THE FIRST THREAD

Each outcry from the hunted Hare
A fibre from the Brain does tear

What is happening?

> The field had already been "opened" . . . a lane a few feet wide had been hand-cut through the wheat along the whole circumference of the field for the first passage of the horses and machine.
>
> Two groups, one of men and lads, the other of women, had come down the lane just at the hour when the shadows of the eastern hedge-top struck the west hedge midway, so that the heads of the groups were enjoying sunrise while their feet were still in the dawn . . .
>
> Presently there arose from within a ticking like the love-making of the grasshopper. The machine had begun, and a moving concatenation of three horses and the aforesaid long rickety machine was visible over the gate. . . . Along one side of the field the whole wain went, the arms of the mechanical reaper revolving slowly . . .
>
> The narrow lane of stubble encompassing the field grew wider with each circuit, and the standing corn was reduced to a smaller area as the morning wore on. Rabbits, hares, snakes,

rats, mice, retreated inwards as into a fastness, unaware of the ephemeral nature of their refuge, and of the doom that awaited them later in the day when, their covert shrinking to a more and more horrible narrowness, they were huddled together . . . till the last few yards of upright wheat fell also under the teeth of the unerring reaper, and they were every one put to death by the sticks and stones of the harvesters.

The reaping-machine left the fallen corn behind it in little heaps, each heap being of the quantity for a sheaf; and upon these the active binders in the rear laid their hands—mainly women, but some of them men . . .

[The women] were the most interesting of this company of binders, by reason of the charm which is acquired by woman when she becomes part and parcel of outdoor nature. . . . A field-man is a personality afield; a field-woman is a portion of the field; she had somehow lost her own margin . . . and assimilated herself with it.

. . . There was one wearing a pale pink jacket . . .

Her binding proceeds with clock-like monotony. From the sheaf last finished she draws a handful of ears, patting their tips with her left palm to bring them even. Then, stooping low, she moves forward, gathering the corn with both hands against her knees, and pushing her left gloved hand under the bundle to meet the right on the other side, holding the corn in an embrace like that of a lover. She brings the ends of the bond together, and kneels on the sheaf while she ties it, beating back her skirts now and then when lifted by the breeze. A bit of her naked arm is visible . . . and as the day wears on its feminine smoothness becomes scarified by the stubble and bleeds.[1]

It's the machine age, yet uncannily it isn't: it's fields and wheat. Or are the fields already a kind of machine? People appear as machine-like components, legs, clothing, arms, and hands moving. Tess of the

D'Urbervilles, a fictional farming girl from 1891, appears as if she were a piece of a gigantic device, yet she also as a human individual, exemplifying a weird contradiction between being and appearing.[2] Seeing this contradiction, enabled by the machination of steam engines and Kantian code, forces us to think a far, far older machination, still churning. A twelve-thousand-year structure, a structure that seems so real we call it Nature. The slowest and perhaps most effective weapon of mass destruction yet devised.[3]

What is dark ecology?[4] It is ecological awareness, dark-depressing. Yet ecological awareness is also dark-uncanny. And strangely it is dark-sweet. Nihilism is always number one in the charts these days. We usually don't get past the first darkness, and that's if we even care. In this book we are going to try to get to the third darkness, the sweet one, through the second darkness, the uncanny one. Do not be afraid.

What thinks dark ecology? *Ecognosis*, a riddle. Ecognosis is like knowing, but more like letting be known. It is something like coexisting. It is like becoming accustomed to something strange, yet it is also becoming accustomed to strangeness that doesn't become less strange through acclimation. Ecognosis is like a knowing that knows itself. Knowing in a loop—a *weird* knowing. *Weird* from the Old Norse *urth*, meaning twisted, *in a loop*.[5] The Norns entwine the web of fate with itself; Urðr is one of the Norns.[6] The term *weird* can mean *causal:* the winding of the spool of fate. The less well-known noun *weird* means *destiny* or *magical power* and, by extension, the wielders of that power, the Fates or Norns.[7] In this sense *weird* is connected with *worth*, not the noun but the verb, which has to do with *happening* or *becoming*.[8]

Weird: a turn or twist or loop, a turn of events. The milk turned sour. She had a funny turn. That weather was a strange turn-up for the book. Yet *weird* can also mean *strange of appearance*.[9] That storm cloud looks so weird. She is acting weird. The milk smells weird. Global weirding.

In the term *weird* there flickers a dark pathway between causality and the aesthetic dimension, between doing and appearing, a pathway that dominant Western philosophy has blocked and suppressed. We

shall be traveling down this pathway because it provides an exit route from the machinelike functioning of Tess's field. Now the thing about seeming is that seeming is never quite as it seems. *Dark Ecology* is going to argue that appearance is always strange. We discern yet another pathway, a route between the term *weird* and the term *faerie*.[10] *Faerie* also comes from a word for *fate* and suggests a "supernatural" illusion-like magical appearance as well as a kind of "unearthly" realm:

> weird << *urth* (Norse) = Norn = twisting fate = *fatum* (Latin) >> fay >> faerie

Though the web of fate is so often invoked in tragedy, that default agricultural mode, words such as *weird* and *faerie* evoke the animistic world within the concept of the web of fate itself. The dark shimmering of *faerie* within *fate* is a symptom of what *Dark Ecology* is going to attempt. We are going to try to see how we Mesopotamians have never left the Dreaming. So little have we moved that even when we thought we were awakening we had simply gathered more tools for understanding that this was in fact a lucid dream, even better than before.

Weird weirdness. Ecological awareness is weird: it has a twisted, looping form. Since there is no limit to the scope of ecological beings (biosphere, solar system), we can infer that all things have a loop form. Ecological awareness is a loop because human interference has a loop form, because ecological and biological systems are loops. And ultimately this is because to exist at all is to assume the form of a loop. The loop form of beings means we live in a universe of finitude and fragility, a world in which objects are suffused with and surrounded by mysterious hermeneutical clouds of unknowing. It means that the politics of coexistence are always contingent, brittle, and flawed, so that in the thinking of interdependence at least one being must be missing. Ecognostic jigsaws are never complete.

What kind of weirdness are we talking about? Weird weirdness. Weird means *strange of appearance*; weirdness means the *turning* of causality. Let's focus this idea by thinking about the many kinds of ecological loops. There are *positive feedback loops* that escalate the potency of the system in which they are operating. Antibiotics versus bacteria. Farmers versus soil, creating the Dust Bowl in the Midwestern United States in the 1930s. Such loops are common in human "command and control" approaches to environmental management, and they result in damage to ecosystems.[11] Some of them are unintended: consider the decimation of bees in the second decade of the twenty-first century brought on by the use of pesticides that drastically curtail pollination.[12] Such unintended consequences are *weirdly weird* in the sense that they are uncanny, unexpected fallout from the myth of progress: for every seeming forward motion of the drill bit there is a backward gyration, an asymmetrical contrary motion.

Then there are the *negative feedback loops* that cool down the intensity of positive feedback loops. Think of thermostats and James Lovelock's Gaia. There are *phasing loops*. We encounter them in beings such as global warming, beings that are temporally smeared in such a way that they come in and out of phase with human temporality. (This book is going to call it *global warming*, not *climate change*.)[13]

Yet there is another loop, the dark-ecological loop: a *strange loop*. A strange loop is one in which two levels that appear utterly separate flip into one another. Consider the dichotomy between moving and being still. In Lewis Carroll's haunting story, Alice tries to leave the Looking Glass House. She sets off through the front garden, yet she finds herself returning to the front door via that very movement.[14] A strange loop is weirdly weird: a turn of events that has an uncanny appearance. And this defines emerging ecological awareness occurring to "civilized" people at this moment.

Two kinds of weird: a turning and a strange appearing, and a third kind, the weird gap between the two. The Anthropocene names two levels we usually think are distinct: geology and humanity. Since the

late eighteenth century humans have been depositing layers of carbon in Earth's crust. In 1945 there occurred the *Great Acceleration* of the Anthropocene, marked by a huge data spike in the graph of human involvement in Earth systems. The Anthropocene binds together human history and geological time in a strange loop, weirdly weird. Consider how personal this can get. There you were, shoveling coal into your steam engine, that great invention patented in 1784 that Marx hails as the driver of industrial capitalism. The very same machine that Paul Crutzen and Eugene Stoermer hail as the instigator of the Anthropocene.[15] The year 1784 is not the earliest date for a steam engine patent, but the language of the 1784 patent describes the engine as a general-purpose machine that can be connected to any other machine in order to power it. This general-purpose quality enables the industrial *turn*.

There you are, turning the ignition of your car. And it creeps up on you. You are a member of a massively distributed thing. This thing is called *species*. Yet the difference between the weirdness of my ignition key twist and the weirdness of being a member of the human species is itself weird. Every time I start my car or steam engine I don't mean to harm Earth, let alone cause the Sixth Mass Extinction Event in the four-and-a-half billion-year history of life on this planet.[16] (Disturbingly, the most severe extinction so far in Earth history, the End-Permian Extinction, was very likely caused by global warming.)[17] Furthermore, I'm not harming Earth! My key turning is statistically meaningless. In an individual sense this turn isn't weird at all.

But go up a level and something very strange happens. When I scale up these actions to include billions of key turnings and billions of coal shovelings, harm to Earth is precisely what is happening. I am responsible as a member of this species for the Anthropocene. Of course I am formally responsible to the extent that I understand global warming. That's all you actually need to be responsible for something. You understand that this truck is going to hit that man?

You are responsible for that man. Yet in this case formal responsibility is strongly reinforced by causal responsibility. I am the criminal. And I discover this via scientific forensics. Just like in noir fiction: I'm the detective *and* the criminal! I'm a person. I'm also part of an entity that is now *a geophysical force on a planetary scale*.[18]

The darkness of ecological awareness is the darkness of noir, which is a strange loop: the detective is a criminal. In a strong version of noir the narrator is implicated in the story: two levels that normally don't cross, that some believe *structurally can't cross*. We "civilized" people, we Mesopotamians, are the narrators of our destiny. Ecological awareness is that moment at which these narrators find out that they are the tragic criminal.

And what an astonishing reversal, what a twist or as Aristotle says about tragic downfalls, what a *peripeteia*—which technically is the moment at which a runner turns around a post in an ancient Greek stadium. A turn, a twist—something weird. What an astounding upsetting of our modern and postmodern fictions about the human and "the West." There are so many fictions that enumerating them all would take too long: just consider a central one having to do with our thoughts about where we live, the planet we inhabit. We have been telling ourselves that homogeneous empty "space" has conquered localized, particular "place." We are either the kind of person who thinks that the category of place is a quaint antique or we are the kind of person who thinks that the category is worth preserving because it *is* antique.[19] In a certain way, we are the same kind of person.

Many have pronounced the death of place since the 1970s. In literary studies the announcement has gone hand in hand with the language of textuality versus speech.[20] Our habitual talk pits speech (presence, villages, the organic, slow time, traditions) against textuality (dissolution, speed, modern, and postmodern technocultures). Yet the coordinates are terribly out of date. In a twist no one saw coming (because we weren't looking outside the human), space has by no means conquered place. That postmodern meme

was simply a late symptom of the modern myth of transcending one's material conditions.

Exactly the opposite has occurred. From the standpoint of the genuinely post-modern ecological era, what has collapsed is (the fantasy of empty, smooth) *space*.[21] "Space" has revealed itself as the convenient fiction of white Western imperialist humans, just as relativity theory revealed Euclidean geometry to be a small human-flavored region of a much more liquid Gaussian spacetime. The Euclidean concept that space is a container with straight lines is good enough to be getting on with if you want to voyage around the coast of Africa to reach the Spice Islands. *Space* in this sense has collapsed, and *place* has emerged in its truly monstrous uncanny dimension, which is to say its nonhuman dimension. How? Now that the globalization dust has settled and the global warming data is in, we humans find ourselves on a very specific planet with a specific biosphere. It's not Mars. It is planet Earth. Our sense of planet is not a cosmopolitan rush but rather the uncanny feeling that there are all kinds of places at all kinds of scale: dinner table, house, street, neighborhood, Earth, biosphere, ecosystem, city, bioregion, country, tectonic plate. Moreover and perhaps more significantly: bird's nest, beaver's dam, spider web, whale migration pathway, wolf territory, bacterial microbiome. And these places, as in the concept of spacetime, are inextricably bound up with different kinds of timescale: dinner party, family generation, evolution, climate, (human) "world history," DNA, lifetime, vacation, geology; and again the time of wolves, the time of whales, the time of bacteria.

