us to think about the liveliness of objects, and about the ways that they are related to us. The story suggests that, even when we have shaped things into tools, and thereby constrained them to serve our own purposes, they still have independent lives of their own. That is to say, tools (like things in general) are what Bruno Latour calls *actants* – just as much as we ourselves are (Latour 1988, 159). Things have their own powers, their own innate tendencies. When we make use of things, employing them as tools, we are really *allying* ourselves with them (Harman 2009, 19). But alliance also means dependency; we discover that we cannot do anything without our tools' help. The story therefore posits something like what Jane Bennett calls *vital materialism*: the recognition that "vitality is shared by *all* things," and not limited to ourselves alone (Bennett 2010, 89).

But even as the story intimates this, it also dramatizes our fear of the liveliness of things. In the mechanic's experience, wonder turns into dread. The sense that everything is filled with "human substance" flips over into the paranoid vision of a menacing alien vitality. The magic of a fully animate world becomes a nightmare of Cthulhu. We are threatened by the vibrancy of matter. We need to escape the excessive proximity of things. We cannot bear the thought of their having an autonomous life, even if this life is ultimately attributable to us. We are desperate to reassure ourselves that, in spite of everything, objects are, after all, passive and inert.

It is important that Jones's story is not about "things" in general; rather, it is specifically about *tools*. For tools are probably the objects in relation to which we most fully confront the paradoxes of nonhuman actants, of vital matter, and of object independence. Tools are extensions of ourselves, things that we have shaped ex-

plicitly in order to serve our own needs. They are supposed to be subordinate to our will. And indeed, most of the time, we don't even think about our tools; they are simply *there*. As Heidegger puts it – at least in the most common interpretation of his work – tools are ready-to-hand, available to us. And yet, this very availability of our tools gives them a strange autonomy and vitality. We find that we cannot just *use* them. We must learn to work *with* them, rather than against them. We have to accommodate their nature, and their needs, as well as our own.

My mention of Heidegger's *readiness-to-hand* (*Zuhandenheit*) is not fortuitous. For I think that "The Universe of Things" can well be read as an allegory of what Graham Harman, expanding Heidegger's concept, calls *tool-being* (Harman 2002). Harman explicitly criticizes the common reading of readiness-to-hand in pragmatic terms – which is the way I used the concept a moment ago. According to Harman, readiness-to-hand does not mean the practical handling of things, as opposed to their explicit theorization (125-126). Rather, the category of the ready-to-hand has a much broader reach. It does not consist "solely of *human devices...* We can speak of the readiness-to-hand even of dead moths and of tremors on a distant sun. As 'useless' as these things may be, they still exert their reality within the total system of entities" (152). Things are active and interactive far beyond any measure of their presence to us. Tool-being does not apply just to the human *use* of things; it is a far more fundamental ontological category. Gwyneth Jones's story begins with the familiar sense of tools as objects of use, but it culminates in the mechanic's discovery that the "universe of things" has a deeper reality.

The crucial point about tool-being, in Harman's analysis, is that it involves a radical withdrawal from simple presence, and therefore from any possibility of theorization. Throughout Heidegger's work, Harman says, "the single error to be guarded against lies in the ingrained habit of regarding beings as present-at-hand, as representable in terms of delineable properties rather than acknowledged in the *actus* of being what they are" (Harman 2002, 27). Opposing this reduction, Heidegger always insists that "what exists outside of human contexts *does not have the mode of being of presence-at-hand*" (126). To reduce a thing to its presence-at-hand – which is to say to the sum of its delineable properties – is precisely to regard that thing as only the *correlate* of a consciousness perceiving it (Meillassoux 2008). But a thing is always more than its qualities; it always exists and acts independently of, and in excess over, the particular ways that we grasp and comprehend it. This is why Harman credits Heidegger with providing us a way out from correlationism, and towards an object-oriented ontology.

