

**The Interior of Things:
the Origami of Being**

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I will proceed naively, speculatively, like the pre-Socratic philosophers seeking to determine which element or elements ground the rest of beings. In what follows I seek to bear fidelity to the Greek, pre-Socratic philosopher Thales; as well as Heraclitus and the Roman Lucretius... At least, Lucretius as plied by Michel Serres. With Thales, I will suggest, after a fashion, that all is water. If water is an exemplary candidate for the being of being, then this is because it is now a liquid, now a gas, now a solid, and because in its flowing it is pervaded by all sorts of turbulence and pattern. Thales taught that a tree is a peculiar form of ice, or maybe even a strange sort of vortex or whirlpool. However, what ultimately interests me is not which of the four elements might be the best candidate for the ultimate ground of being. What instead interests me is a certain topology of being, a certain structure: that being is always plied by difference and that at its root level there is always and everywhere the fold between thing and field and what transpires between the two.

Everything transpires as if the being of beings were a sort of origami. There are only folds: plaits, pleats, creases, waves, crevices, knots, and caves. And within each of those folds? Other fold! There are only folds coiled within folds radiating to infinity in both time and space. And if this is not enough, these folds are not fixed-crease folds, but rather are mobile folds. The wave is a better image of the fold than the envelope. A wave is a fold that perpetually folds itself, that traverses a field and that maintains its identity through the repetition of a process that

is the unity of both difference and sameness. The folds of being are not fixed creases, but rather being never ceases to everywhere fold and unfold itself. Being is everywhere an undulation of folds and of undulating folds. Folds envelop one another, enfolding other folds within them. On other occasions and in other places, planes or fields undergo processes of invagination through which the surface becomes textured and riddled with crevices forming something akin to caves. On yet other occasions, that which is folded unfolds. In unfolding, that which is folded does not become a smooth or flat surface. This, of course, sometimes happens as well, though perhaps the flat surface or plane is the most folded being of all. More often, however, that which unfolds configures itself as a new formation of folds like a blooming flower.

Under the banner of realism, contemporary ontological thinking has responded to the provocative question of what is with the answer objects. Once called substances by Aristotle, objects or things are discrete individualities. As Aristotle will say in the *Categories*, substances are “[t]hings... [that] are individual and numerically one.”¹ He continues, “[a] *substance*-- that which is called a substance most strictly, primarily, and most of all --is that which is neither said of a subject nor in a subject...”² Numerically one and individual, substances are discrete beings of which things are said without themselves being said of anything. By this Aristotle means that substances are subjects of predication without themselves being predicated of anything else. We say, for example, red *of* an apple. Contra Plato, Aristotle holds that qualities like redness can only exist *in* substances or individual beings, not independently in their own right. They do not have substantial being of their own. Apples, by contrast, exist in their own right, they stand alone or independently, and are therefore predicated of nothing else. That contemporary vector

1 Aristotle, *Categories*, in *The Complete Works of Aristotle (Volume I)*, Jonathan Barnes, ed., Princeton: Princeton University Press, 1984, 1^b6-7.

2 *Ibid* 2^a13-14.

of ontological thought of which I was once something of a proponent, is very much a revival of Aristotelean substance-ontology. We must remember that this is **a** vector of contemporary ontological thought and that this position is not identical with speculative realism, and also that object-oriented philosophy is not identical with object-oriented ontology. Speculative realism and object-oriented ontology are both broader than Harman's object-oriented philosophy. Here, for example, I am advancing a speculative realist critique of Harman's object-oriented philosophy or neo-Aristoteleanism.

The object-oriented philosophy that I am here, in part, critiquing could be called a “neo-Aristoteleanism”. Neo-Aristoteleanism arises to defend the rights of the object. I cannot here enter into the intricacies of this debate. Suffice it to say, neo-Aristoteleanism emerges as a cry of defiance, refusing the dual reduction-- what Graham Harman refers to as “overmining” and “undermining” --of objects either to our thought or discourse about objects or to some more basic fundamental substratum such as the virtual, the undifferentiated *apeiron* of Anaximander, atoms, or perhaps the actual occasions of Whitehead. Of undermining Harman will say that “[t]he first critical response to object asserts that they are not fundamental. All of the dogs,” he continues, “candles, and snowflakes we observe are built of something more basic, and this deeper reality is the proper subject matter for philosophy.”³ According to Harman we undermine objects when we reduce them to a more fundamental strata of being such as atoms or the undifferentiated *apeiron*. No doubt Harman would suggest that I am here undermining objects with the concept of the fold. By contrast, Harman argues that we overmine objects when “[i]nstead of saying that objects are too shallow to be real, it is said that they are too deep. On this view”, Harman claims, “the object is a useless hypothesis, *a je ne sais quoi* in the bad sense.