So many intersecting places, so many scales, so many nonhumans. Place now has nothing to do with good old reliable constancy. What has dissolved is the idea of *constant presence*: the myth that something is real insofar as it is consistently, constantly "there." The concept *space* was always a constant-presencing machine for making things appear consistent and solid, to make them easier to colonize, enslave, and plunder. Constant presence was part of an anthropocentric

colonization protocol. The planetary awareness vaguely imagined by white Western humans in fantasies about Spice Islands and global trade is now upon us, and it has nothing to do with the rush of deterritorialization, of finding oneself unbound and unhinged.[22] It is almost the opposite. One finds oneself on the insides of much bigger *places* than those constituted by humans. Whose place is it anyway?

It is *space* that has turned out to be the anthropocentric concept, now that we are able to think it without a myth of constant presence. Celebrations of deracination and nostalgia for the old ways are both fictional. It is as obvious to any indigenous culture as it now is to anyone with data sets about global warming that these were stories white Westerners were telling themselves, two sides of the same story in fact. The ecological era is the revenge of place, but it's not your grandfather's place. This isn't some organic village we find ourselves in, nor indeed a city-state surrounded by fields.

Place has a strange loop form because place deeply involves time. Place doesn't stay still, but bends and twists: place *is* a twist you can't iron out of the fabric of things. When you are near your destination you can sometimes feel quite disoriented. You may enhance the magnification on Google Maps to make sure you are really there. The local is far from the totally known or knowable. It is familiar, which also means that it is uncanny (German, *heimisch*, "familiar" and "unfamiliar," "intimate" and "monstrous" at the same time). Nearness does not mean obviousness: just ask someone looking at a dust mite down a scanning electron microscope. When massive entities such as the human species and global warming become thinkable, they grow near. They are so massively distributed we can't directly grasp them empirically. We vaguely sense them out of the corner of our eye while seeing the data in the center of our vision. These "hyperobjects" remind us that *the local is in fact the uncanny*.[23] Space evaporates. The nice clean box has melted. We are living on a Gaussian sphere where parallel lines do indeed meet. The empty void of space and the rush of infinity have been unmasked as parochial paradigms.

The holism in which the whole is greater than sum of its parts depends on some (false) concept of smooth, homogeneous universality or space or infinity. It depends, in short, on a Euclidean anthropocentric geometry. Since they do not fit into the quaint category of space, what hyperobjects reveal to us humans is that the whole is always weirdly *less* than the sum of its parts. Take the new cities springing up, megacities such as Houston. For architects and urban planners, megacities are hard to conceptualize: where do they start and stop? Can one even point to them in a straightforward way? And isn't it strange that entities so obviously gigantic and so colossally influential on their surroundings and economies worldwide should be so hard to point to? The fact that we can't point to megacities is deeply because we've been looking in the wrong place for wholes. We keep wondering when the pieces will add up to something much greater. But now that we are truly aware of the global (as in global warming), we know that a megacity is a place among places, that is to say a finitude that contains all kinds of other finitudes, fragile and contingent. Like Doctor Who's time-and-space-traveling, the TARDIS, it's bigger on the inside than it is on the outside. Places contain multitudes.

And this has a retroactive corrosive effect. There never was a constantly present, easy to identify whole, because there was never a general, homogeneous space box. When you look back at the earliest city-states such as Damascus, you end up seeing the same thing as the megacities: uncertain boundaries, centers that never quite establish themselves as centers . . . why? Is it just a case of historical projection? Or is it rather because the city and the city-state are major symptoms of a gigantic elephant in the room, the elephant that eventually caused globalization, with its global warming and its ironic by-product, awareness of global warming?

An inconvenient Anthropocene. Not all of us are ready to feel sufficiently creeped out. Not a day goes by recently without some humani-

ties scholars becoming quite exercised about the term *Anthropocene*, which has arisen at a most inconvenient moment. *Anthropocene* might sound to posthumanists like an anthropocentric symptom of a sclerotic era. Others may readily recall the close of Foucault's *The Order of Things*: "man" is like a face drawn in sand, eventually wiped away by the ocean tides.[24] What a weirdly prescient image of global warming, with its rising sea levels and underwater government meetings.[25] But how ironic—how strangely looped. There we were, happily getting on with the obliteration business, when *Anthropocene* showed up. The human returns at a geological level far deeper than sand. Give a posthumanist a break! This is also an inconvenient truth for those convinced that any hint of talk about reality smacks of reactionary fantasy, a bullying, know-nothing kick of a pebble.

The Sixth Mass Extinction Event: caused by the Anthropocene, caused by humans. Not jellyfish; not dolphins; not coral. The panic seems more than a little disingenuous given what we know about global warming, and given what we humanities scholars think we like to say about the role of humans in creating it, as opposed to, say, Pat Robertson or UKIP (the UK Independence Party). A Fredric Jameson might smile somewhat ruefully at the dialectic of scholars refusing the very concept of reality and big pictures, while global megacorporations frack in their backyards.

The ocean's silver screen. The trouble with global warming is that one can't just palm it off on a particular group of humans or insist that the Sixth Mass Extinction Event is just another construct. The humanities have persistently argued, via Foucault via Heidegger or Nietzsche or Marx via Hegel via Kant, that there are no accessible things in themselves, only thing-positings or thingings of Dasein or thing discourses or things posited by the history of spirit or will or (human) economic relations. Only things insofar as they correlate to some version of the (human) subject, which is why this thinking is

called correlationist.[26] But the screen on which these correlations are projected isn't blank after all. It consists of unique, discrete entities with a "life" of their own no matter whether a (human) subject has opened the epistemological refrigerator door to check them. Some entities violently treated as blank screens are overwhelming human being itself, as what the insurance industry calls *acts of God* turn out to be acts of humans as a geophysical force.

Foucault's face in the sand depicts the regime of power-knowledge that begins in 1800, another strange turn of events. Eighteen hundred is the moment of the steam engine, engine of the Anthropocene. Eighteen hundred is also the moment of Hume and Kant, who inaugurated correlationism. Hume argued that cause and effect were mental constructs based on interpretations of data: hence the statistical methods of modern science. Which is why global warming deniers and tobacco companies are able to say, with something like a straight face, that "no one has ever proved" that humans caused global warming or that smoking causes cancer.

In the same way a post-Humean person can't claim that this bullet she is going to fire into my head at point-blank range is going to kill me. She can say that it's 99.9 percent likely, which is actually *better* since saying so relies only on data, not on metaphysical factoids culled from Aristotelian arguments about final causes. Thus the Intergovernmental Panel on Climate Change (IPCC) makes it more and more clear that humans have caused global warming, but they need to express this as a statistic: as I'm writing it's at 97 percent.[27] Which leaves an out for conservatives who like to deny global warming by going, "Look at this snowball, so there's no global warming at all!" In addition to denying global warming, denials involving snowballs are denying the only causality theories that make sense to us.

How I learned to stop worrying and love the term "Anthropocene." Let's examine the modes of Anthropocene denial. First, the claim of

colonialism: the Anthropocene is the product of Western humans, mostly Americans. It unfairly lumps together the whole human race.

Although the desire for it first emerged in America, it turns out everyone wants air conditioning. On this issue I am in accord with Dipesh Chakrabarty, who had the courage to name the concept *species* on which the concept *Anthropocene* depends.[28] Likewise obesity isn't simply American. Americans are not like aspartame, ruining the natural sweetness of other humans. The deep reason why is that at no point in history did any human straightforwardly *need* something. Desire is logically prior to whatever "need" is, histories of consumerism notwithstanding, histories that tend to repeat Fall narratives not unrelated to the normal (and unhelpful) ways we think ecology: "First we needed things, then at point *x* we wanted things, and that put us into an evil loop." We think of loops as sin. But loops aren't sinful. There was no Fall, unless you believe in the Mesopotamian logic that eventually created global warming. There was no transition from "needing" to "wanting." Neanderthals would have loved Coca-Cola Zero.[29]

Secondly, racism. The user of *Anthropocene* is saying that humans as a race are responsible, and while this really means *white* humans, whites go unmarked.

There is such a thing as the human. But *human* need not be something that is ontically given: we can't see it or touch it or designate it as present in some way (as whiteness or not-blackness et cetera). There is no obvious, constantly present positive content to the human. So *Anthropocene* isn't racist. Racism exists when one fills in the gap between what one can see (beings starting engines and shoveling coal) and what this human thing is: the human considered as a species, namely as a hyperobject, a massively distributed physical entity of which I am and am not a member, simultaneously. (We'll see how there are Darwinian, phenomenological, and logical reasons for this violation of the "Law" of Noncontradiction). The racist effectively erases the gap, implicitly reacting against what Hume and Kant did to reality. Since their age we have thought it sensible that there is some kind

of irreducible rift between what a thing is and how it appears, such that science handles data, not actual things.

Copyright control. I am myself a correlationist, by which I mean that I accept Kant's basic argument that when I try to find the thing in itself, what I find are thing data, not the thing in itself. And I grasp that data in such a way that a thing does not (meaningfully) exist (for me) outside the way I (or history or economic relations or will or Dasein) correlate that data. I believe that there is a drastic *finitude* that restricts my access to things in themselves. The finitude is drastic because it is irreducible. I can't bust through it. This marks the difference between some speculative realists, who think you can puncture the finitude and enter a world of direct access, for instance via science, and those who don't think so, for instance the object-oriented ontologists.

Object-oriented ontology, or OOO, developed from a deep consideration of the implications of Martin Heidegger's version of modern Kantian correlationism. These implications would have seemed bizarre to Kant and Heidegger themselves, who in their different ways (transcendental idealism and fascism) tried to contain the explosive vision that their thinking unleashed. Ontology doesn't tell you exactly what exists but *how* things exist. If things exist, they exist in *this* way rather than *that*. Object-oriented ontology holds that things exist in a profoundly "withdrawn" way: they cannot be splayed open and totally grasped by anything whatsoever, including themselves. You can't know a thing fully by thinking it or by eating it or by measuring it or by painting it . . . This means that the way things affect one another (causality) cannot be direct (mechanical), but rather indirect or vicarious: causality is aesthetic. As strange as this sounds, the idea that causality is aesthetic is congruent with the most powerful causality theories (the Humean ones), and the most powerful theories of causality in physical science: relativity theory and (to an even greater extent) quantum theory. In a way that profoundly differs from the

demystification most popular in humanistic accounts of culture, politics, and philosophy (and so on), OOO believes that reality is *mysterious* and *magical*, because beings withdraw and because beings influence each other aesthetically, which is to say at a distance.[30]

If ecological culture and politics is about "the reenchantment of the world" as they say, then something like OOO could be highly desirable. In particular, the way in which OOO doesn't reject modern science and philosophy, but rather proceeds from them and somehow finds magic that way, is valuable indeed. We will be thinking through the ecological implications of the OOO view throughout *Dark Ecology*.

Finitude is the term that describes a world in which entities "withdraw" from direct access. Every kind of access—a philosopher thinking about a stone, a scientist smashing a particle, a farmer watering a tree—is profoundly limited and incomplete. And every type of *nonhuman* access—a thrush smashing a snail shell against a stone, an electron interacting with a photon, a tree absorbing water—is also profoundly limited. Kant was the philosopher who argued for this finitude, at least when it came to how *humans* access things. I don't believe that the finitude of the human-world correlate is incorrect. It can't be ripped open, even by something as seemingly sharp as mathematics.[31] When I mathematize a thing, there I am, mathematizing it—measuring it, for instance. Why this is so different a form of access than eating it or using it to paper my room is uncertain. The gap between the human and everything else can't be filled in, as racism tries to do.

