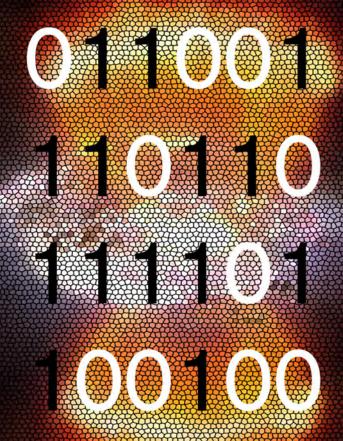
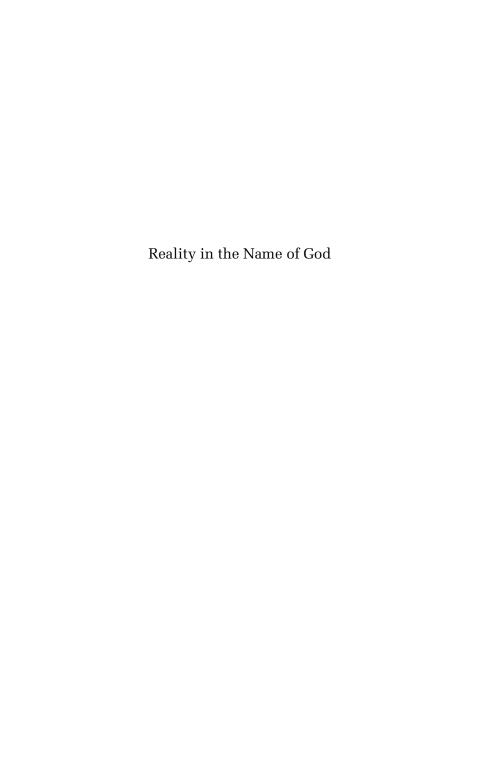
NOAH HORWITZ

Reality in the Name of God





REALITY IN THE NAME OF GOD, OR DIVINE INSISTENCE

An Essay on Creation, Infinity, and the Ontological Implications of Kabbalah

Noah Horwitz



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Fig. 1. Hieronymus Bosch, Ship of Fools (1490-1500)

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ABBREVIATIONS

AF After Finitude B Bergsonism BE Being and Event

BG Being Given: Toward a Phenomenology of

Givenness

BST Badiou: A Subject to Truth

CM The Creative Mind

DR Difference and Repetition

E Ecrits: A Selection

FF The Four Fundamental Concepts of Psycho-

Analysis

Guide Guide for the Perplexed GWB God Without Being

HDW How Do We Recognize Structuralism?

LP The Logic of Perfection

KC Kabbalah of Creation: The Mysticism of Isaac

Luria, Founder of Modern Kabbalah

MM Matter and Memory
NKS A New Kind of Science
PR Process and Reality
SP Speech and Phenomena

SY Sefer Yetzirah TB The Bahir

TDR The Divine Relativity: A Social Conception of God

TI Totality and Infinity: An Essay on Exteriority

TO The Trace of the Other

Zohar Zohar: Pritzker Edition, Volume 1

From Kabbalah to Correlationism and Beyond

§ 1. CREATION AND INFINITY

Creation and Infinity. No two terms are more central to a monotheistic metaphysics of the divine. All other traditional attributes of the divine either derive from them (from creation one can derive omniscience, omnipotence, etc.) or are synonymous with them (infinity is synonymous with perfection, eternity, omni-presence, omni-benevolence, unicity, etc. and creation is part and parcel of God's necessity as modal arguments for God show). It is bewildering, then, that while contemporary philosophy does in some cases attribute infinity to the divine (if only from perspective of that which exceeds human cognition), it has abandoned a view of God as creator. However, the centrality of these two aspects cannot be denied. No thought of the divine can avoid the issue of the infinite and God's own infinity, whether it refers to the question of multiple infinites, if there are some infinites greater than others, or if God's infinity necessitates God's identification with all that is (pantheism), etc. On the other side, unless one is willing to reduce theology to a species of human psychology and anthropology, the reality of creation must be accounted for. And if one cannot find a way to account philosophically for God as creator and absolutely infinite, then one can turn to mysticism for inspiration.

§2. COGNITIO DEI EXPERIMENTALIS

Gershom Scholem attributes to Thomas Aguinas "cognitio of mysticism as definition the knowledge of God through experimentalis, experience" (Scholem 1995, 4). Scholem and others highlight this definition because it simply captures the essence of mystical experience. The mystic attempts to achieve knowledge of God experimentally. Rather than rely on reason or science, the mystic desires a direct experience of the deity and, amazingly, records and presents the results of his/her investigations for public inspection. What is interesting about these results is that insofar as they depend solely on the unique lived experience of the mystic, they cannot, at least not from the philosophical perspective we hope to abide by in this text, justify themselves as true or The experimental results of the mystic's adventure rest on intuition alone and confirmation. In this way, mystical experience inverts the manner of experimentation associated with the empirical sciences.

It is our contention that philosophy can take the results of such experimental knowledge and see whether they can pass the test of reason and find confirmation in being converted from intuitive, often opaque and mysterious, and even paradoxical statements into metaphysical positions as such. Here, in particular, some of the fundamental results of the

¹ One model of mysticism is that of female mystics such as St. Teresa of Avila in the Christian tradition. Jacques Lacan in his twentieth seminar, *On Feminine Sexuality* (1999), famously uses her as an example of female enjoyment beyond the realm of being. For us, this would mean direct mystical contact with the withdrawn nature of God. But such contact while witnessed is itself ineffable. For this reason, while one can point to something beyond the conceptual, it is only from within the framework of conceptuality that it can itself be first framed.

Jewish mystical experience commonly categorized under the name Kabbalah (we think here of what has been called in this literature tzimtzum, shvirah, eyn sof, avin, etc.) will be articulated in such a way as to see if they can be understood as characterizing a fundamental ontological and theological perspective. The intention is not to explain Kabbalah, but rather to take what it says as the aftermath of a trial that needs itself to be weighed and examined. The tools for doing so will be the resources of philosophy alone and thereby the ultimate goal is to see if the returns of Kabbalah can yield philosophical insight. The entirety of Kabbalah will not be addressed, only those key issues that relate to metaphysics at its basis. The any still-standing bookstore's bookshelves of mysticism section already offer in abundance introductions and explanations of the Kabbalah on its own terms.

It is the ultimate hope of this attempt at confirmation that the spiritual impressions of the Kabbalist will not simply translate into well-known concepts and arguments of previously understood metaphysics, but rather will help to articulate new ideas via the aid of philosophical discourse. It must be emphasized that we are not comparing philosophy and Kabbalah.² If all that is produced here is a comparative study where philosophical ideas are seen as analogous to Kabbalistic ones, then based on the declared intention, the project will have failed. It is also not our desire to discuss the possible historical

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² For such comparative studies, one can turn to Coudert's *Leibniz and the Kabbalah* (2010) or Leon-Jones's *Giordano Bruno and the Kabbalah* (2004) for examples of studies of how Kabbalah influenced particular philosophers. For comparing specific philosophies to what the Kabbalah says, one should turn to the work of Sanford Drob referred to here throughout or Guetta's *Philosophy and Kabbalah* (2009).

influence of Kabbalah on philosophers, as has been done with thinkers such as Spinoza, Leibniz, Bruno, etc. and could be done on thinkers such as Levinas, Maimon, Schelling, etc. Nor do we want to focus on how the Kabbalah itself is or was possibly influenced by some ancient doctrine such as Pythagoreanism, Neo-Platonism, or Stoicism, not only because most often such suggestions are not based on any textual or historical evidence rather than speculation and because such suggestions could always be inverted given Kabbalists own understanding of the historical dates of their texts and experiments, but more importantly because such an analysis can only result in rehearsing what the ancient doctrine said or attempting to define the basic ideas of Kabbalah.

We take the basic Kabbalistic ideas as having already been defined. This means we will select a specific picture of what the Kabbalah says not in attempt to be true to the best interpretation of what the many Kabbalists have tried to say, but rather in order to bring forth what we should want the Kabbalah to say based on what it has. In this way, rather than explaining the Kabbalah, by attempting to convert it into a set of ontological positions we are arguing for a specific vision of what Kabbalah could and should be about rather than what it might appear to be saying literally. Thus, for us the true Kabbalah requires a philosophical supplement to take the yields of a lived experiment and render its essence.

Of course, in engaging this project we will not be prevented from selecting from the sciences which function in the reverse form as already noted. The results of the theoretical and experimental sciences (in particular, physics) function not to confirm philosophy (rather than philosophy confirming it), but rather to give empirical weight to its theses. For instance, 'Big Bang' theory and the evidence surrounding it will be taken as giving further weight to

the idea that God creates the world. In this manner, as philosophy can help to confirm the mystic, the physicist can help to push one to one side of a debate between two reasonable metaphysical positions. Famously, this was in part Maimonides's own approach when he took the physics current in his day as leaning more to a Platonic version of creation rather than an Aristotelian one. His recourse to physics came from a seeming inability to show using pure reason alone that one vision of God must be true.

§3. OUR DEAR FRIEND ATHEISM

Maimonides's reference to the pagans Plato and Aristotle might seem strange given his accepted place as the philosophical theologian of Judaism. But as Maimonides himself understood, a monotheist often can find aid in articulating his/her own position by working through the positions of one's opposite or foe. Today, few pagans remain. Rather, the monotheist is opposed by the figure of the atheist. And just as Maimonides passed through the Aristotelian discourse to articulate his own position, here we will pass through the discourse of three declared atheists (or at least anti-religious) thinkers in particular (although we will not be restricted to their work). I am referring to the work of perhaps the two most important living metaphysicians, Alain Badiou and Ouentin Meillassoux, as well as the philosopher Gilles Deleuze. Whereas Deleuze can be said to be atheist insofar as his neo-Spinozism relies on a purely immanent understanding of being, Peter Hallward, Badiou's main interpreter in English, emphasizes the secular and atheistic nature of Badiou's project by noting how Badiou wants to further the idea of the "laicization" of the infinite by breaking the "religious veil of meaning" as the "true vocation of thought" is to desacralize experience (BST 9).

Badiou derives from the work of Georg Cantor that "God is really dead" (Badiou, gtd. BST 9). His use of Cantor already hints at how a self-declared atheist might help form a monotheistic theology, since Cantor himself was one of the greatest theologians of the late nineteenth and early twentieth centuries, such that the reliance on Cantor is already a reliance on theological discourse. In the list of possible ways theology can engage with Badiou's ontology, we thereby select what Kenneth Revnhout calls the second possibility: "A second possible response would be to largely accept Badiou's ontology but argue that his atheist conclusion is unwarranted. This would involve demonstrating that his specific ontological construction, using mathematical set theory does not in fact lead to a denial of an absolute infinite God" (Revnhout 2011, 220).