Harman argues that *all* entities are tool-beings; none of them may be simply reduced to presence-at-hand, or to a simple list of properties. But tool-being itself is double. It has "*two* distinct senses. It is the performance of a withering subterranean force, but a force that also acts to summon up some explicitly encountered reality" (Harman 2002, 26). On the one hand, Harman says, "tool-beings... recede into the work of an unnoticed background... Dissolved into a general equipmental effect, entities vanish into a unique system of reference, losing their singularity" (44-45). This is what allows us to take our tools for granted; we don't even notice them *as* objects, most of the time. We rely on their "equipmental effect," forgetting that this efficacy is itself the result of a vast network of alliances, mediations, and relays. Such is the initial, complacent assumption of the mechanic in "The Universe of Things."

But at the same time, and on the other hand, tool-being also involves a countermovement, a reversal. This is epitomized by Heidegger in the form of the "broken tool." When a tool, or a thing, fails to function as expected, then the excess of its being is suddenly revealed to us. As Harman wonderfully describes it, radicalizing Heidegger, there is "an uprising of distinct elements... a surge of minerals and battle flags and tropical cats into the field of life, where each object bears a certain demeanor and seduces us in a specific way, bombarding us with its energies like a miniature neutron star" (Harman 2002, 47). When this happens, the tool is *more-than-present*; it stands forth *too* actively and aggressively for me to posit it as present-at-hand. That is to say, the tool, or the thing, becomes *alive* – as the mechanic suddenly experiences in the story. And this uprising, or unveiling, is the very basis of object-oriented ontology, which Harman describes as an effort "to do justice to the distinctive force of these specific objects, to the eruption of personalities from the empire of being" (47).

I take this analysis, from the beginning of Harman's first book, *Tool-Being*, as fundamental – even though Harman himself rejects it. For, although Harman starts out with Heidegger's understanding of the tool and the broken tool, he quickly moves onto different ground. The first part of *Tool-Being* describes a double movement: a retreat into the universal referentiality of equipment, or into "an oppressive totality withdrawn from view and devoid of particular beings" (Harman 2002, 47), followed by the eruption of absolute singularities, each object's emergence "defining a fateful tear in the contexture of meaning, the birth of an individual power to be reckoned with" (47). But in the course of the book, Harman collapses this dichotomy. He argues, instead, that the object's withdrawal from

presence is a retreat from referentiality as well. This means that "the tool-being of a thing exists in vacuum-sealed isolation, exceeding any of the relations that might touch it" (287). Instead of swinging between an excess of referentiality on the one hand, and an excess of singularity on the other, each object both disappears into, and emerges out of, its own inaccessible vacuum. Harman carefully notes that, as a result of this reformulation, "both Heidegger and Whitehead become direct opponents of my theory" (228).

I have taken Whitehead's side (and somewhat to my surprise, Heidegger's as well!) against Harman in an article published (along with his rebuttal) in *The Spec*ulative Turn; I will not pursue that polemic here. Instead, I will simply continue to explore the further, positive implications of the double movement that Harman finds in Heidegger's account of tools and broken tools. Indeed, this doubleness is crucial to Gwyneth Jones's story. "The Universe of Things" turns precisely upon the way that objects are irreducible to simple presence. And it also suggests that this excess has two complementary aspects. The "universe of things" is, on the one hand, altogether systematic and auto-referential; as a ubiquitous medium, or extension of ourselves, it stretches well beyond whatever is immediately apparent or present. It turns upon the irony that, when "human substance" is everywhere, that substance gets stretched and scattered beyond recognition. This is the same process that Marshall McLuhan is getting at, when he describes media as "the extensions of man" (McLuhan 1994). For media spread themselves out everywhere. Once we project them, they escape from our control and redound back upon us, drawing us into new relations. "All media work us over completely... they leave no part of us untouched, unaffected, unaltered" (McLuhan and Fiore 1967, 26).