There is a tactic we could adopt, a tactic deeply congruent with ecological politics. Kant grounded Hume's argument in synthetic judgments a priori in a transcendental subject (not "little me," the one I can see and touch). Only a correlator such as a (human) subject makes reality real. At the very moment at which philosophy says you can't directly access the real, humans are drilling down ever deeper into it, and the two phenomena are deeply, weirdly intertwined. Correlationism is true, but disastrous if restricted to humans only. Possibly more of a disaster than treating things as lumps is treating them

as *blank lumps* we can format as we wish. How to proceed? We should merely *release the anthropocentric copyright control on correlationism*, allowing nonhumans like fish (and perhaps even fish forks) the fun of not being able to access the in-itself.

On this view, whether the thing in itself becomes fish food or human food or something a human can measure, the thing remains in excess of those forms of access, and there is no intrinsic superiority of human ways of accessing the thing. This is the basic premise of object-oriented ontology: Kant was correct, but his anthropocentrism prevented him from seeing the most interesting aspects of his theory. We will see that these aspects could have a profound influence on the way we think the logic of future coexistence.

Very well, says the hesitant humanist. *Anthropocene* may not be colonialist or racist, but surely it must be a blatant example of speciesism? Isn't the term claiming that humans are special and different, unique in having created it?

Humans and not dolphins invented steam engines and drilled for oil. But this isn't a sufficient reason to suppose them special. Etymology notwithstanding, *species* and *specialness* are extremely different. Just ask Darwin. Unfortunately he had no recourse to emoticons, for if his masterwork's title had contained a wink emoticon at its end, he could have said it succinctly: there are no species—and yet there are species! And they have no origin—and yet they do! A human is made up of nonhuman components and is directly related to nonhumans. Lungs are evolved swim bladders. Yet a human is not a fish.[32] A swim bladder, from which lungs derive, is not a lung in waiting. There is nothing remotely lunglike about it.[33] Let alone my bacterial microbiome: there are more bacteria in "me" than "human" components. A lifeform is what Derrida calls *arrivant* or what I call *strange stranger*: it is itself yet uncannily not itself at the same time.[34] Contemporary science allows us to think species not as absolutely nonexistent, but as floating, spectral entities that are not directly, constantly present. *Spectral* is in some senses cognate with *species*.

The Darwinian concept of species is precisely not the Aristotelian one where you can tell teleologically what species are for: ducks are for swimming, Greeks are for enslaving barbarians . . . Since *species* in this sense fails to coincide with me, an actual human being as opposed to a pencil or a duck, the concept of species isn't speciesist. Like the racist, the speciesist fills out the gap between phenomenon and thing with a special paste: the fantasy of an easy-to-identify content. That sort of content is what one is incapable of seeing, yet there are ducks and spoonbills, which are not humans.

The seemingly anachronistic and dangerous concept *species* appears superficially easy to think: *Sesame Street* ("We Are All Earthlings") conveys it.[35] Yet for me to know via the very reasoning with which I discern the transcendental gap between data and things the being that manifests this reasoning—this knowing might be weirdly like a serpent in a loop, swallowing its own tail. It is a profound paradox that what appears to be the nearest—my existence qua this actual entity, the shorthand for which is *human*—is phenomenologically the most distant thing in the universe. The supermassive black hole located at Sagittarius A in the center of the Milky Way, is far closer to my thought than my being human. The Muppets and their ilk actually *inhibit* the necessary ecological thought: the uncanny realization that every time I turned my car ignition key I was contributing to global warming and yet was performing actions that were statistically meaningless. When I think myself as a member of the human species, I lose the visible, tactile "little me"; yet it wasn't tortoises that caused global warming.

Fourthly, some of us are anxious that *Anthropocene* is hubristic, elevating the human species by assuming it has godlike powers to shape the planet. This is, on the face of it, infuriating—unfortunately not all humanists feel infuriated, trained as they are to suspect anything with "human" in it (in particular the Greek for *man*) and anything that seems like upstart straightforwardness, like using "we" in a lecture just because you think it might draw people together (wait a minute). But consider how it would sound as a rather eyebrow-raising defense. Say

I caused a car accident that killed your parents and your best friend. In court, I argue that it would be hubristic to blame myself. It wasn't really me, it was my right arm, it was the bad part of my personality, it was my car. Eyebrow-raising, and perfectly isomorphic with one mode of reactionary global warming denial: how dare we assume that much power over Nature! Now imagine that I represent the human species in a court in which many lifeforms are deciding who caused global warming. Imagine the "hubris" defense: "It would be hubristic of me to take full responsibility—after all, it's mostly the fault of this bad aspect of me, it was just an accident, I wouldn't have done it if I'd been riding a bike rather then using an engine . . . " Saying that the analogy doesn't work because I'm an individual just means you still have trouble, like most of us, thinking the concept *species*—which is the real problem.

The fact that humans really have become a geophysical force on a planetary scale doesn't seem to prevent the anxious spirits from accusing the term of hubris. Quibbling over terminology is a sad symptom of the extremes to which correlationism has been taken. Upwardly reducing things to effects of history or discourse or whatever has resulted in a fixation on labels, so that using *Anthropocene* means you haven't done the right kind of reducing. But what if you are not in the upward reduction business? Scientists would be perfectly happy to call the era Eustacia or Ramen, as long as we agreed it meant humans became a geological force on a planetary scale. Don't like the word *Anthropocene*? Fine. Don't like the idea that humans are a geophysical force? Not so fine. But the two are confused in critiques of "the anthropos of the Anthropocene." Consider that the term deploys the concept *species* as something unconscious, never totally explicit. No one decided in 1790 to wreck the planet by emitting carbon dioxide and related gases. Moreover, what is called human is more like a clump or assemblage of things that are not strictly humans—without human DNA for instance—and things that are—things that do have human DNA. Humans did it, not jellyfish and not computers. But humans did it with the aid of beings that they treated as prostheses:

nonhumans such as engines, factories, cows, and computers—let alone viral ideas about agricultural logistics living rent-free in minds. The reduction of lifeforms to prosthesis and the machination of agricultural logistics *is* hubristic, and tragedy (from which the term *hubris* derives) is at least the initial mode of ecological awareness. But this doesn't mean we are *arrogant* to think so.

Anthropocene is about humans—a mess of lungs and bacterial microbiomes and nonhuman ancestors and so on—along with their agents such as cows and factories and thoughts, agents that can't be reduced to their merely human use or exchange value. This irreducibility is why these assemblages can violently disrupt both use and exchange value in unanticipated (unconscious) ways: one cannot eat a Californian lemon in a drought. Returning to the point about intentions and hubris, "we" did it *unconsciously*. Becoming a geophysical force on a planetary scale means that no matter what you think about it, no matter whether you are aware of it or not, there you are, *being* that. This distinction is lost on some of those who react against the term. One cannot be hubristic about one's heartbeat or autonomic nervous system.

The fact that it is far from hubristic is also why geoengineers are incorrect if they think *Anthropocene* means we now have carte blanche to put gigantic mirrors in space or flood the ocean with iron filings. The argument for geoengineering goes like this: "We have always been terraforming, so let's do it consciously from now on."[36] Making something conscious doesn't mean it becomes nice. We have always been murdering people. How is deliberate murder more moral? Psychopaths are exquisitely aware of the suffering they consciously inflict. In relation to lifeforms and Earth systems, humans have often played the role of the Walrus concerning the oysters:

"I weep for you," the Walrus said:
"I deeply sympathize."
With sobs and tears he sorted out
Those of the largest size,

Holding his pocket-handkerchief
Before his streaming eyes.[37]

Consider the Freudian-slippy absurdity of James Lovelock's analogy of Jekyll and Hyde for science and engineering. Lovelock calls us the "species equivalent" of Robert Louis Stevenson's characters. It would only be faintly parodic to paraphrase his argument thus: "Only big science can save us. We know big science acted like Mr. Hyde for the last two centuries, but please know, we have a kindly inner doctor Jekyll. Let us be Jekyll. Please. Please trust us, *trust us*."[38] Unaware of its tone, Lovelock's argument sounds exactly like Mr. Hyde, as does Jekyll's own self-justification in the novel.

Unless we think the concept species differently, which is to say think humankind as a planetary totality without the soppy and oppressive universalism and difference erasure that usually implies, we will have ceded an entire scale—the scale of the biosphere, no less—to truly hubristic technocracy, whose "Just let us try this" rhetoric masks the fact that when you "try" something at a general enough level of a system, you are not *trying* but *doing* and changing, for good.

In any case one can't get rid of the unconscious that easily. Here is a sentence analogous to "We have always been terraforming, so let's do it consciously now": "I know I'm an addict so now I'm going to drink fully aware of that fact." Being aware of "unconscious biases" is a contradiction in terms. And there is a still more salient ecological observation we can make about the unconscious. Ecology, after all, is the thinking of beings on a number of different scales, none of which has priority over the other. When scaled up to what Douglas Kahn happily calls *Earth magnitude*, my conscious actions have an *unconscious* result that I did not intend.[39] Even when I am fully aware of what I am doing, myself as a member of the human species is doing something I am not intending at all and couldn't accomplish solo even if I wished it.

Humans created the Anthropocene—humans devised modes of agriculture we glimpse in Thomas Hardy's *Tess of the D'Urbervilles* that now cover most of Earth and are responsible for an alarming amount of global warming emissions all by themselves, let alone the carbon-emitting industry that agricultural mode necessitated. Not bacteria, not lemons. Such a making had unintentional or unconscious dimensions. No one likes having their unconscious pointed out, and ecological awareness is all about having it pointed out. As if in a disturbingly literal proof of Freud's refutation of the idea that the unconscious is a region "below" or "within" consciousness, we find the unconscious style of a certain mode of human being sprayed all over what lies outside the human, the biosphere. This unconscious is decidedly *(geo) physical*. The hint that there is an outside untouched by our conscious or explicit statements about what or how we dispose ourselves intellectually or culturally has become shocking or even taboo to some humanities scholars, right at the very moment when it would be handy if we could all be putting some effort into thinking this outside.

There are some substitutes for the term *Anthropocene*. For instance, I have been advised to call it *Homogenocene*. But this is just a euphemism. *Homogenocene* is true: humans have stamped their impression on things they consider as ductile as wax, even if those things cry. Yet, in a more urgent sense, the concept is false and anthropocentric. The iron deposits in Earth's crust made by bacteria are also homogeneous. Oxygen, caused by an unintended consequence of bacterial respiration, is a homogeneous part of the air. Humans are not the only homogenizers. Likewise, Haraway's and Latour's suggestion that we call it the *Capitalocene* misses the mark.[40] Capital and capitalism are symptoms of the problem, not its direct causes. If the cause were capitalism, then Soviet and Chinese carbon emissions would have added nothing to global warming. Even the champions of distributed agency balk at calling a distributed spade a distributed spade.

The concept of species, upgraded from the absurd teleological and metaphysical versions of old, isn't anthropocentric at all. Because it

is via this concept, which is open, porous, flickering, distant from what is given to my perception, that the human is decisively deracinated from its pampered, ostensibly privileged place set apart from all other beings.[41]

"*Anthropocene*" *is the first fully antianthropocentric concept.*

Species at Earth Magnitude. When we scale up to Earth magnitude very interesting things happen to thinking. Some regularly suppose ecological statements to be universalistic generalizations: in large part they are adherents of capitalist economics, which finds the nonhuman structurally impossible to think, or Marxism, which doesn't find the nonhuman impossible to think—but which has imposed a host of inhibiting blocks to thinking the nonhuman. But thought at Earth magnitude isn't universalistic; it is highly accurate and specific. It is also deeply paradoxical in a way that reveals something basic to the structure of thought: a loop form.