Meillassoux himself sees his own project as an attempt to combat the religious turn that contemporary phenomenology has taken in France (AF 42). He militates against the legitimation of 'belief in an absolute' that he says has arisen due to "scepticism with regard to the metaphysical absolute" itself (AF 46). He detects in French philosophy a "becoming-religious of thought" after the "destruction of the metaphysical rationalization of Christian theology" (AF 42). His main point of contention in opposing the new religious reason found in the work of French phenomenologist Jean-Luc Marion (about whom we will have more to say) is to attack the "idea of a supreme being" as the anchor of thought (AF 45).

Ultimately, Meillassoux thinks this religious thought finds its support in what he calls "correlationism." Correlationism is the view that we cannot know the 'in-itself' without it becoming a 'for us' as Hegel would say. All that we can know according to Meillassoux's presentation of the correlationist view is our own relation to the world

and how we come to know it: "The first decision is that of all correlationism—it is the thesis of the essential inseparability of the act of thinking from its content. All we ever engage with is what is given-to-thought, never an entity subsisting by itself" (*AF* 36). What is important is that for correlationism not only is the in-itself unknowable, but unthinkable as such outside of how the human relates to it. For a correlationist, we cannot talk about what might exist or take place outside of the human orientation to such things.

Such a view represents idealism as opposed to realism. But while Meillassoux seems to believe that such correlationism finds its ultimate expression in religiously-inspired phenomenology, wherein the nature of the divine's disclosure to thinking is discovered (in addition to Marion, one can list the work of Jean-Yves Lacoste, Jean-Louis Chretien, Emmanuel Michel Levinas. and Henry representatives of this trend), a theism is traditionally a realist orientation and for good reason. A monotheist must at some point posit and discuss a God that transcends human thought and what can be known, thought, or disclosed to human thought. In this way, a true monotheism will have to oppose correlationism as much as an anti-religious thinker like Meillassoux.³

(Harman 2009, 132). Just as the human subject for Kant only

³ Of course, Meillassoux is not the only one opposing correlationism in contemporary philosophy. The philosophical orientation founded and formulated by Graham Harman called 'Object-Oriented Ontology' also does so. However, while Harman professes realism throughout his work, his views ultimately devolve into a generalized Kantian idealism as it cannot escape its Husserlian foundations. For Harman, all possible perceivers must be seen as Kantian subjects just as much as the human being is

human intuition, Harman's endless perceivers whether living or intimate also only ever confront 'mental', as it were, representations of the things that they perceive (Harman 2009, 133-35). In another text, Harman attempts to use the very idea of their being multiple observers to attempt to prove the reality of his substance ontology: "this means that there are discrete observers and perspectives on the world. And if there are discrete realities of this sort, then there must already be individuals, whether or they are the enduring things of traditional substance theory" (Harman 2010a, 782-83). But noting there are many observers does not guarantee that reality in and of itself is constituted by withdrawn things, since even in Kant one has multiple human observers. And from within Harman's own theory, the only way a person or a rock can know that there are other observers is through observation. This implies that we can only know by analogy that something else perceives. But we also perceive ourselves without ever perceiving what we are in and of ourselves. It may simply be the case that we are an ever-changing flux. There mere fact of observance or multiple observers does not give evidence to the contrary.

Harman's favorite example to support his view consists of cotton and fire (Harman 2010b, 102). Fire in devouring cotton does not perceive cotton as it is in and of itself, but only profiles and adumbrations of the cotton. Harman here insists with Kant, that there is a thing in itself (the cotton itself) that stands over and above the thing experienced. Even if an object were viewed "from all possible angles under every conceivable condition" (Harman 2009, 132). there is still something about it that withdraws into the initself. And for Harman, anything that can be conceived or seen to be a unity whether it is made of up of other objects or not, is itself then ultimately a thing in itself withdrawn permanently and unchangeably form the world (Harman 1999, 241). Making objects withdrawn ultimately leads Harman to an infinite regress and the problems of Kant's second antinomy (Harman 1999, 245). And such problems have no obvious solution in light of anything Harman elaborates conceptually. In addition, insofar as Harman concludes that any conceptual unity of determinate objects is a thing in itself, he makes it so that despite his desires one

must hold with Leibniz that to be a *being* is to be a being. The implication of that position is that no further differentiation can be made between the real and the intentional (I will advance explicitly and consciously this position later for different purposes following Badiou).

But for Harman the object will always contain some sort of reality in itself that cannot be touched or known or represented by an observer. Objects are thereby withdrawn or in a vacuum for Harman. In fact, for the thing in itself is not even made up of what once were called 'primary qualities' as they are not enough to capture the fundamental nature of objecthood (Harman 2009, 195). But without even primary qualities, it is unclear what the thing itself could be for Harman other than a rigid designator or mysterious substrate and ineffable substrate. While later we will argue that anything named is a being, it does not appear Harman wants that sort of seeming ontological idealism, but by turning the thing itself into the name of a secular negative theology of everyday objects without noting why such objects must be so withdrawn as would be gods due to an infinite nature or something else it appears as though it does without cause. Harman here attempts to distinguish his own position from Kant by suggesting that the Kantian thing-initself simply "haunts" human knowledge without these things interacting with each other (Harman 2009, 186). But as noted, this point merely generalizes Kantian idealism without changing its basic structure. While he insists on the thing itself, Kant's positing of the thing in itself was the most dogmatic moment in Kant for even if after Kant one will agree that how we perceive reality may not match what it is in itself, that does not in and of itself allow one to conclude that the in itself is itself structured by vacuum-packed objects and withdrawn ineffable substances (Harman 1999. 210).

Harman's real versus sensuous (intentional) distinction falls back into the problems of naïve realism as well as highlighted more so by phenomenology (Harman 2010b, 102). The issue with the in-itself is not that it is withdrawn, but whether we can say how it is structured. Later, in this text, we will argue that the in-itself should be seen as structured by structure itself or information. This structural

or informational realism stands in sharp contrast to the substance ontology of Object-Oriented philosophy. Everyone says the in-itself is withdrawn from phenomenal contact. But Harman's theory is thereby not far removed from Plato, although he would seemingly deny this type of realism vehemently. Plato thought that my experience of this computer for instance means there is a computer in itself. Harman's theory does the same. We then have all the problems of the relation between the thing in itself and the phenomenal representation, etc. In particular, one could here enter into a deconstructionist critique as it is not clear that my idea of the tree does depend on the tree itself. Why could it not be that we are born with an idea of a tree? Can we recognize the tree without first having its mental representation? We have the intentional relations that overlay the real ones.

But the problem for Object-Oriented Ontology is that the in-itself might simply be objectless in its structuration. Harman's theory very clearly presupposes it must be constituted by individual substances as much as Kant's did. But again nothing shows it must. For instance, I experience about 1000 objects on my desk. But my computer might only experience everything as a part of one object or simply as experienced as such (that is, without singling out distinct objects). My phenomenological consciousness looks at a mountain range and can separate a single mountain, but who is to say there is not just the range, earth, etc. While Harman insists on the realism of his positions, Husserl in Logical Investigations at the beginning is great on how we can decide what aspects of a thing are essential and what accidental, what separable and what not, in a new phenomenological way. For instance, he shows that coloration is not something separate. But this is all done on the basis of consciousness. It is not clear how Harman would be able to differentiate himself from Husserl in order to claim that one version of the object is the one that truly mirrors or mimics the thing in itself. Now, Husserl would agree with Harman that an object is "an ideal unity over and against its objects" (Harman 2009, 152), but consciousness for Husserl can know that. It is not clear outside of consciousness in its phenomenological sense as

foundation and constituting moment how Harman can make and substantiate his claim. When we add up the two 'experiences,' we do not have reason to say that the in-itself has a particular structuration.

Further, Harman's contention that no matter how many perspectives on a thing one has (Harman 2009, 261), one never has the thing in itself has to presuppose that things are infinite. If a thing is finite in any sense and capable of only a finite number of perspectives, then it would be added up. But what demonstrates for Harman or otherwise that a tree or hammer is infinite in character? Are there truly an infinite number of perspectives? If there are, do they exist in actuality all at once or only potentially and indefinitely? Until it can be shown that a flame is infinite in nature, Harman's point cannot hold. But that is the problem with founding realist ontology on what is essentially basis of Kantian idealism and Husserlian phenomenology. Object-Oriented Ontology would have to show somehow that the very ability of phenomenological consciousness to divide up the world necessitates that the real is structured as a plurality of objects/things/substances. I am not familiar with such an argument. Just saying we use a hammer so there must be a hammer that overlies it remains easily within the phenomenological and intentional sphere (cf. Harman 2009, 133-35). Harman also believes that from Heidegger's analysis of the hammer as something ready-to-hand one can deduce substance ontology (Harman 1999, 209-11). But Heidegger's distinction between the present-at-hand and the ready-tohand is not about establishing that reality in itself is structured by withdrawn impermeable substances rather it is to emphasize how practical engagement precedes theoretical engagement, how intentionality is not characterizable in terms primarily of a disinterested scientist and observation consciousness as Husserl did, that intentionality hammering for example is an intentional stance with its own correlative object pole just as much seeing or thinking, and that the attitude of seeing things as mental representations always follows from a pre-consciousness access to the world. That is to say, the notion of tool-being does not escape the correlationist circle, but rather forms one of its key radii. The hammer only appears as a present-at hand object when

it is broken, but before that it is a pole of a hammeringhammered relation that shows how consciousness is toolimited a sphere for how Dasein relates and comports to the world in every action. The broken hammer merely shifts Dasein into a new form of comportment. Most comportment is not reflective.

In still other contexts, Harman puts forth that, for instance, our knowledge of a tree does not reproduce the tree (Haman 2010, 788). Since our mental representation of a tree for Harman does not bear fruit or grow, there must be a real tree in itself out there. First, as we know from Heidegger's Kant and the Problem of Metaphysics (1997), Kant begins in a way with the idea that imagination is finite and not creative as opposed to the imagination and mind of God where the hammer is made real. It really does hammer, etc. That is, for Kant our infinitude is a productive limitation that structures experience and is felt most directly via the nature of our imagination, its limitations, and its powers. I do think and will try to substantiate later that knowledge of a thing can produce that thing in its full stance. God is of course the agency that best shows how this can be done. Leibniz also with his identity of the identical also shows how perhaps even a very advanced computer with a Star Trek-like holo-room might be able to do it. In any event, the excess of the hammer as I know it in its profiles over the thing as such is internal to consciousness. It is also not necessarily something that for Husserl in principle cannot be done. The profiles could be added up. The other side of the coin, or all the sides of the cube, at best can be added up and at worst shows the incompletion of experience rather than the thing itself. An important text here is the key section in Totality and Infinity (1969) where, for Levinas, it is the face of the other that is infinite and not a pair of dice. The face is infinite due to the way in which the otherness of the other can never be presented phenomenally and yet calls upon The other side of the coin can be presented phenomenally just not at the same time as the first side. Unless Harman can show how something like consciousness informs each thing in the same way as it does for the other in Levinas, there cannot be a claim to the same implications. At best, we can agree with Harman that the in-itself exists,

To accept Meillassoux's characterization of contemporary philosophy as trapped in understanding the world only as it appears and not as it is in itself is not also to accept Meillassoux's anti-religiosity, but rather to accept religion itself. To truly articulate a thought of God (and in particular, God as a creator) requires that all of being not circle around the self and the world as it discloses itself to it. In this way, a philosophical confirmation of Kabbalah will entail a viewpoint that also criticizes and departs from the correlationist view.

must exist, and that each view presupposes it. Kant himself often speaks as though the phenomenal computer must be mirrored by a computer in itself (and thereby retains the dogmatism he thinks he has overcome). It is only with phenomenology and the reduction that that issue is neutralized so we can speak about the meaning of Being without these problems of dogmatic (at least after Kant we use that term) realism. In any event, it is precisely Harman's own articulations that show that objects only exist for a consciousness and reinforce and remain within correlationism.