But on the other hand, the "universe of things" also shows itself in the obscene eruption of individual objects, in all their liveliness and singularity. When "all the tools...leap into action," the mechanic is assailed by "the ghostly feel of flesh in the machines." In each of these machines, he finds a "drop of self," a living will. His dread at this prospect exemplifies McLuhan's observation that the emergence of new media is "too violent and superstimulated a social experience for the central nervous system to endure" (McLuhan 1994, 43). Such a heightening of contact with the universe of things is traumatic. The auto mechanic is reduced to nausea and panic. He has experienced the worst of both sides of tool-being. He is stifled by the "oppressive totality" into which his tools have withdrawn for their "equipmental effect." But equally, he feels menaced by the "uprising" of his tools as "distinct elements," flaunting their autonomy and demanding his attention.

The double movement of tool-being – as both retreat and eruption – points to two alternative, but co-existing, ways in which things are forever escaping our grasp. What retreat and eruption have in common is that they are alike irreducible to any correlation of subject and object, or of human perceiver and world perceived. They are both modes of escape from presence, and from a human-centered context. If I cannot control and instrumentalize a thing, this is both because it draws me into extended referential networks whose full ramifications I cannot trace, and because its singularity, bursting forth, stuns me in excess of anything that I can posit about it. Retreat and eruption are both movements by means of which things demonstrate that there is more to them than we can gather of them. A thing can never be fully defined by any list, no matter how extended, of it characteristics and qualities. For beyond all these, it has its own autonomous power. As Jane Bennett puts it, "the capacity of these bodies [i]s not restricted to a passive 'intractability,' but also include[s] the ability to make things happen, to produce effects... All bodies become more than mere objects, as the thing-powers of resistance and protean agency are brought into sharper relief" (Bennett 2010, 5, 13).

Tool-being is therefore irreducible to use – in the same way, and for the same reasons, that it is irreducible to presence. And this has a further, perhaps surprising, consequence. When objects encounter one another, the basic mode of their relation is neither theoretical nor practical, and neither epistemological nor ethical. Rather, before either of these, every relation among objects is an aesthetic one. As Harman puts it, "aesthetics becomes first philosophy" (Harman 2007b, 205). For aesthetics is about the singularity and supplementarity of things. That is to say, it has to do with things insofar as they cannot be cognized, or subordinated to concepts; and also insofar as they cannot be utilized, or normatively regulated, or defined according to rules. No matter how deeply I comprehend a thing, and no matter how pragmatically or instrumentally I make use of it, there is still something of it that escapes my categorizations. Even when I obliterate a thing, or consume it utterly, there is still something of it that I have not managed to incorporate, some force to it that I have not been able to subsume. Aesthetics involves feeling an object for its own sake, beyond those aspects of it that can be understood or used. The thing withdraws into its network, luring me into the shadows; and it bursts forth in a splendour that dazzles and blinds me. In these cases, the understanding is frustrated, and the will reaches the limits of its power. It is only aesthetically, beyond understanding and will, that I can appreciate the actus of the thing being what it is, in what Harman calls "the sheer sincerity of existence" (Harman 2005, 135).

The dazzlement of things bursting forth is what Harman calls *allure*: the sense of an object's existence apart from, and over and above, its own qualities (Harman 2005, 142-144). Allure has to do with the showing-forth of that which is, strictly speaking, inaccessible; it "invites us toward another level of reality" (179). In the event of allure, I encounter the very *being* of a thing, beyond all definition or correlation. I am forced to acknowledge its integrity, entirely apart from me. Such an encounter alters the parameters of the world, tearing apart "the contexture of meaning," and rupturing every consensus. It introduces what Whitehead would call a *novelty*: a new entity, something that does not belong to the already-said, and does not sit well within any previously-agreed-upon horizon. For Harman, allure is therefore "the engine of change within the world" (179).