3 Graham Harman, *The Quadruple Objects*, Washington, USA: Zero Books, 2011, p. 8.

Rather than being undermined from beneath, the object is overmined from above. On this view, objects are important only as they are manifested to the mind, or part of some concrete event that affects other objects as well.”⁴

Object-oriented philosophy is thus directed at preserving the dignity of the object at all costs against the twin incursions of undermining and overmining. In this aim, neo-Aristotleanism or object-oriented philosophy is to be praised. Take the example of overmining common to the social and linguistic constructivisms that predominated in late 20th century French Continental thought and that continue to hold sway today. The core operation of linguistic and social constructivisms was to show how the features we attribute to objects are not properties of objects *per se* or the things themselves, but rather arise from how we linguistically categorize things. This gesture to which I'm deeply sympathetic and which I've sought to preserve in my own work in a modified form has been particularly fruitful in deconstructing ontological assumptions surrounding gender and race, thereby opening vectors of emancipation by revealing the arbitrariness of these categorizations. That which has been constructed can be constructed differently. Nonetheless, within the framework of Harman's ontology it is a form of overmining in that it erases substances by treating them as constructions of how we talk about things. These properties, the linguistic idealists argue, arise not from the beings themselves but from how we talk about these beings. As fecund as the critiques of linguistic constructivism have been in the domain of unjust social formations, it is nonetheless difficult to see how we can talk about things such as climate change within these idealist frameworks. Climate change requires us to advocate a realist ontology rich enough to talk about the things themselves. It is not signifiers that cause global average temperatures to change, but greenhouse gases. In this, Harman's polemic against

4 *Ibid* pgs. 10 – 11.

overmining and undermining is productive.

However, Harman's neo-Aristotleanism leads us to very strange places in its drive to avoid undermining and overmining at all costs. The key thesis of object-oriented philosophy, for example, is that objects are withdrawn from all relations. Objects, Harman will tell us, never touch or relate to one another, but are “vacuum sealed”. Two concerns motivate this peculiar move: First, the worry is that if we conceive objects as being related, then we risk undermining substances by *reducing* them to their relations. Here the object would be *nothing but* a nexus of relations, contributing nothing to being at all. It would be a sort of point where lines converge. Under this model we can rightly ask how any change would be possible at all because there would be no alterity from relations to explain where change comes from. On the other hand, the doctrine of withdrawal is enlisted to avoid overmining objects by reduction to the mind that regards them. In this regard, objects are treated as withdrawn even from the qualities or properties by which they present themselves to us. Process is also rejected in Harman's ontology because it is yet another variant of undermining. As he writes elsewhere,

Undermining occurs if we say that 'at bottom, all is one' and that individual objects are derivative of this deeper primal whole. It happens if we say that the process of individuation matters more than the autonomy of fully formed individuals. It also happens when we say that the nature of reality is 'becoming' rather than being, with individuals just a transient consolidation of wilder energies that have already moved elsewhere as soon as we focus on specific entities. There is undermining if we appeal to a pre-objective topology deeper than actuality, or if we insist that the object is reducible to a long history that must be reconstructed from masses of archival moments.⁵

The worry here seems to be that with ontologies of emergence objects are reduced to epiphenomena not unlike rainbows that are mere effects of the processes of emergence or

5 Graham Harman, “On the Undermining of Objects: Grant, Bruno, and Radical Philosophy”, in *The Speculative Turn: Continental Materialism and Realism*, Levi Bryant, Nick Srnicek, and Graham Harman, eds., Melbourne: Re:Press, 2011, p. 25

individuation through which they are produced. Reduced to mere results or outcomes of becoming, objects would have no substantiality of their own. The real action would be elsewhere, in that deeper strata constitutive of the pre-objective field of intensities out of which beings emerge. Here, I think, we should question Harman's notion of becoming or process, but more on this later.