CHAPTER ONE

Critique of Philosophical Theology

§4. THE CRITIQUE OF ONTO-THEO-LOGY

One of the main challenges such a theistic realism would have from philosophy today is the critique of metaphysics that characterizes it as 'ontotheo-logy.' Ontology means the investigation of beings as beings with regard to what is most fundamental and essential about being. Theology on the other hand traditionally attempts to understand the nature of the highest or most supreme being. Metaphysics as ontotheo-logy per this rendering understands beings as a whole in terms of the supreme being. This might mean that God as the supreme being is seen as the ground and cause of beings and being itself (Heidegger 2002, 34, 58, 61, 69-70) or that God is being itself (all beings are ultimately expressions of God), as Paul Tillich famously posited. Onto-theo-logy then consists of this view that all of being and the nature of individual beings cannot be understood with reference to a particular being.

For the early 20th-century philosopher Martin Heidegger, such a promotion of God obliterates the difference between Being (the experience of something as being, that something is) and beings (the individual beings themselves) (Heidegger 2002, 50-51). Another way to put this ontological difference is to say it names the difference between "that which is composed of [a] thing in its talitative 'suchness' and the same thing in its transcendental unity. After all, the 'this' is nothing if not a specific unity, a 'this' in opposition to all that is *not* this" (Harman 1999, 258).

CRITIQUE OF PHILOSOPHICAL THEOLOGY

further: metaphysical To explain thought onto-theo-logy characterized as obfuscates difference between the universality of being-ness and the individual instances of such being presumably by not allowing for a thought of existence as such to appear without reference to how a particular exists. No particular being can encapsulate what being is any more than a particular type of fruit (strawberry, banana, etc.) can name what fruit itself is insofar as fruit covers all the different types of fruit (Heidegger 2002, 66).

However, while many take onto-theo-logy as a category of critique, Heidegger, who defined it, asserted and insisted that Being itself does not appear. but rather necessarily withdraws. One never has an experience of pure is-ness, but only ever encounters particular beings (Heidegger 2002, 66). In this sense, the difference between Being and beings is veiled and the forgetting of the difference belongs to the very difference itself between the two terms (Heidegger 2002, 50). It is not a matter of human forgetfulness, but rather pertains to the very structure of Being itself that it is veiled in particular beings (Heidegger 2002, 51). addition, for Heidegger "the onto-theological character of metaphysics has become questionable for thinking, not because of any kind of atheism, but from the experience of thinking which has discerned in onto-theo-logy the still unthought of the essential nature of metaphysics" (Heidegger 2002, 55). In other words, for Heidegger himself, onto-theo-logy may be unavoidable until the very nature of the difference between Being and beings can be thought. Here, the challenge is to think of Being as not grounded in anything other than its own givenness.

While these remarks by Heidegger emphasize the non-arbitrary nature of metaphysics as onto-theo-logy, Heidegger and those following him still see this characterization as a decisive critique of philosophical

theology. For Heidegger, ultimately, it is connected to the enframing power of technology.⁴ Technology objectifies and reifies beings as entities available for mastery and exploitation. Technological thinking can never think Being itself.

For Heidegger, God's reign over being ends up the same, since God as ground freezes beings in their status as caused entities. One is called by Heidegger to overcome metaphysics and think Being itself without any reference to individual beings primarily to avoid the technological manner in which contemporary science evaluates beings. More importantly for our purposes, onto-theo-logy is taken in contemporary discourse to articulate a decisive critique of the concept of God, one that shows that it is no longer permissible. But what is truly the nature of the critique here and is it successful? As far as I can tell this critique attempts to show that God as a being cannot be being itself, the ground of being itself, and a particular being (even if the most supreme and highest) at the same time, since in doing so it makes of one being the ground of Being itself. But one being cannot ground or found all of being since in being a being it is already characterized by Being. If the series

⁴ The entire history of metaphysics forms different ways and manners of forgetting this difference. In each different epoch, the difference between Being and beings is forgotten (Heidegger 2002, 44). History then forms the different ways in which this difference was forgotten by way of the different ways in which Being is identified with a being or the whole of beings. For Heidegger, our particular epoch is the epoch of technology since technology names for us Being and how the difference between Being and beings is forgotten (Heidegger 2002, 44-45). In particular, the ontotheological constitution of metaphysics forms the primary manner in which ontological difference is forgotten and concealed.

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of beings is to found itself in yet another entity, the foundation is a bluff that cannot end the infinite regress. In the chain of beings, one finds one more at the end.

In turn, if God is identified with Being as such, as Tillich did, it would be as though one part constituted the whole. Being itself is reduced to one being/entity and for Heidegger Being as such can be thought of independently of Being as a universe and experienced or disclosed in an intuition of is-ness. In this way, the critique says that to understand ontology one must exclude God in order to focus on how Being itself is disclosed to thought.

But any monotheist would and should thoroughly endorse these criticisms. For monotheism. God transcends being as such. All beings are contingent, limited, and so forth. God should not and cannot be thought of as a being. In particular, the Heideggerian view rejects God as timeless since it sees all of Being as temporal in nature. If all Being is temporal, no entity can be eternal. But this temporality is only true of this world. Second, what this critique actually rejects and undermines is pantheism rather than monotheism (and monotheism itself is a rejection of pantheism). Monotheism does not see every being as particularization or part of Being/God. Pantheism says that all beings are contained and constituted by God: God is all. Pantheism in particular obscures the ontological difference, as now any being is synonymous with Being itself and Being itself is synonymous with any being.

Here the difference between things also falls, as all things collapse in a monistic whole. And this is one of the blind spots of the Heideggerian stance. It sees Being as being all-comprehensive to the point where a God beyond Being becomes itself incomprehensible. Such a Heideggerian view is also contingent upon making good on the idea that Being

itself can be disclosed without any reference to a transcendent moment. For Heidegger. such an atheological ontology is based on the saying of a mystic, Angelus Silesius, who interestingly enough is known for seeing God and man as being one and for being accused of pantheism: "The rose is without why: it blooms because it blooms, it pays no attention to itself, asks not whether it is seen" (Heidegger 1996, 36). In its Heideggerian interpretation, such a view takes beings as ungrounded and as appearing in and of themselves on their own basis. In this way, the rose like any other being is not seen as a creature or creation, but without cause. Nothing transcends it. It is immanent to itself.

But in treating Being as purely immanent, Being itself can only be understood as foundationless when taken as that which is disclosed to thinking (as we will see more clearly when turning to an examination of the work of Marion, the person to rigorously take up this Heideggerian gauntlet). That is, it is only via a correlationist orientation that Being itself can be thought as pure givenness without reference to ground and reason. Only when Being is taken for in and how it appears to the human and for the human will one have thereby avoided God. Heidegger is explicit about this since he emphasizes the "belonging together of man and Being" (Heidegger 2002, 30). In this way, if one adheres to Being as its own unveiling/veiling to the human, one can ignore God as it were, but only at the price of ignoring that something might transcend and exceed the closed correlationist circle of world and self. But whereas onto-theo-logy puts God

⁵ Yet Heidegger, despite this critique, does not abandon the notion of God. It is simply not the metaphysical God, but rather the gods who are opposed to mortals in his fourfold or the obscure "last god" that he refers to in his *Contributions to Philosophy* (2000).

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(supposedly an entity) at the foundation of Being, correlationism puts man at this foundation. Without the human to disclose and unveil, to witness and recognize, Being does not take place.

§5. THE LEVINASIAN LURE

The Heideggerian critique of the metaphysical notion of God did not end all attempts to conceive or engage with this topic even within post-Heideggerian phenomenology itself. Rather, the critique articulated under the aegis of the rubric 'onto-theo-logy' simply set the terms for what to avoid in any future attempt to pose the question of God's existence. The two most prominent attempts to come to a positive post-Heideggerian understanding of God are found, as noted, in the work of Emmanuel Levinas and Jean-Luc Marion. However, in both cases any sort of realist sense of God is lost. In particular, any notion of God as creator (which forms for monotheism a central, if not the central, aspect of God) is completely lost due to the idealist and correlationist nature of their thought. While both Marion and Levinas are able to convey in amazingly poetic prose some of the key aspects of religious experience, above all the consciousness of relation to the divine and the meaning of spirituality, they are only able to do so by abandoning or rendering impotent any true attempt to engage with the metaphysical nature of God as God in and of himself and as creator of the world. In this way, their thought remains bound to what correlationism can discover. the relation between the human and the world, rather than engaging in the world itself as created and marked by the divine outside of how the human worshiper notices it. As long as one takes the work of Levinas and Marion as beautiful and thrilling treatises on the lived experience of the religious mind, there is nothing to indict in their thought. It is only when their thinking is taken as more than a limited psychological

analysis and as fundamental theology that it proves lacking. But let us first examine how and why that is.

It may be surprising that, in a work devoted to translating Jewish mysticism into philosophical theology, a figure like Levinas is not here given more pride of place, since Levinas is taken by many in academic circles to be a key expression of what could be called 'Jewish Philosophy'. However, an honest

⁶ There are many names that can be listed as Jewish philosophers. We will not treat to engage with all or even many of them. In particular, most are covered by what is said in our engagements with Levinas, correlationism, process theology, and/or onto-the-logy. To take a simple example, Martin Buber has gained a lot of attention in the last 100 years as a Jewish philosopher. But his theory is thoroughly correlationist insofar as it focuses not on showing how God creates the world, but how God for us is only an addressee of our speech acts. That is, God is a 'thou' addressed by us, a referent for our speech acts, but the key is the analysis of this act of address by us rather than anything about God as creator. This view is elaborated by Buber in Iand Thou (1958). Even a thinker such as Joseph Soloveitchik, who is thoroughly grounded in Halakha (Jewish Law), bases his philosophy on phenomenology precisely because it brackets existence claims and engagements with the nature of the world outside an analysis of human actions: see Soloveitchik, Halakhic Man (1984). For a good overview of the entire history of Jewish philosophy, see Frank, Leeman, and Manekin, eds., The Jewish Philosophy Reader (2000). An interesting possible exception to the rule set out here would be the work of Franz Rosenzweig. In his Star of Redemption (2005), Rosenzweig does emphasize God as creator and God's relation to the world and the world's relation to God. Rosenzweig certainly does not want Feuerbach's view of God as an inversion of the human and projection of human qualities to stand. God transcends the world and creates it in this philosophy. But Rosenzweig is still very much a primarily anti-Hegelian thinker à la Kierkegaard. The focus is on the individual's difference from the absolute and a need to focus on the consequences of

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examination of his work would show that it stands on its own and cannot be described as 'Jewish' in any strong sense.⁷ Levinas's work should be taken on its own merits as a phenomenological analysis of the experience of otherness.