I take Earth magnitude to mean "at a scale sufficient to open the concept *Earth* to full amplitude." Solar winds do this as they interact with Earth's magnetic shield and produce auroras. Global climate does this: the mass of terrestrial weather events are downwardly caused by a massive entity that exists at Earth magnitude. Human thought at Earth magnitude is human thinking that is as "large" as the aurora. It can think the aurora in such a way that its vastness is witnessed and opened in us. A single person can do this on the ground. You don't need to be a geostationary satellite or a scientist or an astronaut. Or a member of the UN or CEO of a global corporation.

We can now think species not as a thing we can point to, but as something like the aurora, a mysterious yet distinct, sparkling entity. It seems so easy: look, I'm a human, I'm not a duck or a doughnut. But this facile sense of ease is blocking something stupendously difficult: to follow and witness the being owing to which thinking is happening. Thinking goes into a loop. And the loop could be endless or not—we

don't know yet and we might be pushing against the limits of computability if we try to know whether we will be looping forever. The thinking becomes a weird openness rather than cataloging and classifying, because it cannot presuppose a preformatted being as its content.

The Anthropocene is an antianthropocentric concept because it enables us to think the human species not as an ontically given thing I can point to, but as a hyperobject that is real yet inaccessible.[42] Computational power has enabled us to think and visualize things that are ungraspable by our senses or by our quotidian experience. We live on more timescales than we can grasp. Naomi Klein's description of global warming is good for hyperobjects in general: "Climate change is slow, and we are fast. When you are racing through a rural landscape on a bullet train, it looks as if everything you are passing is standing still: people, tractors, cars on country roads. They aren't, of course. They are moving, but at a speed so slow compared with the train that they appear static."[43] We are faced with the task of thinking at temporal and spatial scales that are unfamiliar, even monstrously gigantic. Perhaps this is why we imagine such horrors as nuclear radiation in mythological terms. Take Godzilla, who appears to have grown as awareness of hyperobjects such as global warming has taken hold. Having started at a relatively huge 50 meters, by 2014 he had reached a whopping 150 meters tall.[44] Earth magnitude is bigger than we thought, even if we have seen the NASA Earthrise photos, which now look like charming and simplistic relics of an age in which human hubris was still mostly unnoticed—relics of, precisely, a "space age" that evaporates in the age of giant nonhuman places. We have gone from having "the whole world in our hands" and "I'd like to buy the world a Coke" to realizing that the whole world, including "little" us, is in the vicelike death grip of a gigantic entity—ourselves as the human species. This uncanny sense of existing on more than one scale at once has nothing to do with the pathos of cradling a beautiful blue ball in the void.

Charles Long's 2014 *Catalin* installation at The Contemporary, an art museum in Austin, Texas, derived from the idea of hyperobjects

some pieces Long calls *databergs*, impossible iceberglike chunks of absurdly disparate data: fatal car crashes in California versus fatal car crashes in Texas versus sea level rise observations and projections versus the U.S. unemployment rate for people over sixteen years old; fatal North American bear attacks versus Lamborghinis sold per year versus the percentage of jobs posted with *ninja* in the description or as an attribute versus quarterly global iPhone sales. . . . Such dizzying, hilarious icebergs of data are thinkable because hyperobjects are thinkable, hyperobjects that are melting actual icebergs.[45]

Humanistic tools for thought at Earth magnitude are lacking, and often because we have deliberately resisted fashioning them. For instance, dominant academic modes of cultural Marxism are hobbled by anthropocentrism. Such an anthropocentrism does indeed pick up on a strand in Marx's thinking in which the worst of architects is always superior to the best of bees. It is true that Marx himself gladly wrote about things outside the human sphere and outside the sphere of capital. However, the anthropocentric strain of cultural Marxism drastically foreshortens the nonhuman, casting nonhuman beings as mere aspects of human metabolic pathways. What such a Marxism calls *nature* is not actual trees and Arctic foxes but trees and foxes as they are metabolized by human economic relations. Use value isn't "what things really are for," but "what things are for humans." In this sense even Aristotelian definitions of things via their final cause are more embracing.

When Marx talks about the depletion of the soil, he isn't worrying about earthworms and bacteria. Marx is concerned about the human capacity to metabolize enough energy to remain in existence.[46] But even the soil, in this narrow correlationist sense, is a bit too dirty for some forms of cultural Marxism to mention.[47] This correlationist anxiety about the real within Marxisms emerges simultaneously with the creeping awareness that factoring *energy* throughput (oil, solar, natural gas, wind, coal . . .) into historical accounts of social space necessarily and scandalously generates a bigger picture than the one provided by the notion that human economic relations and the class

struggle they entail are what make things real: "All narratives about the changes in the human condition are narratives about the changing exploitation of energy sources—or descriptions of metabolic regimes. This claim is not only one dimension more general than the Marx-Engels dogma that all history is the history of class struggles; it is also far closer to the empirical findings. Its generality extends further because it encompasses both natural and human energies."[48] "One dimension more general": Sloterdijk's telling phrase says it all. This is about scale and how humans now find themselves outscaled, caught in and concerned for all kinds of nonhuman *place*. Place is no longer simply human. A huge swath of terrestrial reality is unaccounted for in traditional Marxism. That's what happens when, like Kant, one restricts the decision as to what counts as real to one corner of the universe: in Kant's case, the gap between the (human) subject and everything else; in Marx's case, the gap between (human) economic relations and everything else.

It might be argued that "livestock" are as much the proletariat as human workers.[49] The etymology that associates patriarchal property (chattel) with nonhumans (cattle) with standing reserve (capital) makes this quite obvious.[50] It might be the case that, for the specter of communism to haunt earth sufficiently, the specter of the nonhuman would need to be embraced by the specter of communism. Full communism might need to include earthworms and bacteria, although for reasons given in the Third Thread that might look more like anarchic clusters than one system to rule them all. How can we think totality and collectivity at a moment when there is no good reason to stop at a certain species or scalar boundary? For this is what we should task ourselves with: thinking future coexistence, namely coexistence unconstrained by present concepts.

The best of bees. Marx writes that the best of bees is always worse than the worst of architects.[51] That's because the architect is imagining her

or his building and the bee is just executing an algorithm. We could go about disproving the claim in two ways: (1) considering the bees and (2) considering ourselves. Let's examine both in turn.

(1) We could set up a lot of expensive experiments to find out whether bees imagined things. Of course we would have to know what we were looking for, namely empirical evidence of imagination. For instance, we could find out whether bees hesitated. If they hesitated or looked around while they were carrying out a task, that might be evidence that they weren't just blindly following an algorithm.

So defensive can some Marxists become concerning this point in Marx—they do perhaps sense the danger—that they sometimes assert this passage is just metaphorical. That is to say some Marxists claim that by *bees* Marx really means workers and by *architects* Marx really means the bourgeoisie. Yet, if anything, that is more insulting still, and not only to bees. According to this interpretation Marx is saying that workers just blindly execute. How on earth are these poor crude androids going to figure out what's going on and start a revolution? And how could they ever fulfill human species-being, the Marxist concept that pictures humans imaginatively creating their own environments? The workers would have to leave species-being fulfillment to the architect, and even a sloppy one would do a better job than them.

It has indeed been shown that ants climbing up little ladders look around them rather than walking up automatically. They weigh options when it comes to where to live and so on.[52] Such findings suggest that ants anticipate and assess situations, which is at least part of what architects are supposed to do when they design a building. It has also been shown that bees build mental maps to find their way home—they aren't just on autopilot.[53] We are beginning to allow that nonhumans have minds. Creative experiments have shown that rats experience regret.[54] The problem with disproof tactic (1), however, is that our poor scientist has to know roughly what she is looking for already before running the experiment, and this means that she is forever haunted by a deep problem that affects both science and

humanities in the Anthropocene, the age of Hume: the age in which there is no objectified, obvious cause and effect churning away below phenomena like cogwheels. Cause and effect are inferences we make concerning statistical correlations in data. (Incidentally, accurate correlations in *ecological* data, since ecological reality is so rich and ambiguous, are notoriously difficult to find.)[55]

Cause and effect are "in front" of things, not behind them: in front ontologically rather than spatially.[56] Which is to say that in order for there to be causality there must always already be objects. In this sense, weird as it is to say so given our tendency to snap back to mechanistic causal theories, causality in a post-Newtonian world has its rightful place *in the aesthetic dimension*.

Scientists are now beginning to figure out something we've known in the humanities and arts for some time: one is entangled with the data one is studying. Kant grounded Hume's insight about causality in just this thought, which we now call correlationism. We can't see things in themselves, we can see human-flavored correlates of those things. But there *are* things in themselves. So we are caught in a dilemma, whose name is *hermeneutic circle*. Scientists call it *confirmation bias*, which is why only a small percentage of physicists now think that physics is saying anything true at all about reality.[57] They are justifiably concerned by a basic implication of Hume that *scientism*, not science, has been blocking for two hundred years. Since some of us are scientistic even if we are scientists, this isn't surprising, scientism being in a way a method of shutting one's ears to what is most interesting about science as such. Science swears off making ontological statements of any kind, an abstention that makes you a scientist far more than the Hippocratic oath makes you a doctor.

The term *confirmation bias* is itself a symptom of some kind of confirmation bias . . . "Confirmation bias" suggests that there are things over there and interpretations over here, and that those interpretations can therefore be biased. But this idea of objects over there and subjects over here is precisely what correlationism and its

consequent hermeneutic circle are saying is illegal—it's a metaphysical factoid that you've smuggled into your view pretheoretically. Never mind that Kant himself had smuggled in this view, which is the old Aristotelian—and I shall argue *agricultural*—picture of bland substances decorated with accidents.[58] That's exactly what we *can't* assume things are like. It's the kind of thing that gives rise to ideas that bees are just blind robots while architects are gravity-defying subjects. Heaven help us, we would never ever want to be denigrated to the status of a thing, because we all "know" in advance that things are lumps.

The prejudice that things are lumps is one reason why object-oriented ontology has come in for criticism. By saying *object,* OOO touches a third rail. Within that there is an even more sensitive third rail of beliefs about what entities are, sensitive because of its political implications, sensitive furthermore because those beliefs were hardwired into Earth's surface in a way so effective that millions of lifeforms are now going extinct. In 2014 the World Wildlife Fund revealed that 50 percent of animals (lifeforms in the animal kingdom) had disappeared in the last four decades.[59] Noticing that fact is horribly uncanny: we want to go on dreaming our anthropocentric dream because it feels safer. Despite its provocative use of the word *object*, OOO is the diametrical opposite of the dream. OOO might be a mode of waking up.

Now let us consider the second disproof tactic.

(2) The lack of obvious empirical evidence concerning imagination points to a much more efficient and much cheaper way of proving whether or not the best of bees is always worse than the worst of architects. What do we have already? We already have some sense that bees and ants can do things that look like things that we can do with our minds. So by inference we aren't as special as we thought. But we can take a step back and think about the really obvious state of affairs, which is that *we lack reliable empirical evidence for imagination as such*. I'm not saying there is no imagination. Far from it. What

I require the Marxist to do is to prove that the *architect* has imagination. Prove that I have imagination, as a human being. Prove that I'm not executing an algorithm. More to the point, prove that my idea that I'm not executing an algorithm isn't just the variety of algorithm that I've been programmed to execute.

As we'll often see in *Dark Ecology*, being paranoid that I might *not* be a person is in fact a default condition of *being* a person. There is a profound philosophical hesitation here. Because it's so stimulating, we usually like to collapse the duality into one of its terms. We could decide that there is no imagination, that we are totally conditioned, a thought that is usually close to reducing things to matter. Thoughts are functions of brains or something, perhaps in the strong "eliminative materialist" sense: if we can explain mind in terms of brain there is *no mind at all*: the mind is a pure illusion. The mind, on this view, isn't even an emergent property of a brain. Or we could go the other way and say that there is personhood and that it's totally different from being a determined machine. We could perhaps back this up with some idea of mental qualia or the irreducibility of consciousness. What's interesting is that we are trying to get rid of a profound wonderment. And since, along with Plato, I take wonderment to be the basic phenomenological chemical of philosophy, we are implicitly trying to shut down philosophy when we take these paths.