The outcome of Harman's object-oriented philosophy is that *real* objects cannot relate because they are so thoroughly withdrawn they never touch in any way. Again, they are, as he likes to say “vacuum sealed”. As he repeats throughout his works, this places him in a position similar to the occasionalists. The occasionalists argued that no object directly relates to another. Within Islamic philosophy it was instead God that related beings to one another and that even even sustain beings in their existence. Unlike occasionalists like al-Ghazali, however, Harman does not evoke God to sustain objects in their existence and relate them to one another. Rather, he develops a concept he refers to as “vicarious causation”. While the squirrel that climbs a tree does not relate the tree as a real tree because, insofar as beings are withdrawn from one another, the squirrel as one real object does not relate to the tree as another real object, the squirrel does nonetheless relate to the tree as a “sensuous object”. The sensuous object is an object on the interior of a real object; in this case, an object on the interior of the *squirrel*. As Harman remarks, “...we never touch real objects, we always touch sensual objects. Sensual objects would not even exist if they did not exist for me, or for some other agent that expends its energy in taking them seriously.”⁶ The squirrel does not touch the tree as a real object, but rather only relates to a sensuous tree that is dependent upon the *squirrel* to exist.

I confess that, along with many others, I have a very difficult time understanding

6 Graham Harman, *The Quadruple Object*, p. 74.

Harman's account of vicarious causation or how it solves the quandary surrounding relations that his doctrine of withdrawal places him in. First, at the most basic level, his account of vicarious causation seems incoherent. Claiming that the squirrel relates to a sensuous tree rather than a real tree gets us no further because we still don't understand how the sensuous tree can possibly relate to the real tree. It would seem that you can't have it both ways. If all objects are absolutely withdrawn from one another, if they are all vacuum sealed, they don't relate in any way. Here the squirrel is not relating to the tree, but to itself. It's as if Harman were attempting to say that the squirrel both does and does not relate to the tree, but that move has already been foreclosed by his thesis of withdrawal. As an aside, we can also see how Harman's ontology of withdrawal also undermines the entire ecological dimension of being insofar as it conceives beings as fundamentally self-enclosed and unrelated. Second, and I owe this insight to David Roden, the doctrine of withdrawal makes it difficult to see how the squirrel can be related to a *tree* at all, for where objects are withdrawn beings can never know what it is that they are related to. As Roden puts it, "it's difficult to see how a proponent of [Harman's object-oriented philosophy] can be ontologically committed to crystals (or clowns) given that we never have access to them."⁷ Where objects are completely withdrawn from one another it becomes impossible to say what is because we have no access to these objects whatsoever. What we instead get is a sort of pan-solipsism where, at best, we can say that there are sensuous trees, squirrels, and clowns *for us*, without ever being able to determine whether there are real trees, squirrels, and clowns.

It could be said that Harman is the great champion of the middle plane, the middle world,

7 David Roden, "Comment", in "Some Thoughts on Graham Harman, 'Lavalampy materialism', and Deleuzian 'undermining'", at *Minds and Brains*, by Gary Williams, <https://philosophyandpsychology.wordpress.com/2011/01/12/some-thoughts-on-graham-harman-lavalampy-materialism-and-deleuzian-undermining/>.

the mesoplane, of existence. He wishes, at all costs, to preserve the place of the object against upward and downward reduction and erasure. Put differently, we could say that Harman wishes escape that move where the object is transformed into an epiphenomenon or ghost. Take the example of van Inwagen's ontology. Within that ontological framework, only elementary particles exist.⁸ Meso-beings such as baseballs and windows don't exist. Consequently, when a baseball breaks a window there is neither a baseball nor a window, but rather we have two fields of particles interacting with one another. Here meso-beings such as baseballs and windows are effectively epiphenomena or ghosts that contribute nothing to our explanation of what takes place. This is a classic case of undermining. By contrast, when we say that objects are linguistically or socially constructed, we are saying that language, mind, and society do not reflect a reality that is independent of them, that they are capturing or discovering differences that are "out there". Rather, we are saying that the agency is on the side of language, thought, and society. It is here language that is calling the shots or, as Lacan said, "the universe is the flower of rhetoric."⁹ Here objects are overmined in that there simply are no meso-beings or objects "out there" to exercise agency. Differentiability is entirely on the side of language, society, or mind. Harman wishes to preserve a meso-strata of objects, where things are ontologically irreducible either upwards or downwards, and where substances are agents that contribute real differences to the world.