It is well-known that Levinas centers his focus on otherness by examining the relation between oneself and one's neighbor. While the Husserl of *The Cartesian Meditations* sees another self as something only known via analogy (as an alter ego), insofar as one can only truly and certainly know one's own consciousness, Levinas will argue that such an understanding of otherness reduces it to a mirror image of the same as otherness, and if it is to be truly analyzed, must be seen as maintaining its otherness.

human finitude. One needs to focus for instance on how things are revealed to humans in the special temporality that characterizes human life. The most lucid and intelligible parts of Rosenzweig center on the need for a focus on how things appear to the individualized self in relation to the other. For instance, it is via the fear of death that idea of nothingness is revealed. Another issue with Rosenzweig is that while God is conceived as infinite, the problems of onto-theo-logy are not addressed, and it is not clear that God has any freedom.

⁷ It is true that Levinas has devoted texts to an analysis of the Talmud, but even there his own thinking appears as an alien supplement that does not articulate anything fundamental concerning the Talmud's fundamental view. For example, while Levinas emphasizes one's radical obligation to one's neighbor and makes that the basis of all other phenomena, Judaism in and of itself is founded on the relation to the otherness of the God. In this way, it should not be surprising that Levinas is almost completely ignored by the great Talmudist of our generation and given almost no attention by those engaged in serious study of Kabbalah. For Levinas's Talmudic engagements, see his *Nine Talmudic Readings* (1990), *New Talmudic Readings* (1999), and *Bevond the Verse* (2007).

In other words, whereas Husserl and others see another as only ever an alter ego, Levinas attempts to isolate otherness as such by positioning the self in relation to an otherness that cannot be domesticated or seen as similar.

This encounter takes place vis-à-vis the human face of the other. It will also be on the basis of the encounter with the human face of the other that any experience of divinity itself takes place for Levinas. This otherness for Levinas always exceeds any totality (TI 22). It does so because the face of the other signals and enacts an infinity that "overflows the thought that thinks it" (TI 25). Such infinity demonstrates the absolute alterity of the other (TI 34). And such infinity is reserved for this encounter. Despite Levinas's many references to Descartes on the idea of the infinite. Levinas does not draw the lesson Descartes does or follow him. Whereas for Descartes this idea shows that there is something beyond consciousness that created oneself. Levinas limits the idea to the idea itself and also the human face. It is from being called by the human other in speech that one experiences an infinite demand to respond to the other (TI 69). It appears that only that which speaks can signal true otherness for Levinas, making it only human in nature. In fact, Levinas has called his philosophy in many places a 'humanism of the other person'.

But what phenomenologically founds this analysis? It would appear that whereas for Husserl the fact that consciousness is not a piece of reality implied that one cannot know the mind of the other, for Levinas it means that, in confronting another who signals through speech that they are conscious, one confronts something that can never be given and can never be encompassed. Unlike a cube, where even though one cannot see all sides at once, one can see all of them at some point, with the other, one cannot ever experience or have given to one's own consciousness

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the consciousness of the other. It is always missing, always exterior to the world and oneself. And vet the other speaks to me and engages with me thereby signaling that a consciousness is there. For Levinas, this experience, rather than provoking sheer wonder, elicits a sense of obligation. Yet it is not clear why it would not simply evoke fascination and Levinas's description here appears highly idiosyncratic reflective of an alreadv psychological disposition. Without a doubt, one could find examples of people who in seeing another feel obligated, but only when the other makes some sort of appeal via facial expression, word, bodily gesture, etc.

Now perhaps it is precisely only these types of moments that Levinas is highlighting, as later in *Totality and Infinity* he analyzes what he calls 'the caress of the face' that occurs in an erotic engagement with otherness. In any event, his main analysis centers on the face in its ethical dimension and how absolute difference there appears. The face inherently "appeals to me" and commands (*TI* 200-1). In the speech of the other, one no longer sees a visual face, but is exposed to transcendent experience that cannot be grasped of the infinity that "puts the I in question" (*TI* 195). This expression can never result "in *giving* us the Other's alterity," but rather exposes something "incommensurable" and ungraspable (*TI* 202). The self is thereby introduced to what is radically not the self.

While Levinas insists that "the Other is not the incarnation of God," despite the way in which Levinas's own description mirrors in many ways the descriptions of God found in negative theology, Levinas's God can only appear as it were and the self can only find a relation to God via the face of the other, "in which he is discarnate, is the manifestation of the night in which God is revealed" (TI 79). Part of the reason Levinas does not want to locate any understanding in direct relation to God is due to his

seeing any metaphysical conception of God as falling prey to the critique of onto-theo-logy:

Theology imprudently treats the idea of the relation between God and the creature in terms of ontology. It presupposes the logical privilege of totality, as a concept adequate to being. Thus it runs up against the difficult of understanding that an infinite being would border on or tolerate something outside of itself, or that a free being would send its roots into the infinity of a God. But transcendence precisely frustrates totality, does not lend itself to a view that would encompass it from the outside. (TI 293)

In this case, Levinas argues that any conception of God as creator can only see a creature as being part of some greater totality. In this way, Levinas not only precludes a different conception of God outside of onto-theo-logy, but also leaves aside any understanding of God as creator on its basis. In particular, Levinas sees a metaphysical understanding of God as infinite as only allowing a pantheism in which all finite being is swallowed up into and made part of the infinite being of God. No outside of God is allowed. Levinas is here at his least Jewish insofar as it is the Kabbalah that posits God as both infinite [Eyn Sof] and withdrawn from the world that is outside of God, as we will later show.

For Levinas, transcendence undermines any sense of totality, but monotheism itself does not argue for a pantheistic totality of existence. By refusing to think God as infinite in any other manner and to think God as creator in a specifically Jewish sense here, Levinas reduces God to some sort of vague reference-point that can be alluded to in the encounter between human self and human other. In this way, Levinas

effectively reduces God to the human other and even states that the face of the other "resembles God" (*TI* 293). We can agree with Levinas that transcendence produces an outside and undermines totality, but a thoroughly monotheistic understanding of God in and of himself (and not as something found only in the face of the human other) both as infinite and as creator will also insist on these points.

At the same time, in another context, Levinas contends that an appearance of things from nothing can affirm the way in which things are exterior to each other while being related (TI 293). However, this one mention does not mean that Levinas in any way truly thematizes or conceptualizes creation as such. While we agree here with the idea that God is not a being for Levinas and that existence is for the contingent, we cannot agree with Levinas that locating God as creator religious transcendence transcendence can only be found in the encounter with the face (cf. Levinas 1981, 5, 197). To say that God is beyond being does not cancel creation or take it away as a prime determination of God, as we will later argue. All of this is not to say that Levinas does not directly state and affirm that God is beyond naming and beyond any phenomenological reduction, that God is infinite and transcendent. But even when doing so, Levinas does not attempt to think God on the basis of God alone, but only God in relation to human consciousness and the relation with the human other. Even to say that God is other than the radically other human other is not enough. Certainly saving so highlights how God is not an object or entity in any pedestrian sense, but it does not highlight how God must precede any human otherness. This is not to say that the glorify of the Infinite One can appear in itself as or that representational consciousness could contain, imagine, or know God in the same way one knows a tree or pen. Infinity does break totality and

exceed consciousness, as Levinas so often reminded us. But we do not have to be only witnesses to this truth.

We can move beyond the correlationist circle of the human relating to the world, otherness, and God and look at God as being infinite for what that means in and of itself. This is the path the Kabbalah lays out before one. For Levinas, God is only heralded in the excess presented in the impossibility of grasping the exteriority of the human face. But it is not clear why God need even be referenced in this context. Levinas seems at best to insert God here as an ad hoc addition. In addition, it is not clear that one cannot in mystical experience or contemplation accede to a thought of the infinite God outside of any reference to the face or said encounter. Does one encounter God in prayer, and is prayer said with eyes closed in a place where one encounters the face of one's neighbor?

In the encounter with the other one finds oneself in a "relation without relation" that involves inequality and completely asymmetrical terms such that one cannot step back from the relation and examine it as a spectator because one is completely enfolded in it (TI 148). But it is not clear why there are not other experiences of pure otherness and transcendence that relate purely to God himself that implicate one in the same way and lead one to conclude other than that one has an ethical obligation to others. One may not experience God in this world, but Jewish and other mystics have claimed to. Are the results of their experiments illusory for Levinas or pure nonsense?

Drew Dalton claims that Levinas does have a theory of creation as something that takes place in the future (Dalton 2006, 239). In addition, Dalton notes that Levinas does at one point in his philosophical trajectory attempt to think what existence outside of human consciousness could mean via the notion of the *there is* [il y a] (Dalton 2006, 219). But the il y a

does not truly form any theory of creation as it is only the impersonal and anonymous murmuring that consciousness itself imagines as taking place when consciousness is removed from the scene. It is anonymous being without any human consciousness to give it meaning or engage with it. It is an absence or void. It would be the unthinkable background from which a self sees itself arising. But note that here Levinas does not argue that God creates the self, but rather purely posits a void time before self-awareness. that for Levinas, as a phenomenologist, consciousness can appear as its own Cartesian foundation, il y a merely marks what would precede such an absolute foundation—an impersonal and undifferentiated emptiness. In fact, it can only be seen as a logical positing of a past that never was, as far as the eternal present of conscious thinking is concerned. In this way, when attempting to think what exceeds or precedes the self or gives rise to it, Levinas makes no reference to God, which is why it is wrong for Dalton to say that a Kabbalistic understanding of God is at work in the notion of the Levinasian il v a (Dalton 2006). This would be a moment when such insights could be formulated, but Levinas does not do so in his own text.

When Levinas does attempt to think the world outside of the human correlationist circle, it appears as a godless murmuring that forms the imagined background of phenomenological consciousness. In fact, Levinas will later go so far as to write that to understand "the transcendent as stranger and poor one is to prohibit the metaphysical relation with God form being accomplished," that "the direct comprehension of God is impossible for a look directed upon him," and that "comprehension of God as a participation in his sacred life . . . is impossible" primarily due to the relation of transcendence being a "social relation" that occurs only in relation to the "human face" (TI 78).