If you have some hesitation or difficulty proving that humans imagine, that's fantastic. It means that you have accepted modern science, which means you have accepted modern philosophy since the start of the Anthropocene. And if you try not to collapse the hesitation, like the hesitation of an ant on a tiny ladder, that's even better. It means you have accepted the deep reason for the validity of modern science and philosophy. You have not collapsed the wonderment. You have become scientific, but not scientistic. You are refusing to pounce on things with metaphysics. You are beginning the difficult upgrade of concepts such as *person* and *thing* and *species* so essential to human

thought in an ecological age, and indeed so essential for the continued existence of lifeforms.

You are beginning to think at Earth magnitude.

At Earth magnitude, anthropocentric distinctions don't matter anymore. Or, better, they cease to be thin and rigid. They matter amazingly differently. These distinctions include binaries such as *here* versus *there*, *person* versus *thing*, *individual* versus *group*, *conscious* versus *unconscious*, *sentient* versus *nonsentient*, *life* versus *nonlife*, *part* versus *whole,* and even *existing* versus *nonexistence*. Biology raises the problem of life as such. That the life-nonlife boundary isn't exactly erased, instead becoming far less thin and rigid, is an issue within biology as it begins to go into crisis, insofar as this boundary is found to be more than trivially flexible. Some, for instance, are wondering whether evolution is restricted only to organic chemicals. At the boundary between biology and chemistry, Darwin is of surprisingly little use unless we boldly extend his insights to include something like natural selection at the chemical level.[60] As we shall see, this is about how fundamental pattern making is to reality, because patterns are the basis for replication.

The same upgrade happens to sentience, consciousness, and, in an ecological age, between the human and the nonhuman altogether, notably such that ideas like *world* and *here* begin to look not like big abstract concepts but rather small, localized, human flavored. Let us reiterate: this is not because there is no such thing as place. As I observed earlier, in evolution science you can't look at a duck and see what it's "for" in some obviously human-flavored way. Ducks aren't *for* anything. Teleology has evaporated, hierarchies have collapsed; but there are still ducks and humans and Earth, and sentience and lifeforms as opposed to salt crystals. They become more and more vivid as our ways of distinguishing them become more and more questionable.

This may not have been what we were expecting. We might have been expecting that, on a much larger scale, things would become

much easier to understand. Indeed, we might criticize those who tried to think at larger scales for being simplistic. We might even argue that they were deluded. We might accuse someone of being a bit of a hippie for talking at scales beyond the human. We think that the hippie is ideologically deluded into saying things can matter (become "real") outside human economic mediation. All that *we are the world* and *save Earth* stuff is bourgeois pabulum meant to keep us docile.

Our Marxist has this allergic reaction because he or she is rigidly adhering to a solution to the Kantian shock—the shock that there are things, but that when we look for them we find only human-flavored thing data. We never see the actual raindrop; we have raindrop feelings, raindrop thoughts, raindrop perceptions.[61] Kant himself tries to contain the explosion by saying that there is a top-level way of understanding the raindrop, namely mathematizing it via a concept of extension as the bedrock of what a thing is. The transcendental subject is the being that decides whether a thing is real or not. Post-Kantians contain the explosion two ways. Either they reduce everything to matter and ignore the implications of modern philosophy and the science derived from it. Or they wish away the gap between phenomenon and thing by claiming more strongly than Kant that some kind of Decider makes the thing real. A succession of hopeful substitutes for the Kantian subject arises: *Geist* (Hegel), will (Schopenhauer), will to power (Nietzsche), Dasein (Heidegger).

And, in the case of Marx, *human economic relations* make things real. And, in the hardcore Hegelian Lacanian Althusserian version, these relations are an *in-the-last-instance* that determine everything else like the sucker of a giant and sprawling undersea creature, attached to a rock in one place, but attached really strongly, incapable of being peeled off that rock. So that for the cultural Marxist, unconsciously retweeting a substance-and-accidents model of things, there is ideology (accidents) and human economic relations (substance).

By putting it this way, I have already committed a horrible sin because I have used the word *human*. By using that word I have

implied that there might be a world or worlds beyond or different than the human, which is as good as saying that there are such worlds. I have broken a taboo in implying Marxism doesn't explain everything, because there are cats, coral, and galaxies. The very concept *ecology*, coined by Ernst Haeckel, was a way to say *the economy of nature* in a compact way. Beavers and spiders and bacteria metabolize things too. Species-being isn't what it's cracked up to be.

This humiliatingly means that, claims to the geopolitical notwithstanding, cultural Marxism cannot think the *geo* sufficiently to think the geopolitical. So cultural Marxism lets fly a volley of accusations against the sinners: they are racists or sexists or colonialists because they use concepts such as species. Either you are into feminism or you are a speculative realist.[62] The same brittle theistic logic was deployed by the Bush administration with its "you are either with us or with the terrorists."

Backed into a corner and reduced to apoplectic double binds, the accusers conceal a genuine anxiety: species in the nonteleological sense is what Marxism cannot think. Despite Marx's having written a fan letter to Darwin, the Marxist notion of species-being still adheres to teleology in the sense that, according to the extreme correlationist definition, humans are "for" creating their own environment, and this is unique—just try to forget about ants and beavers. The inability to think species is despite Marx's grounding in Feuerbach, whose whole project was to show that species was not at all an abstract, universalist generalization but a finite, concrete entity, albeit one that exists at a scale larger than the one on which we normally think. Species-being fits in the lineage of Aristotle. Humans produce, which means they imagine, unlike bees, which (I suspect which, rather than who, for users of this concept) are just robots. And robots are just things. And things are inanimate, unconscious, lumps of whatever decorated with accidents.

Let's remind ourselves right now that this problem applies in thick spades to capitalist economic theory too. Capitalist economics

is also an anthropocentric practice that has no easy way to factor in the very things that ecological thought and politics require: nonhuman beings and unfamiliar timescales. Considering public policy at timescales sufficient to include global warming, economic theory tends to throw up its hands and say, "This doesn't fit our science"—well duh.[63] What is really meant here is "This doesn't effect our interpretation of data given that, unlike a physicist, we are unwilling to notice that we may suffer from confirmation bias." Or consider the argument within economics that depression about ecological issues is dangerous or absurd or impossible—how it can be all three without being a politicized pseudotarget eludes me, but the idea is again that "the science" doesn't justify it: why on Earth would anyone want to impose a tax on goods entering or leaving the country unless one were some kind of "authoritarian" hostile to "free trade?"[64] Such reasoning is deaf to the nonhumans whose inclusion in thought compels one to think about, for example, minimizing or changing one's energy use, perhaps by taxing things that have to travel a long way. Psychology and economics, "sciences" closest to humans, are, not surprisingly, deeply anthropocentric and unwilling to consider that they may be caught in hermeneutical loops.

Thinking the human at Earth magnitude is utterly uncanny: strangely familiar and familiarly strange. It is as if I realize that I am a zombie—or, better, that I'm a component of a zombie despite my will. Again, every time I start my car I'm not meaning personally to destroy lifeforms—which is what "destroying Earth" actually means. Nor does my action have any statistical meaning whatsoever. And yet, mysteriously and disturbingly, scaled up to Earth magnitude so that there are billions of hands that are turning billions of ignitions in billions of starting engines every few minutes, the Sixth Mass Extinction Event is precisely what is being caused. And some members of the zombie have been aware that there is a problem with human carbon emissions for at least sixty years. The first global warming evidence was published in 1955.[65] Humans have now ensured over 400 parts

per million of carbon dioxide in Earth's atmosphere. Arctic temperatures are at the highest they have been for 44,000 years.[66]

It doesn't seem to matter whether I'm thinking about extinction or not, whether I mean to or not, even whether or not I start my own personal car! So, back to that question: am I conscious? Prove that I'm not better than the best of bees. Prove that my idea of consciousness, let alone individual free will, isn't just the algorithm that my particular species has evolved to run. Stripped of its metaphysical, easy-to-identify, soothingly teleological content, the notion of species is an uncanny thought happening not in some universal or infinite realm but at Earth magnitude. It is strictly uncanny in the Freudian sense, if we recall that Freud argues that uncanny feelings in the end involve the repressed intimacy of the mother's body, the uterus and the vagina out of which you came.[67] This is significant because thinking this mother's body at Earth magnitude means thinking ecological embodiment and interdependence. That uterus is not just a symbol of the biosphere, nor even an indexical sign of the biosphere, pointing to it like a footprint or a car indicator. The uterus *is* the biosphere in one of its manifold forms, just as me turning the key in the ignition *is* the human in one of its manifold forms. It is, and it isn't, which is how you can tell it's real. To be real is to be contradictory, to be a member of a set that doesn't include you. To be real is not to be easy to identify, easy to think, metaphysically constantly present.

When we think species this way, we see global warming as a *wicked problem*—or even as a *super wicked problem*.[68] A wicked problem is one you can rationally diagnose but to which there is no feasible rational solution. There are four main aspects:

(1) Wicked problems are unique and thus *irreducible* and difficult to conceptualize and anticipate. Likewise, they are unverifiable. If we "solve" global warming, we will never be able to prove that it would have destroyed Earth . . .

(2) Wicked problems are *uncertainly interminable*: there is no way to predict when the problem will have ceased to function.

(3) Wicked problems are *alogical* in the sense that solutions to them cannot be assessed as right or wrong, but rather as good or bad. There is a sharp division between ethics and ontology here, one that we think we like ("You can't get an *ought* from an *is*"), but that in practice we hate: we contemporary humanists usually want ideas about reality bundled with an easy to identify politics.

(4) *Irreversibility*—there are no trial runs, no reverse gears, no attempts to solve wicked problems, only actual solutions that drastically alter things.

There appears to be no way to solve a wicked problem neatly and know that we have solved it. Like poems, wicked problems entangle us in loops. We know that our reading of a poem is provisional and that our thoughts about what poems are influence how we read them; the same goes for global warming. Wicked problems make the strange loop form of ecological beings obvious. As a matter of fact, global warming is a "super wicked problem": a wicked problem for which time is running out, for which there is no central authority; those seeking the solution are also creating it, and policies discount the future irrationally.[69] The superness has to do with how we are physically caught "in" the problem: the damaged biosphere. We are thus in an obvious looplike relationship with the problem. In a weird loopy not-quite inversion of the song, *the whole world has got us in its hands*—because we became a geophysical force.

Wicked problems have uncertain boundaries because they are always symptoms of other problems. Global warming is a symptom of industrialization, and industrialization is a symptom of massively accelerated agriculture. Of what is this acceleration a symptom? We could say that it was capitalism, but that would be circular: accelerating agriculture and subsequent industrialization are symptoms of capitalism, not to mention existing forms of communism. So we are

looking for the problem of which these things are symptoms. What is it? Why, if so influential, is it so hard to point to?

Agrilogistics. Two reasons: it is everywhere and it is taboo to mention it. You could be labeled a primitivist even for bringing it up.

> In the Golden Age, agriculture was an abomination. In the Silver Age, impiety appeared in the form of agriculture. In the Golden Age, people lived on fruits and roots that were obtained without any labor. For the existence of sin in the form of cultivation, the lifespan of people became shortened.[70]

> I have placed a curse on the ground. All your life you will struggle to scratch a living from it. It will grow thorns and thistles for you, though you will eat of its grains. All your life you will sweat to produce food, until your dying day. Then you will return to the ground from which you came. For you were made from dust, and to the dust you will return.[71]

Two ancient texts written within agricultural temporality condemn agriculture, and rather startlingly accurately: the science is on their side.[72] Consider the collection *Paleopathology at the Origins of Agriculture*. The very title fleetingly suggests that there was *an ancient pathology* (paleopathology), as if the origins of agriculture were pathological. It is as if science couldn't help employing the rhetoric of agricultural religion, as if science itself were suspended in agricultural time. This rhetoric pits agriculture against agriculture in what we could call agricultural *autoimmunity*, an agricultural allergy to itself. Foundational Axial (agricultural) Age stories narrate the origin of religion as the beginning of agricultural time: *an origin in sin*. The texts are almost shockingly explicit, so it's strange we don't think to read them that way. Pretty much out loud, they say that religion

as such (was there "religion" beforehand?) was founded in and as *impiety*. And the thistles keep growing, the sweat keeps pouring, and humans are from dust, not from themselves as later agricultural myths (from the Theban cycle to the Enlightenment) will proclaim. We witness the extraordinary spectacle of "religion" talking about itself as a reflective, reflexive loop of sin and salvation, with escalating positive feedback loops. Like agriculture.