His strategy for preserving the object thus lies in a fierce assertion of *autonomy*. Objects are, in object-oriented philosophy, radically autonomous. "*Nomos*", of course, refers to law, while "*auto*" refers to "self". That which is autonomous is therefore a law unto itself, its own

8 Peter van Inwagen *Material Beings*, Ithaca: Cornell University Press, 1995.

9 Jacques Lacan *Encore: On Feminine Sexuality*, Bruce Fink, trans., New York: W.W. Norton & Company, 1998, p. 56.

law, and therefore radically immanent to itself without any admixture of heteronomy. Harman conceives objects as individualities and ones so pristine and autonomous that not only are they withdrawn from any relation we might have to them through knowledge or acting upon them, but they are also withdrawn from all other things. Harman's objects are radically non-relational. However, as we have seen, this heroic attempt to preserve objects against any incursions or reductions leads to the deep riddle of how any objects can relate at all and what merits our ontological commitment to the existence of any objects. We began by wanting to say that cell phones, meteors, black holes, and tardigrades are and that they contribute something to the world *per se* and not just in terms of how we categorize such things linguistically or as shorthand for elementary constellations of particles, but ended up unable to determine whether such things exist at all, nor to determine how they could influence anything at all. Our attempt to preserve objects led us to abandon emergence, process, and ecology.

Like Harman I wish to preserve something of the agency and ontological dignity of objects against the twin dangers of undermining and overmining; however I believe that the route of autonomy leads to irresolvable problems. Due to these difficulties, let us instead see if we get further by treating the core of things or objects not as autonomous, but rather as heteronomous. Under this hypothesis, objects, in their core, would be constituted not by radical autonomy or non-relationality, but by heteronomy. To speak of objects as heteronomous is not to say that there are a plurality of objects that differ from one another-- though there are --but rather that each object differs *per se* or in itself. Were there only one object in the entire universe, that object would still be heteronomous. It is here that we encounter the hypothesis of the fold. The ontological hypothesis of the fold is that the minimal unit of being is not the object or substance,

but rather the fold between thing and field. Under this hypothesis, being or existence is dyadic or a dyad. However, I hasten to add that a dyad is not a dualism. With dualisms such as the infamous mind/body dualism, there is one substance opposed to another and an infinite distance between the two that can never be surmounted. Not even the humble pineal gland is able to surmount the distance between mind and body within dualism. With a dyad, however, the one is two or rather the two are continuous with one another. There is real individuality and singularity, but only within a field that the being or object is continuous with. Put differently, there is no object or thing that isn't attached to a field.

The concept of the fold is mobilized to unify discreteness and continuity. Objects or things are a sort of origami within being; they are the continuous with the field of existence or being, both enveloping and metabolizing that broader field of being and are enveloped and metabolized by that field of being. Here I begin imprudently with an image. If I say that beginning in this way is imprudent, then it is because metaphors and analogies are as liable to mislead to the same degree that they illuminate. Yet if the being of being is the fold, then there is no other way to proceed, for being will always have alterity folded into it. There will be no ultimate ground, no Archimedean point, that will be firm and inviolable. Anything we might say will already entail something else folded into it, for being is minimally a dyad rather than a one.

So, by analogy, let us conceive the field or plane of existence as a sort of surface of immanence without any transcendence or anything standing outside of it. Better yet, let us conceive of it as an infinitely expansive piece of butcher's paper that radiates outwards in all directions in time and space. In conceiving the plane of existence or being as an infinite surface or piece of paper we must take great care not to conceive it as empty or undifferentiated. The

plane of existence is no ordinary surface. It is not an undifferentiated *apeiron* out of which beings emerge such as we find in Anaximander. Nor is it still or fixed. Rather, everywhere across this surface or plane there are moving eddies, waves, and wrinkles. The surface, in a word, is filled with turbulence, gradients, differences, and creases. As such, it is a mobile plane or a plane filled with all sorts of flows. In this regard, an infinite ocean with all of its depths, waves, and turbulence might be a better image of the plane of existence than a sheet of paper. We can say of the plane of existence what Michel Serres says of Lucretius' ontology: "The world to which it testifies... is a place of turbulent flows, of chaos and the emergence of order by what classical metaphysics has taught us to call chance..."¹⁰

The thing or object is not something other or outside of the plane of existence. It is not a thing that occupies a place *on* this strange surface like a chess or go piece on a board. Rather it is instead a local folding of that plane, an instance of origami, whereby an enduring being comes into existence. As Serres will say, "[f]rom a Lucretian perspective, fluidity is not a particular and rare case of the general condition of solids, but rather the model from which all physics begins. Solid bodies are just exceptionally slow moving fluids. Stable order exists not through resistance to change, but through the temporary maintenance of structured change. Form itself is never static, and local order, which from within may give the appearance of stability is a minimally open system that will in time return to the global flow from which it arises."¹¹ Later Serres will continue, remarking that the "...vortex... is none other than the primitive form of the construction of things, of nature in general... The world is first of all this open movement, composed of rotation and translation."¹² Things are vortices or what I have called instances of origami within

10 Michel Serres, *The Birth of Physics*, Jack Hawkes, trans., Manchester: Clinamen Press, 2000, p. x.

11 *Ibid* p. xi.