But there is also a kind of aesthetic event that has to do with the retreat of things beyond our grasp, and "into the work of an unnoticed background." This is what we might call metamorphosis, in contrast to allure. Metamorphosis is a kind of wayward attraction, a movement of withdrawal and substitution, a continual play of becoming. In metamorphosis, it is not the thing itself that attracts me, over and above its qualities; it is rather the very unsteadiness of the thing that draws me onward, as it ripples and shifts in a kind of protean wavering. All of the thing's attributes become unstable, as it slips and slides beneath them, retreating into the background, relating and referring beyond my capacity to follow. Metamorphosis thus reflects the way that, as Whitehead puts it, "every actual entity is present in every other actual entity" (Whitehead 1929/1978, 50). In the movement of allure, the web of meaning is ruptured, as the thing emerges violently from its context; but in the movement of metamorphosis, the web of meaning is multiplied and extended, echoed and distorted, propagated to infinity, as the thing loses itself in the network of its own ramifying traces. The auto mechanic in "The Universe of Things" is overwhelmed by both of these movements at once.

Both allure and metamorphosis are instances of what Whitehead calls "lures for feeling" (1929/1978, 25, 184, and passim). This is one of Whitehead's most peculiar expressions, but I think that it well describes the basis of aesthetic attraction (and repulsion). A *lure* is anything that, in some way, works to capture my attention. It may entice me, or incite me, or seduce me, or tempt me, or compel me, or even bludgeon and bully me. But in any case, it addresses me from beyond. The lure is what Whitehead calls a *proposition*. Whitehead defines propositions (of which logical propositions are only a special case) as "tales that perhaps might be told about particular actualities" (256). In other words, a proposition proposes

some sort of *potentiality* to me; it holds forth the prospect of a difference. And this potentiality or difference is always anchored in some "particular actuality," in an actual thing or a group of things.

Whitehead thus agrees with Husserl, Heidegger, and Harman that I do not encounter things just as bare packets of sensa, or as present-at-hand bundles of qualities. Rather, we should say that things *proposition* me, or that they offer me a certain "promise of happiness" (to cite Stendhal's famous description of beauty). The qualities of a thing – or more precisely, what Whitehead calls the "eternal objects" that are incarnated in it – are only the bait that the thing holds out to me, in order to draw me toward it. It may be that a particular thing dazzles me when it rises up from the depths; or it may be that it intrigues and bemuses me, by withdrawing into endless labyrinths. But in either case, a lure has been "*proposed for feeling*, and when admitted into feeling it constitutes *what is felt*" (Whitehead 1929/1978, 187). When I respond to a lure – and even if I respond to it negatively, by rejecting it – I am led to envision a possibility, or to "entertain a proposition" (188), and thereby to *feel* something that I would not have felt otherwise.

I think that the question of *feeling* is central here. Entities generally do not "know" one another; Harman is entirely right to say that a thing's reality is "irreducible to what is perceived of it" (Harman 2005, 187), and that, when objects meet, they "fail to exhaust one another's reality" (188). But this cognitive and pragmatic failure is not the end of the story. For Whitehead suggests that entities interact by "feeling" one another, even in the absence of knowledge and power. Things encounter one another aesthetically, and not just cognitively or practically. I always feel more of a thing than I actually know of it; and I feel it otherwise than I know it. To the extent that I *do* know an object, I am able to put it to use, to enumerate its qualities, to break it down into its constituent parts, and to trace the causes that have determined it. But feeling an object involves something else as well. I feel a thing when it affects me, or changes me. And what thus affects me is not just certain qualities of the thing, but its total and irreducible existence.

In Whitehead's terms, our always-incomplete knowledge of things comes in the form of the "well-marked familiar sensa" of "presentational immediacy" (Whitehead 1929/1978, 176). These are the ideas and impressions of the empiricists, the denumerable properties of an object. Presentational immediacy is the realm of Descartes' "clear and distinct" ideas; it is roughly equivalent to what Heidegger disparages as mere presence-at-hand. But things already affect one another prior to any such presentation of explicit qualities, in the mode of what Whitehead

calls "causal efficacy." In this mode, "the inflow into ourselves of feelings from enveloping nature overwhelms us; in the dim consciousness of half-sleep, the presentations of sense fade away, and we are left with the vague feeling of influences from vague things around us" (176).