Now consider this text. The author is looking down on a valley in China: "Forest—field—plow—desert—that is the cycle of the hills under most plow agricultures. . . . We Americans, though new upon our land, are destroying soil by field wash faster than any people that ever lived. . . . We have the machines to help us to destroy as well as to create."[73] It is 1929. Apart from noting the time span between these three texts, need one say more?

What is this "human" species, instigator of the Anthropocene, fragile sand drawing? Evidently the term as used here is not essentialist, if *essentialist* means believing that how things exist is that they are constantly, metaphysically present. This is the very metaphysics that isn't strictly thinkable in the lineage of Kant and his subsequent lineage holders, including Heidegger, who inspired Lacan, who taught Foucault, who told us of human faces drawn in the sand. Not thinkable, that is, if you want to be modern—and not thinkable in the sense that unsustainable paradoxes arise when you try to think this way.

Beliefs in constant presence derive ultimately from a default ontology persistent in the long moment in which the Anthropocene is a disturbing fluctuation. We are still within this twelve-thousand-year "present" moment, a scintilla of geological time. What happened in Mesopotamia happens "now," which is why it has made sense for *Dark Ecology* to refer to us as Mesopotamians. This long now started somewhere, sometime. It is bounded. Yet to think outside it, since that very outside is defined by it, is to think within it. The contemporary phenomenon of the gluten-free diet perfectly embodies this—the diet that currently obsesses almost a third of American adults,

despite actual gluten intolerance affecting a single-digit percentage of the population. The gluten-free phenomenon is a magic bullet solution to modernity. "Gluten" sounds abject and glutinous, and it is found in wheat: agriculture as sin, just like Genesis says. Such an allergic reaction of modernity to itself is absurd: even Neanderthals made bread. Consider the modern hatred of the body that links with a profound (and accurate) unease that "something is wrong" and is then blended with primitivism: the "Paleo diet." The term *Paleo* acknowledges that something is wrong with the Neolithic, the term we use for post-Mesopotamian human social forms: something is wrong—*as Genesis had already pointed out*.

Remember Earth clearly. Thinking outside the Neolithic box would involve seeing and talking at a magnitude we humanists find embarrassing or ridiculous or politically suspect. Perhaps it is completely outlandish: thinking this way is easily marginalized as an activity for loons. We can find examples, but they are indeed marginal. We might for instance find them in the insights of psychedelic drug-fueled depression exemplified in the middle-period work of the British techno group Orbital (active since 1989). The video for Orbital's "The Box" is a miracle of juxtaposed timescales. A lonely wanderer played by Tilda Swinton holds a position for a very long time. A camera films her and what happens around her. Then the film is sped up, so that the wanderer appears to be walking through a megacity while cars and people rush around her at breakneck speed. The physical difficulty of the dancer's role is breathtaking, which performs the difficulty of thinking on more than one scale at once: the thinking that ecological awareness demands.

The dancer stops outside a cheap electronics store. She watches televisions in the window. Unbeknownst to the passersby, since it is happening on such a slow timescale relative to them, secret messages are flashing on the screen. Only the isolated wanderer can see them:

she functions in a temporal scope sufficient to read the messages that perhaps to others appear only as minuscule flickers. One has to pause the video to read the evocative sequence oneself:

REMEMBER EARTH CLEARLY
BAD
DAMAGED
BATTERED
PLANET
FRAYED
DUSTBOWL
COMPROMISED
WAKE UP
MONSTERS EXIST[74]

It's a sinister, paranoid moment of ecological awareness. What is the monster? Sophocles encapsulated it already in the astonishing Second Chorus of his Theban play *Antigone*: *Of the many disturbing beings, man is the most disturbing*. Why? Because he plows, and because he is aware of how this plowing disturbs Earth. "DUSTBOWL" obviously references the disaster of agricultural feedback loops. We are disturbed by our disturbance—and we don't stop: seeing "MONSTERS EXIST" on a TV screen in a shop window is like the fantasy of seeing a monstrous face in the mirror when you pass by in the dark.

Imagine *seeing* on more than one timescale—just as geology and climate science *think* on more than one. Imagine for a moment that the phenomenon-thing gap were closed and that you could see everything. This is what is happening to the woman in *The Box*. The lonely walker perceives the phrase "MONSTERS EXIST" on a television screen that no one else can see: they would require the scaled-up temporality at which she is living to see it. This is like being able to see hyperobjects. Why is this disturbing? Because *you are already living* on more than one timescale. Ecological awareness is disorienting

precisely because of these multiple scales. We sense that there *are* monsters even if we can't see them directly.

There's a monster in the dark mirror, and you are a cone in one of its eyes. When you are sufficiently creeped out by the human species, you see something even bigger than the Anthropocene looming in the background, hiding in plain sight in the prose of Thomas Hardy, the piles of fruit in the supermarket, the gigantic parking lots, the suicide rate. What on Earth is this structure that looms even larger than the age of steam and oil? Isn't it enough that we have to deal with cars and drills? Hardy provides a widescreen way of seeing agricultural production, sufficient for glimpsing not only the immiseration of women in particular and the rural working class in general at a specific time and place but also the gigantic machinery of agriculture: not just specific machines, but *the machine that is agriculture as such*, a machine that predates Industrial Age machinery. Before the web of fate began to be woven on a power loom, machinery was already whirring away.

A brief history of agrilogistics. Dark Ecology is going to call this twelve-thousand-year machination *agrilogistics*. The term names a specific logistics of agriculture that arose in the Fertile Crescent and that is still plowing ahead. Logistics, because it is a technical, planned, and perfectly logical approach to built space. Logistics, because it proceeds without stepping back and rethinking the logic. A viral logistics, eventually requiring steam engines and industry to feed its proliferation.

Agrilogistics: an agricultural program so successful that it now dominates agricultural techniques planetwide. The program creates a hyperobject, global agriculture: the granddaddy hyperobject, the first one made by humans, and one that has sired many more. Toxic from the beginning to humans and other lifeforms, it operates blindly like a computer program. The homology is tight since

algorithms are now instrumental in increasing the reach of agrilogistics. Big data makes bigger farms.[75]

Agrilogistics promises to eliminate fear, anxiety, and contradiction—social, physical, and ontological—by establishing thin rigid boundaries between human and nonhuman worlds and by reducing existence to sheer quantity. Though toxic, it has been wildly successful because the program is deeply compelling. Agrilogistics is the smoking gun behind the smoking chimneys responsible for the Sixth Mass Extinction Event. It isn't difficult to find a very brief example of the scope of agrilogistics in the fact that Europeans tolerate milk. A genetic mutation was encouraged to flourish within a few thousand years of original Fertile Crescent farmers, who had already reduced the lactose content in their cows' milk. Humans with this mutation became aggressive vectors for agrilogistics, and agrilogistics wiped out indigenous European human social forms.[76]

The humanistic analytical tools we currently possess are not capable of functioning at a scale appropriate to agrilogistics because they are themselves compromised products of agrilogistics. The nature-culture split we persist in using is the result of a nature-agriculture split (*colo, cultum* pertains to growing crops). This split is a product of agrilogistic subroutines, establishing the necessarily violent and arbitrary difference between itself and what it "conquers" or delimits. Differences aside, the confusions and endlessly granular distinctions arising therefrom remain well within agrilogistic conceptual space.[77]

Agrilogistics arose as follows. About 12,500 years ago, a climate shift experienced by hunter-gatherers as a catastrophe pushed humans to find a solution to their fear concerning where the next meal was coming from. It was the very end of an Ice Age, the tail end of a glacial period. A drought lasting more than a thousand years compelled humans to travel farther. It happened that in the Fertile Crescent of Mesopotamia barley and wheat were growing wild beneath the trees. The same can be said for rice growing in China; corn, squash, and beans growing in America; and sorghum and yam in Africa.

Significantly, the taro of New Guinea is hard to harvest and low in protein, not to mention hard to plant (you have to plant taro one by one), and so the farmers in the highlands never "advanced" from hunter-gathering. The taro cannot be *broadcast*. Incidentally, so many terms from agrilogistics have become terms in media (*field* among them), not to mention the development of that very significant medium, writing. How we write and what we write and what we think about writing can be found within agrilogistics.

Humans in Mesopotamia established villages with granaries. The storage and selection of grain pushed the harvested plants to evolve. Humans selected grain for its tastiness, ease of harvesting, and other criteria favored by the agrilogistic program. Scaled up, the evolutionary pressure was substantial. Nine thousand years ago humans began to domesticate animals to mitigate seasonal variations in game, a modification to the agrilogistic program that kept it in existence.[78] Several agrilogistic millennia later, domesticated animals far outweigh (literally) the nondomesticated ones. Humans represent roughly 32 percent of vertebrate biomass. The other 65 percent is creatures we keep to eat. Vertebrate wildlife counts for less than 3 percent.[79] The term *cattle* speaks to this immensity and to a too-easy ontology humming away in its background.

Miserable social conditions were the almost immediate consequence of the inception of agrilogistics, yet the virus persisted like an earworm or a chair, no matter how destructive to the humans who devised it.[80] Private property emerged, based on settled ownership and use of land, a certain house, and so on. This provided the nonhuman basis of the contemporary concept of self, no matter how much we want to think ourselves out of that. Agrilogistics led rapidly to patriarchy, the impoverishment of all but a very few, a massive and rigid social hierarchy, and feedback loops of human-nonhuman interaction such as epidemics.[81]

Despite the misery and disaster, agrilogistics continues to run. For all intents and purposes, agrilogistic boiling is performed *for its own*

sake—there have been no other great reasons, as we shall see. That is very strange, because growing and nurturing theories of ethics based on self-interest is a major feature of agrilogistics. Yet, in practice, it is as if humans became fascinated with maintaining the program at whatever cost to themselves. The loop of agrilogistics for agrilogistics' sake should remind one of the aestheticism of "art for art's sake." It is an unorthodox aestheticism of utility, *an aestheticism of the nonaesthetic*. The non- or even antiaesthetic is intrinsic to agrilogistic production: humans evolved wheat, for instance, for minimal flowers and maximal nutrition. So-called utlility operates just like so-called inutility.

The idea that humans began "civilization" in Mesopotamia is a retroactive positing if ever there was one. Humans looked back and designated the time of early agrilogistics as a unit, justifying the present as if civilization had suddenly emerged like the goddess Athena from the head of the human without any support. Without coexistence. "Civilization" was a long-term collaboration between humans and wheat, humans and rock, humans and soil, not out of grand visions but out of something like desperation. When one includes the nonhumans previously imaged as "nature" so as to airbrush smooth the agrilogistical project, the story of civilization is even simpler: "We turned the region into a desert, and had to move west." The poems of Percy Shelley often speak of ancient patriarchal monotheist tyrants ruling deserts in Egypt or Persia, leaving behind a broken statue sneering in the sandy emptiness: "Nothing beside remains. . . . The lone and level sands stretch far away."[82] For *civilization,* read *agrilogistic retreat*.