Divinity is only found in the human face in relation to an exploded consciousness and at no other moment. For these reasons, Levinas does not shy away from speaking of "the atheism" of his position based on a rejection of theology in favor of ethical behavior (TI 78). Levinas emphasizes this point when he writes in another text that "I do not want to define anything through God because it is the human that I know. It is God that I can define through human relations and not the inverse" (Levinas 2008, 29). One cannot speak of God except by speaking about human relations which is to say by expressing what happens to consciousness in relation to the world in which another human face is encountered. Any other talk of God is abstract and imprecise.

For Levinas, it is wrong to "start form the existence of a very great and all-powerful being" (Levinas 2008, 29). While Levinas here refers to Jonah, Jonah is not confronted by the human face but directly by God. Jonah is held responsible and cannot escape, but it is from the voice and gaze of God and not the human other appealing to him. In fact, if anything, the human other asks Jonah to leave their presence rather than come to them. This is not to say that Levinas does not attempt to conceive God directly. He does so using the term illeity in his essay "The Trace of the Other." Here Levinas emphasizes how God takes place beyond being (TO 347). In addition, Levinas refers to the experience of Moses at the burning bush and that this reveals the "infinity of [God's] absence" from this world (TO 359). God shows himself only in a trace (TO 359). Here, of course, Levinas is at most Jewish and least correlationist. But even at this moment Levinas still says that the trace of God, of illeity, is founded upon and encountered in the relation with the face (TO 36). But it is not clear how that it is so. Moses does not encounter the face of the human other in the burning bush. Certainly, the Biblical tradition

insists on how humans are made in the image of God. But Levinas sketches out no understanding of creation itself and instead makes finding God contingent upon the face rather than the inverse. Also, it is not clear from other passages if illeity refers to God or refers simply to a third party that observes the relation between self and other and by this observation asks for justice. Yet it is not clear why this third party or third man need be God. It could be one's own conscience or superego. Also, such thirdness can only come later on the scene since otherwise one would be looking at the relation from the outside and miss the infinity of the other person. Thus it is not clear if Levinas means that there is a third party observing the relation or simply that even though one is absorbed by one's own relation to the human face, one can also play the role of the face since a third waits to see one. That is, one is also observed.

But does this observation require God as observer and has Levinas shown why rather than just positing it? He states that God is

not simply the 'first other, 'the other par excellence', or the 'absolutely other', but other than the other (autre qu'autrui), other otherwise, other with an alterity prior to the alterity of the other, prior to the ethical bond with another and different from every neighbor, transcendent to the point of absence to the point of a possible conflation with the stirring of the there is. (TO 360)

But immediately after stating this, Levinas returns to insisting on how the infinite arises in its glory only relation to one's neighbor. In an essay called "Name of God," Levinas turns again to a Jewish context and discusses God who is revealed by its name (Levinas 2007, 120). But Levinas here merely interprets well-

known Jewish positions rather than offers an elaboration of his own philosophy. His comments on the nature of the name of God refer to a Jewish monotheism that is not dependent on the human face and thus appear as an alien and exterior moment in philosophical corpus. Levinas's While emphasizes how the name of God notes the radical otherness of God, this never leads to conceiving of God as creator. From the Kabbalah, we will learn that the trace (reshimu) of God is precisely found in and through the act of creation itself. While the Kabbalah would agree with Levinas that "a trace is a presence of that which strictly speaking has never been there" (TO 358), this trace is not found in just the human face, but rather in creation itself. The divinity that transcends leaves traces everywhere and not exclusively in the face. Nor is it a question of cause and effect, as we will see.

While the human is surely made in the image of God, this does not mean the trace of God is only manifested in human relations. Levinas insists that God as illeity stands outside one's relation with the Other and monitors it and demands justice. But it is not clear why the face of the other is not sufficient to achieve those things in Levinas's analysis. Rather it seems that God appears as an afterthought in the Levinasian system. The human face reminds one of one's obligations, so why would God be needed to do so? Only an analysis that would allow for God to be seen and related to in and of himself could explain such issues. To return to Moses, Moses witnesses the infinite in the burning bush itself and is called to present himself as much as Abraham is, just from the voice and call of God. They both witnessed the infinite without any reference to human others, but only to the Other as such. It is time that we turn to the divine Other outside of correlationism, to discover again its nature and to witness its truth as creator and

sustainer of worlds. This Other does not ask one to feel infinitely obligated or develop a guilt- or persecution-complex based on this call. Such obsessional gestures can only lead to poor health and fear of the real truth of religion.

Furthermore. there are commands that God issues directly and on the basis of those commands we learn how to relate to the human other. Moses and Abraham already bore witness to these truths and it is amazing that in Levinas's own text there are scant mentions of their experience and acknowledgement of how it is at odds with his insistence on the foundational nature of the human face and its expression. It is our hope in this text that by translating Kabbalah into philosophy we can reposition the relation with the human other as something truly human and allow thought to attempt to that which is not founded on the human at all—God himself. Levinas already laid out some key ideas on how to direct this approach, as witnessed in some of the quotations provided earlier. But Levinas never went as far as we plan to go in focusing on the nature of God himself as infinite and as creator, due to his insistence on the foundational relation with the human other and due to the implicit and explicit correlationism at work in any phenomenological analysis (despite its dedication to transcendence, exteriority, and otherness). It cannot be emphasized enough that we do not disagree with anything Levinas says about God except his most fundamental point that God appears as it were only on the basis of the relation with the human other. In this way, the critique is only that this view is partial and incorrect and not that, for instance, Levinas's determination of God as infinite, other than the other, transcendent, etc. are false. But despite Levinas getting so much right and having taught us so much in his deeply moving and inspiring prose, any monotheist will desire more, namely, an engagement with the Creator himself.

§6. THE THOUGHT OF JEAN-LUC MARION: BEING GIVEN (ONLY TO HUMAN CONSCIOUSNESS)

Such an engagement seems to be promised by Levinas's most important and famous disciple, Jean-Luc Marion. After all, it was Marion who wrote *God Without Being*, a text whose very purpose consisted of an attempt to save philosophical engagement with God from the critique of onto-theo-logy and the correlationist circle of phenomenological analysis. But a closer analysis of what Marion succeeds in articulating in this text along with the other main work of his entire corpus, *Being Given: Toward a Phenomenology of Givenness*, reveals that Marion does not provide us with much more than Heidegger and Levinas already offered (and that we have found lacking) in terms of a contemporary thought of God.

First, Marion agrees with the Heideggerian determination of metaphysics as onto-theo-logy

⁸ I will here limit my analysis to Marion as it is not my goal survey all the manners in which contemporary phenomenologists fail to think God as such. It is simply my goal to show how contemporary phenomenology remains stuck in a focus on how the human subject knows or experiences God. The same analysis could be repeated for the work of Jean-Louis Chretien or Jean-Yves Lacoste. Michel Henry forms a slightly different instance and uses the word 'transcendence', but in doing so rejects any notion of God as creator or architect of all things. Rather, by this Henry means life revealing itself and experiencing itself. Such experiencing is thereby purely immanent and absolute and the human subject only later comes to find it. And it is something founded on experience itself, if life experiencing itself. But life is not something created, but rather generates itself. The focus on is on affectivity and what allows for something to be affected. Henry is thereby in many ways advocating a Whiteheadian view of all things perceiving/affecting each other, and we will address the key issues related to it in our critique of Whitehead. For Henry, see his book I am the Truth (2002).

insofar as he agrees that metaphysics saw God as the supreme being that grounds being itself and as the self-caused cause of foundation (GWB xxi, 35). In fact, Marion goes further than Heidegger, since for Marion it is even a metaphysical determination of God to determine God as "the withdrawal of the foundation into itself" (GWB 35). It is not clear what particular text or figure Marion here thinks of, and it is also not clear that such a view can be attributed to metaphysics as such, since it would then already begin to articulate the Heideggerian moment of turning towards a postmetaphysical thought. At the same time, Marion believes that his own religion Christianity does not figure God in its theology as the self-causing first cause, since God is beyond and above the first cause (GWB 35). Yet it is still unclear to what Marion refers, given that orthodox Catholicism, as figured in the texts of Aguinas, does not make this assertion.

In any event, Marion takes up the mantle of not thinking God as a being and thereby releasing God from being primarily thought as a determination within ontology (GWB 45). Marion thus explicitly asserts that he will attempt to think God outside the notion of the ontological difference despite the difficulty of doing so (GWB 45). This difficulty arises due to the apparent fact that any assertion made or topic discussed is necessarily discussed as a being or within the framework of existence. For example, even if we discuss fictional non-being such as a centaur we already posit it as an entity and thereby as something that has an essence and possible existence in the world. However, Marion contends that God names an "excess" that we cannot think, but at the same time can (GWB 46). In this way, Marion admits that there is an inevitability that God will be thought as an entity amongst entities due to the very nature and limitations of thought, but there remains something about God that "saturates" thought and forces thinking to realize

that God cannot be counted as an entity or an entity among entities (*GWB* 46). Here, the figure of paradox marks theology insofar as in thinking God one attempts to think the unthinkable itself. The thought of God transgresses thinking and undermines and criticizes it from the inside out because God as "agape" transcends it (*GWB* 47).

Marion defines God as love on the basis of Christian texts. Such love "holds nothing back" and "transcends itself" such that "not even Nothingness . . . can contain the excess of an absolute giving" (GWB 48). Love as absolute and excessive giving without reserve and without desire for return names both and the nature of God as such for Marion. For this reason. to think God for Marion is to contend with the nature of the "gift" as God himself is giving without cease and without respite. Loving and giving name the same thing for Marion since "What is it to give itself if not to love?" (GWB 49). Of course, as a Christian, Marion believes the ultimate Gift is Christ who is crucified: "God is revealed by, in, and as the Christ" (GWB 71). God is apparently revealed by the crucifixion of Jesus of Nazareth insofar as this act represents an act of supreme sacrifice, a gift.

But such a determination of God as incarnated in a human figure already betrays the notion of pure giving, as here one speaks of an act of self-sacrifice rather than, for instance, creation itself as a form of love and giving. God is restricted to the actions a human can perform rather than what would be specific to the deity. But not only is God here in human form literally, but God also, as giving, gives himself "to be envisaged by us" (*GWB* 76). This is not to say that Marion does not also claim that God is "charity" and names something anterior to the being of beings, but if the "Christian name of God is Jesus" then God is named in and by an entity, thereby

contesting the claim that God names something before Being and beings (*GWB* 82).