12 *Ibid*.p. 6.

the broader field of being. Things are not things that occupy the surface of existence, but are instead folds or pleats of this plane of existence; vortical motions and local orders within that field.

The image of the vortex or of a dynamic origami presents us with a unity of discreteness and continuity; a heteronomous conception of the object or thing. A vortex is a discrete being, an individual being, a unit. It is a local dynamic stability and order within the turbulent field of existence. For this reason, it is also continuous with the rest of being in that it arises from the world, from the field or plane of existence in those instances where the turbulence of that plane meets the proper conditions for patterned existence or origami to come into being. Structure and stability are not fixed and crystalline structures, but rather are ongoing processes. It is for this reason that there is always a fuzziness to things. In the adventure of their being, in their ongoing processes, structure undergoes all sorts of variations and mutations. Order is always haunted by an edge of chaos that makes it difficult, if not impossible, to form a “clear and distinct idea” of anything.

Here it's worth pausing for a moment to examine the image of vortices more closely. A hurricane is an instance of a vortex or dynamic origami. To come into being a variety of conditions in the plane of existence must first be met. There has to be a certain sort of turbulence and a variety of differential gradients need to be present. There must be enough humidity and dust in the air. Ocean and air temperatures must be right. Barometric pressures and differentials need to obtain. As Schneider and Sagan argue in *Into the Cool*, pressure and temperature differentials in particular play a key role in the formation of hurricanes because as differential gradients between high and low pressures and temperatures attempt to equalize themselves

vortical flows emerge.¹³ These vortical flows are the hurricane. Indeed, we can think of hurricanes as engines, as a way of folding pressure and temperature gradients or differentials with water and dust to dissipate inequalities within the plane of existence. Hurricanes both arise from these differentials, gradients, or inequalities and unfold in such a way as to dissipate these gradients. There's a sense in which every hurricane and tornado is suicidal.

There are a few points worth noting about the origami of hurricanes. First, recognizing that a hurricane has antecedent conditions in the field of existence in no way undermines the being or individuality of the hurricane. It is not that these conditions of temperature, pressure, and humidity are what is really real, what is ontologically basic, and that the hurricane is a mere epiphenomenon or result of these antecedent conditions. There is no opposition between becoming and being here such that being is a sterile result, a stasis, and becoming is true reality. Rather, hurricanes come into being from antecedent conditions *and*, having become vortices, exist as unique or discrete individualities. Hurricanes have their own internal structure or pattern that while fuzzy is nonetheless entirely real. In short, hurricanes as “objects” are not undermined by having antecedent conditions. Hurricanes are beings that come into being from a broader field of existence, that create a unique dynamic fold or form of origami, and are beings that stand as their own individualities in coming into being.

When the hurricane comes into existence it attains what I call an “endo-structure” or an internal structure or pattern. The endo-structure of the hurricane is the interior of its being as an object; it is the process by which the hurricane pleats or folds matter in a pattern. As a sort of complex pattern of folds such as the spiral forming a unity, the endo-structure of the hurricane is

13 Eric D. Schneider and Dorion Sagan *Into the Cool: Energy Flow, Thermodynamics, and Life*, Chicago: Chicago University Press, 2005, pgs. 132 – 136.

why it is not undermined as *a* being, despite having arisen from antecedent conditions. The endo-structure is the hurricane's singularity, its individuality, its haecceity. It is a local pattern within the plane of existence that differentiates itself from the broader plane of existence while nonetheless being continuous with or related to this plane. It should be borne in mind that the endo-structure of a thing is not a clear and distinct structure like the idea of a triangle defined by three angles, but is a variable, plastic, and therefore always approximate. The endo-structure of the hurricane changes over time as a result of its encounters with turbulence in its field and gradually dissipates as it comes inland. With the hurricane moving inland we encounter a sort of ontological fission, for the hurricane breaks up into different and distinct eddies before evaporating altogether. At any rate, if we are unable to precisely articulate the endo-structure of a thing, then this is not because its essence is withdrawn from all other beings, but because there is no fixed essence to be found. There are only approximate essences, fluctuating essences, or what Deleuze called "anexact" ideas.

In this regard, we should always bear in mind that the endo-structure of a being is never something that a vortex *is*, but is rather a *process through* which the vortex is. I'll have more to say about this in a moment, but we must remember that folding is a verb. To exist, the hurricane must perpetually fold or pleat itself from moment to moment, producing its endo-structure even as it is its endo-structure. Evoking a linguistic barberism, we can say that the hurricane "hurricanes". It perpetually pleats itself forming the sort of unique origami of wind and water that it is. Again, the hurricane is an engine that must run to exist. Hurricaning is the process by which the hurricane pleats matter to form its pattern or structure and to continue the adventure of its existence.