It is only in the realm of presentational immediacy, with its inevitable limitations and failures, that we are faced with Harman's paradoxes of "sensual objects" that must be distinguished from real ones (Harman 2007b, 76-81), and of occasionalism or vicarious causation (Harman 2005, 169-234). In the realm of causal efficacy, we have rather to do with a sort of total contact, a promiscuous interchange among objects. These encounters cannot entirely be cognized; they are never clear and distinct, but always leave us "prey to vague feelings of influence" (Whitehead 1929/1978, 176). But the conceptual vagueness of these experiences does not lessen their power; quite the contrary. A feeling always involves some alteration of the one who feels. For Whitehead, experience is being; what an entity feels is what that entity is. This means that, as the result of "entertaining" a lure, I have somehow been transformed – whether grandly or minutely. I have selected one definite outcome from among "the penumbral welter of alternatives" (187). As a result, I have become – however slightly or massively – a different entity from the one that I was before this happened. I am no longer the same as I might have been, had I not been moved by this particular "flash of novelty" (184).

There is more than a hint of Romanticism in Whitehead's notion of causal efficacy, just as there is in Heidegger's related notion of a world of equipment, forming "a single gigantic system of references" (Harman 2007a, 62). The withdrawal of things into an ever-ramifying network of traces has much in common with the early-nineteenth-century Romantic idea of nature – although today we should rather associate it with the mediasphere, or with the global financial network; or else with the World Wide Web, especially as it develops into what Bruce Sterling has felicitously called the "Internet of Things" (Sterling 2005, 92-94). Whitehead makes this link to Romanticism explicit, when he points up the way that "the irresistible causal efficacy of nature presses itself upon us; in the vagueness of the low hum of insects in an August woodland, the inflow into ourselves of feelings from enveloping nature overwhelms us" (Whitehead 1929/1978, 176). This vague sense of total envelopment is not peculiar to human beings; it extends throughout the natural world, and is felt by animals and plants (176). Indeed, Whitehead claims that even inorganic entities experience something like an "influx of feeling," at least in the form of flows of energy, because "all fundamental physical qualities are *vector* and not *scalar*" (177).

In *Science and the Modern World* (1925/1967), Whitehead considers the Romantic idea of nature at greater length. He does this in a chapter ("The Romantic Reaction," 75-94) that includes a discussion of several British Romantic works. (This is one of the very rare cases in which Whitehead cites literary texts, instead of philosophical ones). One of the works that Whitehead examines is Percy Bysshe Shelley's poem "Mont Blanc" – the very text that provided Gwyneth Jones with the title for her short story. Shelley's poem begins with a description of how

The everlasting universe of things Flows through the mind,

and it continues with an evocation of

My own, my human mind, which passively Now renders and receives fast influencings, Holding an unremitting interchange With the clear universe of things around.

Whitehead remarks that, in spite of this poem's "explicit reference to some form of idealism," nonetheless Shelley "is here an emphatic witness to a prehensive unification as constituting the very being of nature" (86). I think that this comment is worth unpacking. For *idealism*, we might today read *correlationism*; for the poem explicitly explores correspondences between the human mind as perceiving subject, and the outside world as that which is perceived. Whitehead leaves it an open question as to whether Shelley's idealism is "Kantian or Berkeleyan or Platonic" (86); subsequent scholarship suggests that Shelley rather advocated a kind of empiricism-turned-sceptical-idealism, derived from William Drummond, a now largely forgotten disciple of Hume (Pulos 1954). But in any case, the poem displays an overwhelming concern with subject/object dualism.