These considerations partly encapsulate the problems with Marion's very discourse. At the very moment Marion appears to begin to articulate the nature of the God himself, he undercuts such a determination by centering the analysis on how God appears in the realm of beings as a being, as a gift, or how God appears to thinking. In this way, it appears more and more that Marion remains within the correlationist circle insofar as what is key to Marion is that the meaning of God is determined by how consciousness relates to the event of faith crucifixion or the reception of love. Here also, Marion's earlier claim that God is outside of the ontological difference can only find meaning by identifying God with the Heideggerian notion of Ereignis. Just as Heidegger in On Time and Being famously posited that 'It gives [Es gibt] Being' and 'It gives Time', Marion says that God gives Being/beings without being a being itself (GWB 100). But such a thought does not mean for Marion that "we are by, because of, or after God," but only that we are "within (GWB)100-1). I take these enigmatic determinations to mean that we are given also and given as gifts. That is to say, just as phenomenology takes what is given to consciousness as fundamental, so we are gifts and what is perceived and noticed is given. Marion highlights this by borrowing the Levinasian notion of the *il* y a and highlighting the sheer facticity of givenness (GWB 103). But this is the moment in which thinking God himself as giving or as giver disappears since "the giver" is left "in suspension" and bracketed as something transcendent to the field of pure givenness to consciousness (GWB) 103-4). And here begin the problems, since even if this givenness precedes self-consciousness or full conscious awareness, it is still oriented towards its being

recognized and processed and thought by consciousness. To say that God is charity is possibly true, but it does not tell us how beings are created or that they are. It merely tells us that we experience things phenomenologically as presented without asking by what and from what. The language here of giving is thereby deceptive since what is meant is sheer facticity, the sheer fact that one has before oneself whatever is. Even if consciousness cannot anticipate or constitute that thing and only arrives later on the scene to register it, Marion still here means by givenness what is presented as raw data. In fact, it is not clear why one should even say that the giver withdraws from the gift as the raw data as perceived is simply taken as given. Only if this raw data can be seen as created does it make sense to say it is given. But in no sense does Marion mean by givenness creation, by God creator, or by the gift the created. After all, if all we have are the raw facts of experience, why say that those facts are given?

If the notion of the given emphasizes how things appear without cause or origin and without any obvious anterior conditions, then it is not clear why there should be any reference to a giver withdrawn or present. If one finds a rock, is it understood as a gift without a series of complicated assumptions being introduced? Being is simply there in its brute facticity. Adding the notion of givenness means that we receive it somehow. Consciousness can look at the world as something it discovers. And in this way, it is given insofar as it was already given there. It was waiting. For phenomenology, one sees only one side of a house, but one walks around and finds the other side painted in another color and is surprised. The house is given and resides in givenness insofar as one discovers and unfolds what was waiting to be unveiled. Here one has anteriority, but it appears more apt to say it is discovered, uncovered, rather than

given. But beyond the pure receptivity and passivity of the senses for example (which Marion does not mention in the analysis here), there is no a priori sense of receiving a gift. And such receptivity of the senses indicates that one is not oneself creating what is given, but not that it is in fact created. In this way, it is not clear that something gives or that there is a giver in suspension from this perspective.

Heidegger's notion of *es gibt* was mostly based on an idiomatic expression of the German language, but in French with its *il y a* or in English *there is*, there is no sense of givenness. One could simply say there is a sheer 'there is-ness' to things rather than a givenness. Nothing in the analysis would change except for the unjustified ideas that givenness itself evokes. Should one adopt the notion of givenness simply due to the peculiarities of the German language? Should one accept with Heidegger that German after Greek is the language of ontology as such? How does a tree or flower from the perspective of consciousness refer back to a giver that withdraws on this analysis?

God gives for Marion, but it is not clear how. We understand the why (a pure act of love and charity), but it is not clear that the analysis can justify the reference to God through the notion of givenness. It is clear that God as agape is not known and is not himself given (*GWB* 106), but at the same time Marion insists that God reveals himself in the human figure of Iesus (GWB 107). Does this mean God gives himself or only part of himself or is simply the same as an act of sacrifice? Either way, God is here not thought in terms of creation which would be the only way to think of God himself outside of the human and any relation to consciousness. Marion certainly begins an analysis of how God can be thought other than ontically as a being, but thinking God in actions is not enough unless those actions themselves are not solely dependent on recognition and thought in and by con-

sciousness. There is no evidence here that Marion means or intends to describe God's relation to the world as such, but rather how God relates to consciousness.

Such a critique is confirmed by examining Marion's other major work Being Given, published some 15 years after God Without Being, wherein the very aspects of Marion's analysis in God Without Being that promised an analysis of God himself on the basis of givenness disappear and only the nature of givenness as related to phenomenological evidence is emphasized. Marion states at the beginning: "Thus when I say that reduced givenness does not demand any giver for its given, I am *not* insinuating that it lays claim to a transcendent giver; when I say that the phenomenology of givenness by definition passes beyond metaphysics. I do *not* imply between the lines that this phenomenology restores metaphysics" (BG 5). In this way, Marion takes back some of the key insights and promising ideas of his earlier work by now admitting the idea of givenness does not require any giver or reference to one and that there is no transcendent giver. To say there is no transcendent giver is to say there is no God, not only in the sense of not being an entity, but also in these sense Marion used in earlier of the gift being marked by a withdrawn giver. In fact, the term 'God' barely appears in *Being Given* and does so primarily in the discussion of the thought of others or when articulating again the onto-theo-logic determination of a supreme being.

In this text, Marion again returns to the Heideggerian formulation of the *es gibt*, but without attempting now to identify God with this giving. Marion simply insists that one must think the 'It' of *It gives* non-ontically (*BG* 33). In addition, Marion is now attuned to the deconstructionist critique of the notion of the gift. Jacques Derrida, in *Given Time*, attempted to show that the very things that make a

pure giving possible make it impossible. For instance, if one recognizes that a thing is a gift, one will feel obligated to give in return, thereby making the gift not something purely given. In this way, a gift must be recognized, but in doing so, its pure givenness is annulled. If the giver withdraws and is totally anonymous as Marion seems to insist with his idea, then what appears does not appear as gift as we have argued already. Thus Marion has to admit that giving cannot appear as a gift, since that would cancel the pure giving such that the gift can only be abandoned and the giver completely withdrawn (BG 35). But if these observations are true, the very justifications for Marion's analysis appear without foundation and the naming of Being as something given appears to be simply a linguistic trick.

At best, Marion can here only rehearse the Heideggerian analysis of *Ereignis* wherein that which gives withdraws and what is anterior to being veils itself (BG 36). But Marion does not identify this withdrawal with God, even though he notes that this giving and withdrawal does not concern an entity. Heidegger says that the 'it' of 'it gives [es gibt]' is forever mysterious and to interpret it as a power, personage, or entity eliminates what is trying to be thought in it (BG 36). But this means that giving has no basis. It simply takes place. And that means again that there is just brute facticity in what is shown and presented. There is no reference to a transcendent moment on this analysis, nothing that necessarily marks what is given as created or connected to a beyond. Marion claims that "Heidegger violates his own interdiction" since he calls this es gibt also Ereignis (BG 37), but Ereignis names an event, the event of appropriation, rather than a being or supreme entity. It is the event-like nature of givenness itself that is described here and nothing else.

Marion simply continues the phenomenological act of bracketing all transcendence. This bracketing includes God and the world itself. For Husserl, such bracketing was done in order to see how things appear to consciousness themselves without making any other presuppositions such as that things exist in the world or that what we claim to know about the thing is there in the evidence before us. Marion follows Husserl. Certainly. Marion does consciousness is always already there. He will argue that it comes later on the scene in many instances to hear or recognize something anterior to itself. But there is no real reference to God and only analysis of givenness in relation to consciousness. In fact, because of this bracketing one has to see what is given as a "causa sui," as giving itself (BG 74). What could be further than determining God as creator and the world as created than seeing things as their own basis to the point where they cause themselves? What appears has no basis other than itself.

Marion does give an example of givenness that does not depend on one's consciousness, a life sacrificed to save another (BG 76). But even though the one saved does not know another gave this gift, the one who sacrifices himself would have had the intention or the ones who took the life. In this way, not the does surpass consciousness. Consciousness at some point arrives on the scene to acknowledge the gift. To say a gift, if not recognized, is still given ignores that another gave it or that another arranged for the exchange. As noted earlier, Marion is aware of Derrida's critique, but by agreeing with Derrida that the gift appears in the present and that due to temporality all things are already passing simply further undermines Marion's own position of determining what shows itself as a gift (BG 80-84).

Marion wanted to show that there is a gift without recognition in order to show how the self or

consciousness does not determine all in his model the way it did for Husserl. But even if consciousness is not that which gives things and receives them passively, the entire analysis for Marion still centers around how things arrive to a "me" and are "arriving to me affecting me" in an event (BG 125). In fact, the "contingency" of the phenomenon is determined only insofar as it "arrives to me as a knowing so that I might know it" (BG 125). Rather than the contingency of things being a result of their being created or related to a necessary instance, it is found in the way phenomena form their basis in the sheer facticity of their being given to me and my perception of them. This lived experience might not be something one is immediately conscious of, but ultimately consciousness comes on the scene and registers it.

The central part of Marion's analysis here concerns what he calls "the saturated phenomenon" which is something that exceeds and overcomes consciousness itself (BG 211-13). In this way, it is the human imagination and capacity for containing and knowing things that show an excess givenness in the same way they did for Kant in his analysis of the sublime. The main difference is that, whereas for Kant it was an active subject that tried to comprehend sublime phenomena, for Marion the self is merely a "constituted witness" (BG 216). This constituted witness is passive and dominated as he/she is overcome by a spectacle that exceeds his/her powers to comprehend (BG 216-17). But this passivity does not help us to exit the correlationist circle. Rather, it highlights how the very analysis is centered on what the human subject can or cannot think, contain, or experience. It is also in the context of the saturated phenomenon that God might finally make appearance in this text. The main analysis that would come close here is that of Jesus as regarding one and making one a witness of his sacrifice (BG 239-40).

Here, Marion also says that a revelation of God himself as showing himself can only appear in the figure of paradox (*BG* 242). Granted, God poses an idea that exceeds the human, but Marion in no way says that this idea refers to a real instance or to something that truly lies outside the human. His index is only ever epistemological—can the human comprehend God or not?

Mystics convey experiences of saturated phenomena and relate them to God. While Marion notes this, there is no analysis of its implications (BG) 244). Also, it should go without saying that God cannot appear in the world. It is in this way that once again, rather than think God as creator, Marion at best wants to think Jesus as incarnation of God. But to make this claim destroys the very idea of God as infinite or transcendent. While Marion thinks the philosophical tradition has failed insofar as it has always said that God does not refer to any intuition (BG 243), any reference to intuition is still a matter of analyzing the lived experience of experiences of God rather than attempting to determine God as he is in himself. Ultimately though, these references to God are sparse in Marion as his thrust lies on the human side. He wants to show that the self is itself summoned, surprised, and receives itself by being called to itself (BG 268-69). In this way, Marion thinks the human subject as the result of a calling that precedes reflective conscious awareness. His model here is the calling of Saint Matthew (BG 283-85). Matthew is called and in hearing the call and recognizing the call receives a self and purpose. The call preceded Matthew such that the subject is not constitutive of himself, but rather constituted by givenness. But such an analysis leaves out whether or not there is actually something calling to one, something transcendent to the call. The call precedes

one, but that is only recognized after the fact and after having heard oneself called in it.