The human hyperobject (the human as geophysical species) became a machine for the generation of hyperobjects. Precisely because of the sharp imbalance between the "civilization" concept and actually existing social space (which was never fully human), agrilogistics itself having produced this difference, "civilizations" (the human structures of agrilogistic retreat) are inherently fragile. Just as World War II was the viral code that broke the program of a certain

imperialism, one wonders whether global warming will be the viral code that breaks the machinations of a certain neoliberal capitalism and whether this will shut down agrilogistics itself. One wonders. And what a price to have paid, in part because agrilogistics underlies all "civilized" forms thus far, from slave-owning societies to Soviets.

The very concept of "world" as the temporality region suffused with human destiny emerges from agrilogistic functioning. World, as Heidegger knew, is *normative*: the concept works if some beings have it and some don't. When, like Jakob von Uexküll, you start to realize that at least all lifeforms have a world, you have begun to cheapen the concept almost to worthlessness. The concept reaches zero when humans realize that there is no "away," that there is no background to their foreground despite the luxury holiday ads, a lack of a stage set on which *world* can perform, a lack that is evident in the return of culturally (and physically) repressed "pollution" and awareness of the consequences of human action on nonhumans. The end of the biosphere as we know it is also the end of the "world" as a normative and useful concept.

The three axioms of agrilogistics. We live inside a philosophy alongside worms, bees, plows, cats, and stagnant pools. But the philosophy is silent or, as Anne Carson might say, "terribly quiet"; it betrays itself in the movements of Tess in the field and in the form of the field itself, but agrilogistics is a dumb show so familiar that it's almost invisible: the silent functioning of metaphysics. One goal of *Dark Ecology* is to make agrilogistic space speak and so to imagine how we can make programs that speak differently, that would form the substructure of a logic of future coexistence.

The agrilogistic algorithm consists of numerous subroutines: eliminate contradiction and anomaly, establish boundaries between the human and the nonhuman, maximize existence over and above any quality of existing. Now that the logistics covers most of Earth's

surface, even we vectors of agrilogistics, Mesopotamians by default, can see its effects as in a polymerase chain reaction: they are catastrophically successful, wiping out lifeforms with great efficiency.

Three philosophical axioms provide the logical structure of agrilogistics:

(1) The Law of Noncontradiction is inviolable.
(2) Existing means being constantly present.
(3) Existing is always better than any quality of existing.

We begin with axiom (1). There is no good reason for it. We shall see that there are plenty of ways to violate this law, otherwise we wouldn't need a rule. This means that axiom (1) is a prescriptive statement disguised as a descriptive one. Formulated rightly, axiom (1) states, *Thou shalt not violate the Law of Noncontradiction*. Axiom (1) works by excluding (undomesticated) lifeforms that aren't part of your agrilogistic project. These lifeforms are now defined as pests if they scuttle about or weeds if they appear to the human eye to be inanimate and static. Such categories are highly unstable and extremely difficult to manage.[83]

Axiom (1) also results in the persistent charm of *the Easy Think Substance*. Agrilogistic ontology, formalized by Aristotle about ten thousand years in, supposes a being to consist of a bland lump of whatever decorated with accidents. It's the Easy Think Substance because it resembles what comes out of an Easy Bake Oven, a children's toy. Some kind of brown featureless lump emerges, which one subsequently decorates with sprinkles.

In Tom Stoppard's play *Darkside*, which magically lets Pink Floyd's *The Dark Side of the Moon* speak its implicit ecological philosophical content, a cynical philosophy teacher explains the famous trolley problem. If there are lots of people on a train heading over a cliff, it is ethical to switch the points to divert the train, even if the train runs over a single person stuck on the track onto which the train diverts.

When a sensitive student asks the teacher about the experiment ("Who was on the train?" "Who was the boy?"), the teacher insists that it's merely a thought experiment, that there's no point in knowing. Yet this perceived irrelevancy is normative: it is what generates the utilitarianism in the first place.

The girl student, dismissed as insane, asks the teacher, "Who was on the train?" The teacher responds, "We don't know who was on the train, it's a thought experiment."[84] The humor compresses an insight: this nondescription of Easy Think passengers implies an unexamined thought that gives no heed to the qualities of the people on board. Only their number counts, *the fact that they merely exist*. Existing is better than any quality of existing, according to axiom (3). It doesn't even matter how many *more* people there are. Even the sheer quantity of existing is treated as a lump of whatever. Say there were three hundred people on the track and three hundred and one people in the train. The train should divert and run over the people on the track. More to the ecological point, imagine seven billion people on the train and a few thousand on the track. This represents the balance (or lack thereof) between the human species and a species about to go extinct because of human action. This amazing pudding of stuff isn't even a fully mathematizable world. Counting itself doesn't count. For a social form whose new technology (writing) was so preoccupied with sheer counting, as surviving Linear B texts demonstrate, this is ironic.

The lump ontology evoked in axiom (1) implies axiom (2): to exist is to be constantly present, or the *metaphysics of presence*. Correctly identified by deconstruction as inimical to thinking future coexistence, the metaphysics of presence is intimately bound up with the history of global warming. Here is the field: I can plough it, sow it with this or that or nothing, farm cattle, yet it remains constantly the same. The entire system is construed as constantly present, rigidly bounded, separated from nonhuman systems. This appearance of hard separation belies the obvious existence of beings who show

up ironically to maintain it. Consider the cats and their helpful culling of rodents chewing at the corn.[85] The ambiguous status of cats is not quite the "companion species" Haraway thinks through human coexistence with dogs.[86] Within agrilogistic social space, cats stand for the ontological ambiguity of lifeforms and indeed of things at all. Cats are a *neighbor* species.[87] Too many concepts are implied in the notion of "companion." The penetrating gaze of a cat is used as the gaze of the extraterrestrial alien because cats are the *intraterrestrial* alien. Cats just happen. "Cats happen" would be a nicely ironic agrilogistic T-shirt slogan.

More to the point, consider bees again. Their symbiotic relationship with humans (let alone plants and the sexual facilitation thereof) could not be more obvious or more significant. Bees are moved en masse to where agrilogistics requires them; they are fed high-fructose corn syrup, a sick irony that could almost evoke a gallows-humor type of a laugh were it not so painful to think about. Monsanto's genetically modified, pesticide-coated seeds are causing Indian farmers to kill themselves and bees to die in their millions: the pesticides are fatal, but so is the modification of the plant structure itself, causing bees' intestinal walls to weaken. Global warming is forcing bumblebees north of their habitual pathways by about three miles a year, and they don't like it. The summer of 2014 was particularly bad, with about 42 percent of the U.S. bee population dying. The magic-bullet approach to getting rid of "pests" has resulted in this feedback loop: a range of pesticides called neonicotinoids are to blame. In response, it has not been very obvious to agrilogistics that improving the bees' conditions would help, because there is a general anthropocentric doubt that bees have conditions at all.[88] Instead, approaches such as Monsanto's war against the *Varroa destructor* mite infecting bees will only exacerbate the feedback loop. Axiom (3) (just existing is always better than any quality of existing) affects nonhumans too.

The agrilogistic engineer must strive to ignore the bees and the cats as best as he (underline *he*) can. If that doesn't work, he is obliged to

kick them upstairs into deity status. Meanwhile he asserts instead that he could plant anything in this agrilogistic field and that underneath it remains the same field. A field is a substance underlying its accidents: cats happen, rodents happen, bees and flowers happen, even wheat happens; the slate can always be wiped clean. Agrilogistic space is a war against the accidental. Weeds and pests are nasty accidents to minimize or eliminate.

Consider the accident of an epidemic, which ancient Greek culture called *miasma*. Miasma is the second human-made hyperobject—the first was agrilogistic space as such, but miasma was the first hyperobject we noticed. You consider yourself settled and stable, although it would be better to describe your world as metastable: the components (humans, cows, cats, wheat) keep changing, but the city and the walls and the fields persist. You can observe miasmic phenomena haunting the edges of your temporal tunnel vision. You see them as accidental and you try to get rid of them. For instance, you move to America and start washing your hands to eliminate germs. Then you suffer from an epidemic of polio from which you had been protected until you started to police the temporal tunnel boundaries even tighter. This is the subject of Philip Roth's novel *Nemesis* and a good example of a strange loop.[89] The global reach of agrilogistics is such that antibiotic-resistant bacteria may now be found throughout the biosphere: "in environmental isolates, soil DNA . . . secluded caves . . . and permafrost," in "arctic snow" and the open ocean.[90] When you think it at an appropriate ecological and geological timescale, agrilogistics actually works against itself, defying the Law of Noncontradiction in spite of axiom (1).

The push to achieve constant presence in social and physical space requires persistent acts of violence, and such a push is itself violence.[91] Why? Because the push goes against the grain of (ecological) reality, with its porous boundaries and interlinked loops. Ecological reality resembles the shimmering, squiggly space of marks and signs underwriting the very scripts that underwrite agrilogistic space, with its neatly plowed lines of words, many of their first lines accounting

for cattle—a lazy term as we have seen for anything a (male) human owns. Preagrilogistic "oral" social formats were not more present, as in the primitivist myth, itself a by-product of agrilogistics. Preagrilogistic social and conceptual space has far less to do with presence than agrilogistic space. Logocentrism—the idea that full presence is achievable within language, typified by the mythical utopian image of face-to-face communication—is an agrilogistic myth. This is why the deconstruction of logocentrism is a way to start finding the exit route.

Agrilogistic existing means just being there in a totally uncomplicated sense. No matter what the appearances might be, essence lives on. Ontologically as much as socially, agrilogistics is immiseration. Appearance is of no consequence. What matters is knowing where your next meal is coming from, no matter what the appearances are. Without paying too much attention to the cats, you have broken things down to pure simplicity and are ready for axiom (3):

(3) Existing is always better than any quality of existing.

Actually we need to give it its properly anthropocentric form:

(3) Human existing is always better than any quality of existing.

Axiom (3) generates an Easy Think Ethics to match the Easy Think Substance, a default utilitarianism hardwired into agrilogistic space. The Easy Think quality is evident in how the philosophy teacher in Stoppard's *Darkside* describes the minimal condition of happiness: *being alive instead of dead*.[92] Since existing is better than anything, more existing must be what we Mesopotamians should aim for. Compared with the injunction to flee from death and eventually even from the mention of death, everything else is just accidental. No matter whether I am hungrier or sicker or more oppressed, underlying these phenomena my brethren and I constantly regenerate, which is to say we refuse to allow for death. Success: humans now consume about

40 percent of Earth's productivity.[93] The globalization of agrilogistics and its consequent global warming have exposed the flaws in this default utilitarianism, with the consequence that solutions to global warming simply cannot run along the lines of this style of thought.[94]

Jared Diamond calls Fertile Crescent agriculture "the worst mistake in the history of the human race."[95] Because of its underlying logical structure, agrilogistics now plays out at the spatiotemporal scale of global warming, having supplied the conditions for the Agricultural Revolution, which swiftly provided the conditions for the Industrial Revolution. "Modernity once more with feeling" solutions to global warming—bioengineering, geoengineering, and other forms of what *Dark Ecology* calls *happy nihilism*—reduce things to bland substances that can be manipulated at will without regard to unintended consequences.

Planning for the next few years means you know where the next meal is coming from for some time. Who doesn't want that? And existing is good, right? So let's have more of it. So toxic and taboo is the idea of undoing axiom (3), one automatically assumes that whoever talks about it might be some kind of Nazi. Or that, given that we have seen population growth and food supply grow tougher, the one who doubts the efficacy and moral rightness of axiom (3) is simply talking "nonsense."[96] Nonsense or evil. Courting these sorts of reaction is just one of the first ridiculous, impossible things that ecognosis does. So much ridicule, so little time. Even more ridiculously, perhaps, we shall see that ecognosis must *traverse* Heideggerian-Nazi space, descend *below* it: through nihilism, not despite it.