However, Whitehead suggests that the rhetoric of "Mont Blanc" undermines its apparent empiricism and idealism. For the poem states that it is actually "things" themselves – rather than their representations in the form of ideas or impressions – that flow through the mind. Shelley's insistence upon a universe of actually existing *things* goes against the subjectivism and sensationalism of the rest of the poem, and of British empiricism more generally. (Whitehead defines *subjectivism* 

as the notion "that the datum in the act of experience can be adequately analysed purely in terms of universals," and sensationalism as the notion "that the primary activity in the act of experience is the bare subjective entertainment of the datum, devoid of any subjective form of reception" – 1929/1978, 157). To the extent that the poem envisions a "universe of things," it suggests that we perceive and respond to objects themselves: to the actus of their being what they are. We do not just analyze them in terms of universals, by adding up and associating atomistic "ideas." My sense that "this stone is grey," for instance, is not a primary datum of experience, but only "a derivative abstraction" (160). Implicitly for Shelley, as explicitly for Whitehead, all our mental impressions refer and belong to alreadyexisting things; "the operations of the mind originate from ideas 'determined' to particular existents" (138). We do not just passively receive a series of bare, isolated sensa; rather, we actually do encounter Mont Blanc, with its surrounding glaciers and woods and waterfalls. The Romantic experience of nature points us towards Whitehead's claim "that there are many actual existents, and that in some sense one actual existent repeats itself in another actual existent" (139).

"Mont Blanc" subverts its own explicit thematics in other ways as well. On one level, the poem is clearly sensationalist and correlationist; it posits a subject/object binary, with "my own, my human mind" passively registering impressions from "the clear universe of things around." But at the same time, the poem also suggests that not just "my human mind," but all entities without exception, engage in the "unremitting interchange" of rendering and receiving "fast influencings." This is what leads Whitehead to say that nature, for Shelley, is "in its essence a nature of organisms" (Whitehead 1925/1967, 85), each of them separately perceiving, interacting with, and integrating its feelings of all the rest. More generally, Whitehead insists that "both Shelley and Wordsworth emphatically bear witness that nature cannot be divorced from its aesthetic values; and that these values arise from the cumulation, in some sense, of the brooding presence of the whole onto its various parts" (86-88). These "aesthetic values" involve both allure and metamorphosis. Mont Blanc allures us, as it "gleams on high," manifesting a Power that "dwells apart in its tranquility,/ Remote, serene, and inaccessible." But this solitary, vacuum-sealed Power is also an actor in a vast web of interconnections: a force of metamorphosis that "rolls its perpetual stream" through all things, exceeding "the limits of the dead and living world," and even potentially working "to repeal/ Large codes of fraud and woe." The separation of entities, and their "cumulation" or interpenetration, are two sides of the same coin; they are alike irreducible to subjectivism, sensationalism, and simple presence.

The interpenetration and "cumulation" of things in nature explains why, as Whitehead concedes, we often experience causal efficacy in the form of "vague terrors" (Whitehead 1929/1978, 176). We are made uneasy when we feel "the haunting presences of nature" (Whitehead 1925/1967, 83), without quite knowing what they are. Things are just too suffocatingly close for us to be able to regard them as manipulable, or understandable, or present-at-hand. The intimacy of things is always discomfiting and uncanny; it can easily seem obscene and directly menacing, as it does to Gwyneth Jones's mechanic. Marshall McLuhan, in his account of oral, networked cultures, similarly suggests that "terror is the normal state" of a situation in which "everything affects everything all the time" (1962, 32). For Whitehead, things both differentiate themselves absolutely from one another, and refer themselves incessantly to one another. The terror of interconnection is a kind of inverse, like a photographic negative, of the "satisfaction" with which an entity uniquely constitutes itself "into a completely determinate matter of fact" (Whitehead 1929/1978, 212).