We can, of course, study or investigate the endo-structure of things or vortices in *abstraction*, divorcing them from the fields in which they exist and studying the patterns that they are. Here we approach beings not as a process, nor in terms of their emergence, but in terms of their structure and style of folding or origami. For example, we might theorize music as a folding of sonic space. Music is a way of pleating and folding the sonic continuum. Musical invention would here consist in a new style of folding or pleating sonic space. Different genres of music are different forms of sonic origami, different ways of pleating the sonic continuum in patterns. Music must be performed, of course, in order to exist, but nonetheless we can model it even where it's not performed. It's interesting to note that even where we haven't heard a particular song we can nonetheless often immediately recognize the period in which it was produced because different historical periods have different ways of pleating the sonic continuum. Here, then, we can imagine two forms of musical composition: the normal and the revolutionary. Normal composition consists in making new moves according to the origami of an established genre or periodization of music. One plays well not because they are skilled with their voice or instrument, but because they are able to devise new moves within an established paradigm. Revolutionary composition, by contrast, consists in the unfolding of an entirely new style of folding the sonic continuum, of establishing a new set of rules and a new field of play within which moves or sounds can be folded. This, for example, is what Schoenberg did with atonal music. An infinite space of play was broached in a new topology of sound. The same would hold of painting, theatre, literature, poetry, sculpture, and architecture. So many different forms of origami, so many different ways of pleating material continuums.

Second, a hurricane is a process or folding of being. This is another sense in which I

intend the expression “origami of being”. Not only do hurricanes come into being or pop into existence from out of the broader field of being, but the being of hurricanes is also a becoming. Hurricanes, once coming into existence as discrete entities or individualities, as “ones”, do not sever their relations from the field of existence out of which they emerged, but must exist *from* the field in which they exist. In this regard, hurricanes, like all objects, are open systems. They must draw from flows in the field of existence outside of themselves to sustain their vortical being. We can hypothesize that variations in these flows will also generate variations in the structure of the vortex. It is not, as Harman would have it, that objects or vortices have a withdrawn, invariant fixed crystalline essence that remains the same beneath accidental changes¹⁴, but rather that the structure or pattern of beings is variable as a function of how it folds flows from the broader plane of being out of which they arise. As Stacy Alaimo puts it, all “...corporeality is trans-corporeality”, such that objects are intermeshed with the broader world.¹⁵

Here I introduce two new terms to help us think about these processes of folding and variation at the core of the processual nature of beings. Vortices, origami, or things *implicate* differences from the field of existence from which they exist and *explicate* those differences according to their own internal structure or pattern. The root of the terms “implication” and “explication” comes from the latin verb “*plicare*” meaning “to fold”. Ordinarily we think of implications and explications as belonging to the domains of logic and hermeneutics; and indeed, both formal logic and art of interpretation are forms or practices of origami. However, insofar as all beings are trans-corporeal, all beings both implicate or envelop differences or folds of other beings and explicate them in qualities and patterns of their own being. In this regard, what I

14 Cf. Graham Harman, *Tool-Being: Heidegger and the Metaphysics of Objects*, Chicago: Open Court Press, 2002, pgs. 242 – 268.

15 Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self*, Bloomington: Indiana University Press, 2010, p. 2, modified.

called the “endo-structure” of objects in *The Democracy of Objects* is characterized by an inherent plasticity. Fluctuations in temperature and pressure strengthen and weaken the hurricane, making it now grow smaller, now larger. New eddies of turbulence and pattern emerge. As the hurricane encounters mountainous islands and obstinate peninsulas new patterns emerge. The hurricane implicates these differences from the broader field of being, folding them into itself, and explicates or unfolds them in qualities and features of pattern. In explicating the differences that it implicates, the hurricane blooms. To exist and continue existing, the hurricane must exist *from* the field in which it exists. It must draw on that field to sustain itself in its existence. It exists from that field, while differing from it. Such is the heteronomy of the hurricane.