Marion is thereby interested in knowing how the human subject is formed rather than knowing how the world is outside this subject. But of course that was always phenomenology's strength—to describe lived experience whether it be that of one who turns to God or turns away as it presents itself in itself to our thought. Nevertheless, as is usual, such strengths expose weaknesses. In this case, phenomenology (however poetically it can articulate our experience of the religious) is thereby restricted to articulating a human psychology or an anthropology rather than a fundamental ontology of the in-itself. What is then called for here, and what Marion does not provide, is an analysis of perception that takes place outside of consciousness awareness.

§7. CONTRA THE PROCESS THEOLOGIANS

Such a realist analysis was precisely what Alfred North Whitehead undertook. And beyond phenomenology, what is called process theology (Whitehead, Charles Hartshorne, David Ray Griffin, John Cobb, etc.) constitutes the other original and important philosophical engagement with God in the last century. Such process thought, as articulated by

⁹ Those who pursue what is called 'Anglo-American Philosophy' might here propose that the work of Alvin Plantinga and Richard Swinburne form a third grouping of key thinkers of God and theists. However, as Keith Parsons notes, Plantinga is mainly focused on justifying belief in God rather than attempting to ontologically or metaphysically with the very nature of God (Parsons 2007, 103). In this way, God's existence is totally bracketed in attempt to aver that a faith-based approach is reasonable despite not having any ultimate evidence that God exists or that knock-down arguments to that effect. But this approach shows that Plantinga himself is focused on how the human believes,

Whitehead, would at first blush appear to solve some of the problems we have listed regarding conceiving of God insofar as Whitehead unabashedly advocates realism and opposes on all counts limiting one's analysis to the relation between the human and the world or to how the human understands things. For Whitehead, the human is just one perceiver amongst others. Yet while Whitehead conceptualizes God as an entity (what he calls an 'actual occasion'), he does not attribute to God any of the main attributes that

rather than how the things are in and of themselves. For Plantinga, belief in God is the issue, and such a belief is foundational (Parsons 2007, 104). But Plantinga wants to differentiate between belief in God and for instance a child's belief in Santa Claus or Greek culture's belief in Zeus. But to do so, Plantinga will have to show why it is reasonable to believe in God rather than Zeus on the basis of God being actual and real in and itself indecent of the belief. As Parsons notes, eventually Plantinga himself had to argue that one must know or decide upon the existence of God to say a belief is justified (Parsons 2007, 110). To my knowledge, Plantinga does so via an ontological argument. We will address this argument in general later on as we develop our own ontology. Swinburne, on the other hand, is focused on how empirical evidence seems to suggest God exists (Parsons 2007, 112). He focuses on arguments from design concerning the complexity of the universe for showing why it is more likely that God created the world than God did not (Parsons 2007, 113). But as we will argue later, we reject teleological arguments concerning God. In addition, Swinburne is attempting to show why it is reasonable to claim God created the world, rather than explaining ontologically how that is possible or how it takes place. which is also our concern. Empirical evidence may give us reasons to be pushed in one direction, but it is not an ultimate foundation. In addition, we first need a fully worked out ontology (and Swinburne seems to be saving simply that the framework of traditional metaphysics is itself seemingly confirmed by empirical considerations) and one that does not simply repeat onto-theo-logy.

traditional metaphysics did (God is not the creator of the world for Whitehead, God is not all-powerful, etc.) and thereby would apparently escape the charge of repeating the problems of onto-theo-logy.

Whitehead calls entities actual occasions since he does not see any entity as a merely existing object that persists and is passively perceived (PR 73). Rather, any entity also perceives as much as it is perceived: "It is subject-superject and neither half of this description can for a moment be lost sight of" (PR 29). Insofar as the entire world is constantly changing, a permanent self-identical object cannot occur. Actual occasions are part of the creative process and feel and apprehend the world and other actual occasions (PR 80). Here we outlines of what is commonly called the Whitehead's pan-experientialism. Such actual occasions are everything from electrons and molecules to rocks, light bulbs, and planets. All actual occasions are related (PR xiv). However, it is precisely due to limiting God to being an actual occasion and not creator that causes Whitehead's theory to founder.

Whereas all actual occasions become and perish in the Heracletian flux that Whitehead posits as the fundamental aspect of existence (PR xv), God is non-"God is [a] primordial, non-temporal accident" (PR 7). God is always already complete in what he is and not subject to change, for God is "free, complete, primordial, eternal" (PR 344). God thereby participates in the universe, but is at the same transcendent and beyond it insofar as God is eternal and outside change. But this implies that the world is not made of actual occasions in the same sense, that it does not universally obey the same principles. God is thus for Whitehead an exception. But God is not meant to be any different than any other actual occasion: "God is an actual entity, and so is the most trivial puff of existence in far-off empty space" (PR 18). Describing God as an exception might make sense

and be a defensible position, except that one of Whitehead's other main principles, apart from the idea that all is flux, is that there are no exceptions to this rule: "There is no going behind actual entities to find anything more real" (PR 18). That is to say, Whitehead precisely criticizes other metaphysical theories with incoherency for not applying the same set of principles to any and all entities: "But, though there are gradations of importance, and varieties of function, yet in the principles which actuality exemplifies all are on the same level. The final facts are all alike, actual entities" (PR 18). In this way, Whitehead, who claims his theory is true due to its matching reality best, falls into incoherence when God is posited.

Such a charge may not in and of itself be wholly convincing, but a more detailed rendering Whitehead's ideas can show the intractability of the problem, as well as others. For Whitehead, there cannot be a total set of all actual occasions since one would have to posit an actual occasion that would prehend/perceive that set (PR 211). Such an omnipotent perceiver cannot be God since God is one actual occasion amongst others. But if God is not an all-knowing perceiver, what work does God do in Whitehead's system? First, God contains all possible predicates and thinks them. These predicates are called by Whitehead 'eternal objects.' Such eternal objects are essentially qualia or properties that cannot be seen to be unique to a thing itself (PR 149). For instance, wetness is a property of water, but it is not a property of the molecules involved and not something that the perceiver creates or projects into the thing perceived. Rather, the perceiver passively detects wetness in what is perceived. For this reason, Whitehead sees such a quality as existing eternally as an object in the mind of God. God orders and maintains these eternal objects and allows them to

ingress into any relation wherein they would be perceived (*PR* 29-31). But in doing so, God does not create eternal objects. They are as eternal as God. This brings us to another exception to Whitehead's rules, as these eternal objects are again outside the radical flux marking the world. In addition, it is not clear why God can perceive these objects any differently than any other perceiver given the principles of Whitehead's thought. But the eternal objects would simply be eternal with God—uncreated, always there. They are closer to Platonic forms than anything else. But they do not appear out of nowhere or as nothing. They can at best be a potentiality eternally there, awaiting activation by God. But God does not originate or create these objects.

Whitehead contends that God conceives all possibilities, but if God does so, it is not clear who is perceiving God, as Whitehead does not make God into a self-perceiver. God would need to have a nonlimited perception of all possibilities, but then the world would seemingly need some objective unity that it cannot have due to its radical flux. The world would need to be one process in and of itself, which it cannot be because it is constantly changing. As soon as God would try to allow an eternal object to ingress into a situation, the situation would have already changed. Otherwise, God would have to be outside the world and Whitehead would have to reform his principles to allow such an exception.

Whitehead, as noted, rejects the idea of creation *ex nihilo*: "No actual entity, no reason" (*PR* 19). God is eternal. But so are the eternal objects. This means the world is always already there. There is no beginning or end to it. But if the world is eternal along with God and the eternal objects, it is not clear how it exists as a constant flux. For if the world constantly changes, and nothing in it is necessary, then it would eventually reach a point where there is nothing. In

eternity there is an infinite amount of time, and that means an infinite amount of time would have already passed. All things become and perish, in an eternity of time of change, so nothing would eventually appear. Even if one posits an eternal return of the same, given the contingent nature of things, there has to be a time in that eternal return when all are reduced to nothing. But God is incapable of creating from nothing and only has possibilities as embodied in particular eternal objects at his disposal. In this way, as nothing comes from nothing, we should only have God, the eternal objects, and an empty world. That is to say, rather than flux we should have only non-temporal time. And yet we do not. Such a problem occurs precisely because God is not a creator for Whitehead. While Whitehead undermines the coherency of his doctrine by positing an actual occasion outside of the temporal flux, the theory founders by not making this necessary and also capable of creation. However, creation out of nothing would again be yet another violation of the basic metaphysical principles Whitehead says cannot be violated.

For Whitehead, "things which are temporal arise by their perception in the things which are eternal" (PR 40). But unless temporal things always already are, it is not clear how they can arise from God (who cannot create) and from eternal objects (which only ingress into already existing actual occasions). Here, Saadya Gaon offers an instructive objection, arguing that an eternal being, which has "no form nor equality nor dimension nor limit nor place nor time, can be so changed that a part of it becomes a body possessing form and dimension and quality and place and time and other attributes belonging to corporeal beings" (Gaon 1948, 56). Following on this point, Gaon argues, "that the All-Wise, who is immune against all pain and unaffected by action and not subject to accidents, should choose to turn a portion of Himself into a body

so that He would become exposed to accidents and be affected . . . seems absurd as God could not gain anything by such an action" (Gaon 1948, 56). One can also turn to Augustine for a critique of the idea that the world comes from God and is coeternal with God. The world exists in time so it cannot be eternal. If time is coeternal with God, then it makes no sense to speak of time, as time is not about the permanent but the impermanent (Confessions 11.140). In this way, the world itself has to be eternal for Whitehead and would have to be an actual occasion. It needs to consist of always-already-there actual occasions that exist as eternally as God and eternal objects. But as noted earlier, no one can perceive the world as a whole as it is always changing. The world as a whole cannot exist and be that general eternal thing that allows the system to proceed. Otherwise also, we have an infinite regress.

These views also conflict with what is called Big Bang theory, which attempts to show that there were not always actual occasions perceiving each other since time and space themselves come into being at a certain point. If there is a horizon at which one does not have actual occasions to point to, then it is not clear on the basis of God and eternal objects alone how other actual occasions arise. In particular, every actual occasion only apprehends some other actual occasion that came prior it to (*PR* 208), further emphasizing the infinite regress here involved and the manner in which Whitehead's theory is at odds with the insights of Big Bang theory. But every actual occasion is linked with all the others via the mutual prehending that takes place among them (*PR* 37, 41).