Whitehead thus insists upon both the integrity of "particular existents," and "the brooding presence of the whole" of nature. This double assertion corresponds to the way that all entities perform a double movement of allure and metamorphosis, of bursting forth and slipping away, of displaying their absolute singularity and retreating into a maze of references and transformations. Each entity is "fully determinate" in and of itself (Whitehead 1929/1978, 26); and yet they all belong to a common world (Whitehead 1925/1967, 88-89). "The actual elements perceived by our senses are in themselves the elements of a common world," Whitehead says; "this world is a complex of things, including indeed our acts of cognition, but transcending them" (88). We find ourselves always already "within a world of colours, sounds, and other sense-objects, related in space and time to enduring objects such as stones, trees, and human bodies. We seem to be ourselves elements of this world in the same sense as are the other things which we perceive" (89). Things remain distinct from one another; but they are all "elements... in the same sense" of the same common world. This insistence is what links Whitehead to Deleuze, who also maintains that "being is said in a single and same sense" of all entities, even as these entities retain their difference from one another (Deleuze 1994, 42). The double movement of withdrawal and belonging is what makes possible a "democracy of objects" (as Levi Bryant beautifully calls it). Or, as Whitehead puts it in *Process and Reality*, in a phrase that both refers back to and expands upon William James, "we find ourselves in a buzzing world, amid a democracy of fellow creatures" (Whitehead 1929/1978, 50).

I conclude with three brief points about this democracy of fellow creatures, this universe of things. The first point has to do with anthropomorphism, the second with vitalism, and the third with panpsychism. In the first place, throughout this discussion I have freely used the first person, addressed issues of perception, knowledge, and feeling, and argued for the primacy of aesthetics. Does this not mean that I assume a human model after all, despite my rejection of anthropocentrism and correlationism? The answer is that, for Whitehead, as for object-oriented ontology, perception, feeling, and aesthetics are universal structures, not specifically human ones. As Harman nicely puts it: "for Whitehead...humans have no privilege at all; we can speak in the same way of the relation between humans and what they see and that between hailstones and tar" (Harman 2009, 124). This also means that aesthetics as a mode of contact between beings "belongs to ontology as a whole, not to the special metaphysics of animal perception" (Harman 2007b, 205). If all entities inhere in the world "in the same sense," then we must describe this inherence in the same way for all of them.

But if I am to conceive a hailstone in the same way that I do a human subject, then my only alternatives are eliminativism and anthropomorphism. I can always follow the Churchlands, dismissing all accounts of human experience as misleading "folk psychology," and adopting the same reductive physicalist language to describe human behavior as scientists use to describe the phase changes of water. But if, together with Whitehead, I refuse to "indulge in brilliant feats of explaining away" (Whitehead 1929/1978, 17), then I must accept that the categories I use to describe myself are also valid for the hailstone. It has its own point of view, just as I do; and that it somehow feels the tar with which it comes into contact, much as I do. As I have already noted, Whitehead "attributes 'feeling' throughout the actual world" (177) – though he doesn't claim that a hailstone's feelings are conscious in the way that a human being's are. The point is that a certain cautious anthropomorphism is necessary, in order to avoid anthropocentrism. I attribute feelings to hailstones, precisely in order to get away from the pernicious dualism that would insist that human beings alone (or at most, human beings together with some animals) have feelings, while everything else does not. As Jane Bennett puts it, "maybe it is worth running the risks associated with anthropomorphism (superstition, the divinization of nature, romanticism) because it, oddly enough, works against anthropocentrism: a chord is struck between person and thing, and I am no longer above or outside a nonhuman 'environment.' Too often the philosophical rejection of anthropomorphism is bound up with a hubristic demand that only humans and God can bear any traces of creative agency" (Bennett 2010, 120).