The object-oriented philosopher or neo-Aristotelean might worry that objects are here undermined by being conceptualized as akin to boats at the mercy of the ocean, tossed to and fro without any agency of their own. Isn't the hurricane here simply treated as the *puppet* of the differences that it implicates or folds into itself? There are two points that respond to this criticism: First, the being of a vortex in both its structures and qualities is never a simple result or product of the differences it implicates from the broader field of being. While a vortex does indeed exist *from* the broader field of existence that it implicates, it nonetheless explicates this field according to its *own* endo-structure or origami. Every vortex introduces differences according to its own internal organization. Implicated difference is always translated by the endo-structure or origami of a being as an explication. The explicated differs from the implicated. As a process, the differences implicated by a vortex enter into resonance with the cavernous folds of that being's origami, vibrating, as it were, in new ways, and are thereby

explicated in new patterns and qualities in the vortex. Here we might think of Karen Barad's diffraction patterns that occur when two waves encounter one another.¹⁶

Second, it is not simply that beings, origami, or vortices explicate the differences that they implicate; but also that in explicating these differences they transform the field of existence out of which they became. Differences don't simply go into the hurricane, but they flow out of the hurricane as well. In flowing out of the hurricane they reconfigure the field of existence, the ocean of being, modifying its behaviors, qualities, and structure; folding it otherwise. Each vortex contributes new turbulence to the ocean of being. There is no greater testimony to the individuality and reality of origami, things, or objects than the way they rebound back on the field of existence out of which they emerge.

It will perhaps be objected that it is very easy to conceive of hurricanes as vortices attached to a broader field of existence that they implicate or fold into themselves, but certainly this isn't true of other things? Certainly rocks are not vortices nor whirlpools within being? Certainly they are not origamic processes? Yet even rocks fold the field within which they emerge. There is, of course, the turbulence out of which rocks emerge and that varies for different types of rocks. In *A Thousand Plateaus*, Deleuze and Guattari will describe the process by which sedimentary rock is formed out of a field through a process they call, following the linguists, "double articulation".¹⁷ Sedimentary rock requires a particular form of turbulence, a particular vortex, to come into being. In the first stratification you require a machine such as a river, flowing at a particular rate, that thereby picks up stone and silt of a particular size, depositing it, perhaps where the river bends and the current slows, in a particular place. There

16 Cf. Karen Barad, *Meeting the Universe Half-Way: Quantum Physics and the Entanglement of Matter and Meaning*, Durham: Duke University Press, 2007.

17 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, Brian Massumi, trans., Minneapolis: University of Minnesota Press, 1987, p. 41.

must be a machine of sedimentation that selects and deposits. In the second articulation, this sediment is folded onto itself, creating all sorts of pressures, effecting "... the passage from sediment to sedimentary rock." Sedimentary rock is a product of folding within the ocean of being. Deleuze and Guattari suggest that the same process takes place in the case of the iron smith.

...an organism befalls the body of the smith, by virtue of a machine or machinic assemblage that stratifies it. "The shock of the hammer and the anvil broke his arms and legs at the elbows and knees, which until that moment he had not possessed. In this way, he received the articulations specific to the new human form that was to spread across the earth, a form dedicated to work... His arm became folded with a view to work."¹⁸

The machinic assemblage consists of interactive relations between bodies. In this case, the machinic assemblage consists of the biological body of the smith, his hammer, the various bits of iron he works upon, the anvil, the fire, and water. The first articulation is the selection of differences pertaining to all of these different bodies; their unique properties. As these bodies interact with one another, the body of the smith is "broken" as a consequence of the differences produced by his movements and pounding that his body implicates or envelopes. These differences "break" his body through a process of being folded into the endo-structure of his body, generating new muscle structures, dispositions to move in a particular way, a thickening of the bones here and there, and so on.

A body is not just something that we have, but also something that is formed as a result of the differences that it envelops. Again, the endo-structure of a being is variable and becomes as a result of the folds that it implicates and then explicates. Perhaps the point can more clearly be seen in the case of those who spend their life at sea such as my late grandfather. He had a particular gait, a way of setting his feet apart like the roots of an oak tree as if the earth were not

18 *Ibid.*

solid enough to support him or as if the earth were a sort of wave against which he had to brace himself. And indeed, this was exactly the case. In a fashion that would, no doubt, have delighted Virginia Woolf, my grandfather had implicated or enveloped the waves of the ocean through spending his days on the rocking surface of tug boats and barges and had explicated these differences in a new form of origami constitutive of his disposition to walk and stand in a particular way. He was an embodied wave, a fold of the ocean. He had become a wave that now flowed across the surface of the earth, but with legs and feet.