It was based on increasing happiness, but within the first quarter of its current duration agrilogistics had resulted in a drastic *reduction* in happiness. People starved, which accounts for pronounced decreases in average human size in the Fertile Crescent. Agrilogistics exerted downward pressure on evolution. Within three thousand years, farmers' leg bones went from those of the ripped hunter-gatherer to the semisedentary forerunner of the couch potato. Within three thousand

years, patriarchy emerged. Within three thousand years, what is now called the 1 percent emerged, or, in fact, the 0.1 percent, which in those days was called *king.* Desertification made swaths of the biosphere far less habitable. Agrilogistics was a disaster early on, yet it was repeated across Earth. There is a good Freudian term for the blind thrashing (and threshing) of this destructive machination: *death drive*.

Something was wrong with the code from the beginning. More happiness is better, such that more existing, despite how I appear (starving, oppressed), is better. We could compress this idea: *happiness as existing for the sake of existing*. A *for its own sake* that agrilogistics itself regards as superfluous or evil or evil because superfluous: nonsense and evil again, the way the aesthetic dimension haunts the Easy Think Substance. It sounds so right, an Easy Think Ethics based on existing for the sake of existing. Yet scaling up this argument unmasks a highly disturbing feature. Derek Parfit observes that under sufficient spatiotemporal pressure Easy Think Ethics fails. Parfit was considering what to do with pollution, radioactive materials, and the human species. Imagine trillions of humans spread throughout the Galaxy. Exotic addresses aside, all the humans are living at what Parfit calls *the bad level*, not far from Agamben's idea of *bare life*.[97] Trillions of nearly dead people, trillions of beings like the *Muselmänner* in the concentration camps, zombies totally resigned to their fate. This will always be absurdly better than billions of humans living in a state of bliss.[98] Because more people is better than happier people. Because bliss is an accident, and existing is a substance. Easy Think Ethics. Let's colonize space—that'll solve our problem! Let's double down! Now we know that it doesn't even take trillions of humans spread throughout the Galaxy to see the glaring flaw in agrilogistics. It only takes a few billion operating under agrilogistic algorithms at Earth magnitude.

There is a "very large finitude" in the shape of a specific, gigantic object (Earth) on which humans cooperate (and refuse to cooperate) with one another and with other lifeforms. There is also indeterminate futurity—how many future generations should we take

into consideration? The combination of massive yet finite spatiality and massive and indeterminate time generates a very specific "game board" on which cooperation and its opposite play out. It seems clear in mathematics that a well-structured game board would ensure the best cooperation.[99] But the extremely minimal utilitarianism and ontology (Easy Think) implied by agrilogistics does next to nothing to determine the quality of the game board. The result is predictable: at any particular moment in the indeterminate time line it always seems better to destroy as much of the very large finitude as possible.

To avoid the consequences of the last global warming, humans devised a logistics that has resulted in global warming. Mary Daly is correct that we live in a death culture.[100] We Mesopotamians. In *A Scanner Darkly*, Philip K. Dick's novel about addiction and paranoia and the control society, the Latin name of the highly addictive and paranoia-inducing Substance D is *Mors ontologica*. Ontological death or, as someone in the novel says, "'Death of the spirit. The identity. The essential nature.'"[101] Robert Arctor gets completely fried by Substance D and enters a supposed rehabilitation center where he is recruited as walking death (bare life, aforementioned) to farm Substance D. The drug is, in fact, extracted from a tiny blue flower hidden amid gigantic fields of corn spreading to the horizon. The ironic inversion of the agrilogistic picture with its useful wheat and useless little flowers is stunning. Bare life harvesting ontological death, just executing an algorithm without a head: "'You can't make yourself think again. You can only keep working, such as sowing crops or tilling on our vegetable plantations—as we call them—or killing insects. We do a lot of that, driving insects out of existence with the right kind of sprays. We're very careful, though, with sprays. They can do more harm than good. They can poison not only the crops and the ground but the person using them. Eat his head.' He added, 'Like yours has been eaten.'"[102] Farming Substance D is evidently bad for the environment, and the state is well aware of the feedback loops, both inner and outer. . . . Taking it,

farming it, suspecting one's brain while on it—all is relentless, mindlessly without laughter. Who is in charge of whom—the flower or the human? Nonhuman agency has been disastrously amplified by a human desire to "play" (Dick's term for drug consumerism), which has been in turn amplified and incorporated into the control society.[103] The deadly serious play of oppression exemplified in the world of Substance D is absolutely the opposite of coexistence otherwise than agrilogistics: as the Third Thread will show, this looks more like *playful seriousness*.

Curiously, while it rots your brain, Substance D makes you surprisingly compassionate toward nonhumans. In the midst of the absolute nightmare of state-controlled death-in-life, some kind of care evolves, though it looks like decadence, like Nietzsche weeping with the whipped horse. Perhaps this is how true progress looks to a society hell-bent on speed: like the absurd number of hours it takes for a group of "heads" to remove a shard of glass from the stomach of a cat without hurting her.[104] Fumbling for the exit route is still occurring, a curious phenomenon we shall explore in the next thread.

Nature = agrilogistics. At the end of *A Scanner Darkly*, Robert Arctor is shown mountains that lie beyond the farms of Substance D: "'Mountains, Bruce, mountains.'" [105] It is an absolutely circular, flat, tautological description in which the simple phrase the manager uses is echoed exactly by the now mindless "Bruce" (Arctor renamed by the rehabilitation center). The echoed phrase echoes itself, cycling in a loop fed back to Bruce, who is a mere cipher, barely life, not even owning his own name, just repeating the phrase to the manager like a mirror. As if the manager were introducing the mountains to Bruce, and Bruce to the mountains: a deadly sincere chiasmus. Mountains, Bruce, phrases—all are substances without qualities, like the mysterious Substance D itself, whose immediate psychophysical effects appear absolutely nonexistent. Substance D is the drug of meta:

going out of one's mind on it consists of wondering at higher and higher levels whether one is going out of one's mind, dissociating to the point where one could seem to be investigating oneself as an agent would investigate a suspect. Purged of its playful blueness and little-flowerness according to the logic of the "active ingredient," Substance D is the Easy Think Substance transmuted into an addictive drug: serious play. People assume it is entirely synthetic, but it is in fact "organic," the product of human interactions with nonhumans via agrilogistics.[106] *Organic*, a rich and serious term for a rich and serious circularity without play or excess or brokenness or deviance: mountains, Bruce, mountains. A zombie substance for zombie human substances.

Don't we have here, crushed together in the frightening mixing bowl of Dick's spare prose, the Cartesian manifold stripped of comforting references to religion? On the one hand, absolute paranoia—as I wonder whether or not I exist, I can't help wondering whether I might be the puppet of some all-powerful but invisible demon.[107] On the other hand, absolutely bland extension, pure substance without end. A man without a head looking at himself looking at himself: mountains, Bruce, mountains. As if the point of that phrase were simply to make more of itself, like the farms of Substance D or Marx's scary encapsulation of capitalism in a tellingly similar phrase, *M–C–M′,* where money loops through capital and multiplies. Pure survival without quality, based on fear, generating people who can't tell whether or not they are people working on objects they can't tell are objects. *Mors ontologica* indeed. Which is why ontology is a vital part of the struggle against agrilogistics.

Mountains, Bruce, mountains: in other words, Nature, a substance "over there," underneath, just round the corner, despite appearances, out back, behind the surface, comfortingly present, endless, normal, straight. Agrilogistics spawns the concept of Nature definitively outside the human. The normative concept of Nature, telling you what's "in" and what is "out," as surely as a jaded fashion magazine, is deeply

troubled. Normative Nature simply can't cover absolutely everything because Nature depends on specifying the unnatural. But this is just what we moderns are incapable of doing in advance of the data. The concept Nature is a flicker of resistance to the oncoming metal army of industrialization, like a fake medieval sword made of rubber. A fake medieval sword that heightens the fire risk in California's Yosemite National Park: John Muir, architect of the parks and believer in Nature, favored the growth of trees that covered the slopes in attractive (and flammable) swaths of dense green, to the chagrin of the Native Americans.[108]

The rhetoric of what I have elsewhere called ecomimesis is typified by a Nature speak that tries to straighten out a loop.[109] The core of ecomimesis is a sentence such as "As I write this, I am immersed in Nature." Ecomimesis tries to fuse the layer of narrative and the layer of narration, creating a paradoxical loop about whose paradoxical and loopy qualities ecomimesis is perpetually in denial. The denial within ecomimesis is a symptom of the larger loop of whose machination ecomimesis is a small, human-scaled, "lived experience" region.[110] Its job is to flatten out the inherent twist in a chiasmus, to make the twist into a pure circle, "an insect that clacks and vibrates about in a closed circle forever."[111]

Closing the circle is impossible. Even a circle is a *circling*, a circulation that implies an inherent movement, a constant deviation from the integral (pi, impossible to compute completely, yet thinkable). A circle is thinkable yet impossible to execute, the very opposite of agrilogistics, which by contrast is pure execution without a head. Even a circle is twisted. Attempts to straighten things are violent; they never work perfectly because they are "doomed." When we hear the phrase *Mountains, Bruce, mountains* and its pure echo, we are haunted by something, an excess in the very doubling, the very circularity, the *invagination* that turns things inside out. Something lopsided and broken, crying with pain, a shard of glass in its stomach, stuck between the inside and the outside of a house, a human

dwelling (Greek *oikos,* hence *oik*-onomy, *oik*-ology).[112] A cat stuck between inside and outside: an *intraterrestrial alien* haunting the supposed pure circularity of Nature and human (mountains, Bruce). The edge of a circle is a deviation. The edge of a system such as agrilogistics is a fold, a twist.[113] The edge is not absolute.

In this sense, the concept Nature isn't only untrue; it's responsible for global warming. Nature is defined within agrilogistics as a harmonious periodic cycling. Conveniently for agrilogistics, Nature arose at the start of the geological period we call the Holocene, a period marked by stable Earth system fluctuations.[114] One might argue that Nature is an illusion created by an accidental collaboration between the Holocene and agrilogistics: unconscious, and therefore liable to be repeated and prolonged like a zombie stumbling forward. Like Oedipus meeting his father at the crossroads, the cross between the Holocene and agrilogistics has been fatally unconscious.

Nature is best imagined as feudal societies imagined it, a pleasingly harmonious periodic cycling embodied in the cycle of the seasons, enabling regular anxiety-free prediction of the future. Carbon dioxide fluctuated in a harmonious-seeming cycle for twelve thousand years—until it didn't.[115] We Mesopotamians took this coincidence to be a fact about our world and called it Nature. The smooth predictability allowed us to sustain the illusion. When we think of nonhumans we often reminisce nostalgically for a less deviant-seeming moment within agrilogistics, such as fantasies of a feudal worldview: cyclic seasons, regular rhythms, tradition. This is just how agrilogistics feels—at first. The ecological value of the term *Nature* is dangerously overrated, because Nature isn't just a term—it's something that happened to human-built space, demarcating human systems from Earth systems. Nature as such is a twelve-thousand-year-old human product, geological as well as discursive. Its wavy elegance was eventually revealed as inherently contingent and violent, as when in a seizure one's brain waves become smooth.[116] Wash-rinse-repeat the agrilogistics and suddenly we reach a tipping point.

The Anthropocene doesn't destroy Nature. *The Anthropocene is Nature* in its toxic nightmare form. Nature is the latent form of the Anthropocene waiting to emerge as catastrophe.

Agrilogistics is a strange loop because its very attempt to smooth out the physical world and to smooth out anxiety doubles down on that physical world and on anxiety itself, just like washing your hands forces bacteria to adapt. Why did this strange loop emerge? How can we think this emergence? It would be going against the implicit temporality of loops to assert, as so many do, that there was an origin point, exactly there, exactly then, constantly present in a definable archive.[117] Such an assertion is recursively part of the very agrilogistic schema we are attempting to explain. Instead of looking for an origin point then, we must think ecologically. We must examine how an existing state of affairs (ecosystemic degradation resulting from global warming) interfaced with an existing state of affairs (human psyches). Moreover, we must think each state of affairs as entwined with one another and as consisting of nested loops of other states entwined with one another: humans within ecosystems, thoughts within brains. A nest of vipers.