In the second place, if all entities have feelings and exert agency, this means that they are all – at least to a certain extent – vital, active and creative. This cuts against some of our most fundamental prejudices. Karen Barad observes that "the inanimate-animate distinction is perhaps one of the most persistent dualisms in Western philosophy and its critiques; even some of the most hard-hitting critiques of the nature-culture dichotomy leave the animate-inanimate distinction in place. It takes a radical rethinking of agency to appreciate how lively even 'dead matter' can be" (Barad 2007, 419). Getting rid of the living/nonliving distinction means that – as Jane Bennett puts it – we can accept "neither vitalism nor mechanism" (Bennett 2010, 62-81). Nineteenth-century vitalism, for instance, insisted upon "a qualitative difference between entelechy-infused life and inorganic matter" (73). The former was supposed to be active and goal-oriented, whereas the latter was regarded as passive and mechanistic. But twentieth- and twenty-first-century science makes this sort of distinction untenable. On the one hand, biochemistry since the discovery of the structure of DNA has shown that life activities are continuous with other physical and chemical processes; on the other hand, complexity theory and systems theory (not to mention quantum mechanics) have shown that even inorganic physical processes cannot be accurately conceived in traditionally mechanistic terms. Modern science discredits traditional vitalism, but it doesn't leave traditional mechanistic materialism in a much better position.

Contemporary philosophers of science have, of course, constructed reductionist theories that are no longer "mechanistic" in the old sense (e.g. Ladyman and Ross 2009). However, if we are to accept the ontological dignity of things, and do not reduce them to being just the illusory effects of quantum fields, then I think that we need to accept some sort of non-dualistic neo-vitalism, or what Jane Bennett calls vital materialism: the idea that "every thing is entelechial, life-ly, vitalistic" (Bennett 2010, 89). Whitehead similarly suggests that "there is no absolute gap between 'living' and 'non-living' societies" (Whitehead 1929/1978, 102); moreover, "we do not know of any living society devoid of its subservient apparatus of inorganic societies" (103). "Life" is therefore a matter of degree, of a more and a less; it can only be identified relatively and situationally. There are many intermediate cases between life and nonlife: think of viruses, or of computer-based "artificial life." Even the simplest physical processes are more lively than we often realize; and even the most unambiguously living processes are always embedded within, and inextricably entangled with, comparatively nonliving ones. Vitality is unevenly distributed, but it is at work everywhere. This is why the "democracy of objects" is also a "democracy of fellow creatures."

In the third place, and most controversially, I think that vital materialism and object-oriented ontology both entail some sort of panexperientialism or panpsychism. This is obviously not a step to be taken lightly; it can easily get one branded as a crackpot. Most metaphysicians today, analytic or continental, science-oriented or not, tend to reject panpsychism out of hand. Indeed, in my own recent book on Whitehead, I was overly quick to deny the panpsychist implications of his thought (Shaviro 2009, 28). I now think that my denial was wrong. For one thing, as David Skrbina has argued at great and persuasive length, panpsychism has a long history in, and is deeply embedded within, Western thought (Skrbina 2005). For another, panpsychism has recently come to be entertained by thinkers of various persuasions, including analytic philosophers like Galen Strawson (2006) and to some extent David Chalmers (1997).

In the terms that I have set forth here, aesthetic experience is always asymmetrical; it needs to posed in terms of a subject, as well as an object. A world of objects is really a world of experiencings; as Whitehead insists, "apart from the experience of subjects there is nothing, nothing, nothing, bare nothingness" (Whitehead 1929/1978, 167). For Whitehead, "each actuality is essentially bipolar, physical and mental" (108); every actual entity has a "mental pole," at least incipiently. If we are to reject both the correlationist view that "the subject does not belong to the world: rather, it is a limit of the world" (Wittgenstein 2001, 5.632), and the eliminativist view that the subject is literally "no one" (Metzinger 2004), then we must discover an immanent sense of subjectivity, or at least of some mode of 'having-experience.' And if we accept Whitehead's ontological principle, that "there is nothing that floats into the world from nowhere" (Whitehead 1929/1978, 244), or Strawson's argument against radical emergence (Strawson 2006, 12-21), then we must at least be open to the prospect that 'having-experience' is already intrinsic to all existing actual entities. I will not argue this proposition any further here, but I wish to leave it as a lure for thought, a prospective consequence of the fact that we find ourselves in a universe of things.

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