The case is no different with rocks, whether they be sedimentary or granite. Not only do they arise from turbulence and processes of various sorts, but they envelope differences of the cosmos such as temperature, pressure, gravity, photons of light, and waves of sound. These implicated or enveloped differences are then explicated or unfolded according to the endo-structure of the rock, giving rise to new qualities and dispositions. In response to temperature and humidity, for example, the rock expands or becomes brittle and more liable to break. If the temperature rises to a certain level the rock becomes molten and flows like water. Rock can, of course, be shattered by acoustic or sonic waves, but where it doesn't shatter it implicates these sounds, transforming their pattern of vibration and giving them new timber and pitch. According to the requirements of the rock's own endo-structure or origami, sound is folded in a different way than it was folded as it travelled through air. And who has not encountered the way in which one and the same sound is folded differently on a sweltering humid day or a bitter cold, dry day. There's a crispness to sound in the bitter cold, an eeriness that contrasts with the heaviness or sluggishness of the same sound on a hot, humid day. An echo in a cave is never the same as the voice that initiated it because the waves are folded and distorted by the walls of the

cave like a fun-house mirror folding light in different ways. Rocks too fold light. The color of a rock is not something that the rock simply has, but is a difference the rock implicates and explicates as an event depending on the wavelengths of light that the rock folds. It is not that the torchlight veils the true color of the rock that would finally be revealed to us if only we saw it in bright sunlight, but rather that the rock folds sunlight and torchlight differently.

Based on the foregoing, it can be said that relations between beings deserve to be called “inter-folds”. Beings envelop one another and are inter-folded. We might even say that the proper object of ontology, of “pli-tology”, is the exploration of how beings are folded into one another and fold one another. When encounters between vortices take place all sorts of torsions and mutations occur. No difference or fold from another being that is implicated is left the same when it is explicated or unfolded by another being. Perhaps this point can be illustrated by reference to architecture. In the past I've argued that architecture is a folding of space and matter that creates different configurations of the void. While I am not sure that I would today abandon this thesis, I find myself now closer to le Corbusier when he said that the house is a machine. The edifice is not simply something that configures the void, but also something that prefigures or seeks to fold what transpires within the void. The edifice seeks to fold the movement and life that transpires within it. Thus, for example, differences between kitchen design in modern homes and contemporary homes reflect different ways of folding labor, gender, and family relations. In the homes of the 50s and 60s, the kitchen is set off from the rest of the house and generally behind a door, reflecting the manner in which “the help” or the wife are to be segregated from the rest of the movement that transpires in the void. In the open concept kitchens of contemporary homes, we get a more egalitarian structuration of space that reflects a

shift in gender and family relations encouraging relations between those that dwell in the home. The concert hall or Greek amphitheatre Epidaurus is an origami, a machine, that configures the void or space and that selects the appropriate materials to fold and direct sound. Sound, matter, and configurations of space are inter-folded giving rise to the spectacle that is then folded into the audience, explicating itself in yet another way.

While it is doubtless true that vortices or objects harbor hidden depths or powers that we scarcely know, rather than saying things are withdrawn we should instead say that they are *radiant*. Things bloom like flowers as they explicate or unfold the differences they implicate. A tan is explicated sunlight, a different way sunlight shines, and an interpretation is not the unveiling of a deep meaning hidden behind the surface of a text like the code behind the appearances in *The Matrix* that only Neo can discern; but rather an interpretation is an inter-fold between two texts, implicating the one text in another, thereby explicating a new fold that produces something that *wasn't* there in the original, but which nonetheless carries traces of that original origami like my grandfather's body carried waves onto land. We fold Shakespeare into Lacan and get a new explication or unfolding as a result and we fold that explication into the world in which we live, causing that world to radiate in a new way. Our workplace is folded into Kafka and comes to be explicated in a different light. In the best of circumstances, a pedagogy infects students with differences that they explicate or unfold in their own ways. An ideal pedagogy doesn't create a replication of the same-- which, at any rate, is impossible because folds always fold folds when they inter-fold --but rather generates a bit of turbulence that carries the promise of a new and incalculable hurricane. We do not teach philosophy, or do so only in a secondary way, but instead teach how to fold and unfold existence philosophically. Anything

less than that is a failure of pedagogy. Things radiate the differences that they have implicated, but as novel creations.

What I have wished to say in the foregoing is that far from being withdrawn and without relation, being is profoundly ecological. The minimal unit of being is not the thing, but the fold between thing and field and what transpires in the folding of the two. Everywhere beings fold or ply one another. It is my hope that with the thought of the fold a vast field of investigation opens up, a pli-tology, opening everywhere the question of how things in various domains are folded and how they are inter-folded. What is the biological fold, the material fold, the literary fold, the political fold, the cultural fold, the mathematical fold? And how do these forms of origami fold into each other?