Whitehead also defines God as 'dipolar', meaning that God has both physical and mental aspects. But it is not clear how there can be a non-changing physical aspect of God, especially insofar as God in this way is prehending the world itself, which means that God is

both perceiving and affecting and being affected by it (PR 247-48). God would have to change, if only via these prehensions. But if God changes, God cannot be defined as Whitehead did earlier (as complete or eternal). The very notion of prehension for Whitehead does not mean merely passively registering change, but being affected and formed by that perception itself. God is also always obtaining new experiences in process theology. God experiences things for the first time and thereby is made new. In particular, God suffers and experiences our pains alongside us (PR 351). In other words, even though Whitehead made God an exception. Whitehead is forced to conceive of God as he does any other actual entity in order to make his system work and struggle to keep up the appearance of coherence despite these issues: "In the first place. God is not to be treated as an exception to all metaphysical principles, invoked to save their collapse. He is their chief exemplification" (PR 343). God also must have new experiences because Whitehead insists that what happens in the world is the creation of novel and unforeseen things (PR 222). God suffers not metaphorically, but literally what we suffer. But a suffering God is one that changes and moves from one state to another: "It was true to say that the World is immanent in God, as that God is immanent in the World" (PR 348).

If Whitehead, by saying that all possibilities exist in God, is saying that God conceives of all that could happen even before it does, then God always already perceives them forever in eternity (*PR* 46, 343-51). But such a rendering in Whitehead's system means that God does not perceive the world as it is now, but only as it might be. God is then disconnected from the world in Whitehead's terms. Through his idea of prehension, Whitehead also has to posit that all actual occasions are prehending God. But that then means that actual occasions can apprehend something

eternal. But what does it mean to say all actual occasions know God in this way, unless in knowing God they also affect and change God? But if the future is open and unknown to God, it is not clear how God could envisage all possibilities and at the same time experience the future as unknown and open. In addition, if we posit that God is eternal and thereby the future happens eternally, then nothing new does happen to God, and it is not clear how God can perceive the world as an actual occasion: "In God's nature, permanence is primordial and flux is derived from the World; in the World's nature, flux is primordial and permanence is derivate from God" (PR 350). The pure flux that Whitehead insisted on as a fundamental principle becomes, like for Hinduism and Buddhism, an illusion that we experience in ignorance as finite and temporal beings.

If these tangles were not enough, Whitehead, although positing God as eternal, says that God is dependent upon the world. That means God exists contingently and not necessarily. Eternal cannot then truly mean timeless for Whitehead, as something contingent could cease to be. This view once again calls for the argument from contingency and necessity that shows that such a world filled with contingencies would end in nothingness. And nothing can come into the world once that occurs: "According to the ontological principle, there is nothing which floats into the world form nowhere. Everything in the actual world is referable to some actual entity" (PR 244). In any event, God then has definite states of being that depend upon the world to exist. Nothing restrains God from existing, but nothing makes it necessary. God's dependence on the world also means God influenced by the world. But then God is emerging and perishing with each event that God participates in: "Each temporal occasion embodies God, and is embodied in God" (PR 529).

Some here might want to save Whitehead's view from full see-sawing incoherence by stating that God is simply an actual occasion that takes forever to occur. But if it takes forever to occur, then it never occurs since an actual occasion is only ever in the past for Whitehead. God would have to pass into actuality at some point, but something taking forever to occur never does. When one actual occasion perceives another (and Whitehead claims God is perceived), it is what it was that is perceived, given the constant flux of change at work. Now Whitehead does say at one point that "in the case of the primordial actuality, which is God, there is no past" (PR 135). But if that means that God as eternal has everything eternally before him, then once again the key idea of process philosophy, flux, is not truly real as things exist in an eternal now laid out before God. Time is then no more than the "moving image of eternity" (PR 338), but such an image undermines the idea that what is most radical about existence is its impermanency.

Either way we turn, we are forced to show the incoherency (the most devastating critique one can level at a metaphysics that asserts its truth based on the coherency of its conception of things and not the force of its argumentation) of determining God as both eternal and related to flux, an entity amongst others and somehow outside the world. Ultimately. Whitehead's theology fails not due to any correlationist problem, but due to its posting of a finite and contingent God who does not create the world, but only depends upon it and is influenced by it throughout eternity.

§8. AN IMPERFECT LOGIC: CHARLES HARTSHORNE'S PANENTHEISM

The critique here pertaining to Whitehead would in turn cover the process theology articulated by Cobb and Griffin in their *Process Theology: An Introductory*

Exposition. There, the authors continue Whitehead's rejection of creation ex nihilo (Cobb and Griffin 1976, 65). In fact, they emphasize how the process theologian's God creates out of an always existing and eternal chaos (Cobb and Griffin 1976, 65-66). Also, God is once again related to the world such that God is dependent upon it (Cobb and Griffin 1976, 9). It is precisely at this point that the work of Charles Hartshorne, the most prominent process thinker after Whitehead and perhaps the most brilliant American philosopher of the last 100 years after John Dewey, requires consideration, since Hartshorne takes up the problems related to seeing God as both immanent in the world and the world as immanent in God. Hartshorne's theory devolves However. pantheism (what he calls 'panentheism') and thereby suffers the problems common to that orientation.

Despite his commitment to the ontological argument in the The Logic of Perfection, Hartshorne's own pantheism, coupled with the modal argumenttation found in that text, undermine some of his claims. For instance, Hartshorne asserts all things are contingent to the point that contingency is necessary (LP 11). However, if all things are contingent, and God is a being, then God would have to be contingent. Also, if God is identified with a purely contingent world, then once again God is contingent and necessarily so. Hartshorne likes to claim that God and the world are related as a soul is to a body. But that does not mean God is independent of the body. Rather, it shows that God is not absolute or unchangeable, but rather relative to the world itself and affected by it (TDR ix-x). These relations are themselves contingent (TDR x) such that God himself is characterized by contingent relations. But such a view undermines the modal ontological argument Hartshorne taught 118 to defend. Hartshorne's articulated pantheism leads to a "relative

changeable" God that "depends upon and varies with varying relationships" (*TDR* ix). Such change makes God contingent because if something can change, it can be otherwise. Hartshorne takes this idea to be superior to a necessary God as God therefore transcends a static absoluteness by including change within God (*TDR* 19). But the consequence of such an alleged transcendence is that God moves through states and times and thereby could be essentially otherwise than how God is.

Hartshorne agrees with Hinduism "supreme being must be all inclusive," as otherwise there could be a whole greater than God (TDR 61, 76). Here, Hartshorne falls prey to the critique of ontotheo-logy, a critique it seems Hartshorne was himself unaware of. Also, if God includes all, then God changes as those things included in God change. Hartshorne's defenders might here argue Hartshorne's view on relations and the relativity of God is being overlooked. Hartshorne defines relations as being "external to terms," as relations primarily have being in the mind such that God might be seen as partly independent of the world (DR 8). But even for Hartshorne, relations "cannot be external to all their terms," "for if no term is constituted by the relation, then relatedness is additional to all the terms, and must be related to them by a further relation, and so on" (TDR 64). In other words, once God is related to the world and affected by it, God must be constituted at least partly by this relation and not fully external to the world. While defenders of Hartshorne would say that God includes the world while transcending it, it is not clear how God can do so, and more importantly, the very act has decisive implications for positing God as anything other than one more contingent being. God becomes for Hartshorne in a manner it is not clear even Whitehead was willing to admit, given White-

headian statements concerning the eternal and immutable nature of God as noted above.

Even if here we divide God into different aspects, such a division does not eliminate both sides from fundamentally defining God as such. Hartshorne also wants to distinguish a God that is necessary and immutable, but once God is defined as related to the world such that God suffers and changes with it, then God is either split into more than one God or rendered contingent, given that God could be otherwise. God's transcendence is forfeited when God includes the world as the set of all possible and actual entities (setting aside for the moment the Cantorianism, which we will elaborate later, showing how it might render this thesis null and void). Also, even if one were to grant for Hartshorne that God does transcend the world and can exist independently of it, then God could not be identified with being all inclusive (except of God himself and nothing else). But then, given that God cannot create in Hartshorne's view, there should be no world, as nothing comes from nothing unless the world comes from God himself. I am not aware that Hartshorne pursues the latter track, but it returns one to some of the more inherent problems of pantheism, such as a Cantorian critique (set theory seems to show there can be no set of all sets), onto-theo-logic critique, and so on. Also, if the world is created out of God, then the world is so indifferent to God that it is not clear how the two relate, other than as God relating to himself. This view implies that the world is not contingent as Hartshorne claims, since the world flows from the necessary and is part of it. And if the world comes from God, then once again God changes and becomes, with the implications of that mutability undermining the other claims Hartshorne wants to make.

To return to the soul-body model, most proponents of Hartshorne's view would say that just

as a person's identity remains the same over time even while one's body changes, so God as the soul of the world can stay the same while the world changes. But Hartshorne is not saving God is unaffected by the world, but rather that God is related to the world such that, for instance, God is changed by the world and not just some physical aspect of God. Also, such a substance-based theory of identity leaves the actual enduring identity as a mysterious whatness that cannot be explained, but only posited, whether one speaks of an individual thing or God. This view also contradicts the Whiteheadian universe in which all actual occasions are merely events wherein they constantly change and are constituted by their interrelations with others without their being an enduring substance or identity. Hartshorne appears to adopt this aspect of Whiteheadian philosophy and process theology. Also, if Hartshorne is adopting a substance ontology wherein there enduring are substratums, then change is not a radical flux. It is also then not clear how change occurs insofar as all change becomes accidental. Why should the substance that endures disappear? As for God, if all of God's changes are purely accidental, then they lose the relevancy and importance that Hartshorne wanted to attribute to them. If God lasts forever and is eternal, then how does God relate to changing things in the way Hartshorne wants without entering time itself? all, one of Hartshorne's main originality relative to classical theism was that God is not outside of time, but that time comprehends and involves God as well. God does not here know the future such that God is changed by that knowledge. Is that a merely accidental change? One maintain God's necessary character?

Time's being real and including God was also important to secure the fundamental nature of flux. God for Hartshorne loves the world, but is eternally

loving. However, Hartshorne himself says love is a relation such that God's loving the world cannot exist without the contingent relation to a particular world. Also, God as all-inclusive means that the relation between God and world takes place within God (otherwise there would be a relation governing God and the world that comprehends them and is thereby greater than God since it includes God). If the world must also be included in God, then if it is to be thought as contingent, God would be knowing part of himself and be changed by a knowledge of himself. We will turn to the problems of inclusion later when examining Cantorian influenced set theory. But to anticipate some of the argumentation, Hartshorne's idea that God includes all, whether it be as thoughts in the mid of God or cells in an organic entity, might seem to mean that there is a cohesive unity, but it still falls prey to the idea that there cannot be a set of all sets thereby leaving something outside of God. If numbers are included, then with the infinity of numbers we may have a part that is greater than the whole itself. But then it is not clear how God can be divided between soul and body, as we are not discussing two independent things, but two things within the one.

Ultimately, to treat God as split between soul and body is to treat God as an entity that is human-like and limited. Such an entity cannot create the world, and even if God is necessary, he would be alone, as the contingent world over infinite time eventually yields a nothing that Hartshorne's God cannot change. And if the world pre-exists, it would have to be necessary, thereby undermining the claims to contingency. Hartshorne may not be thinking such a nothingness can occur, since he thinks it is a matter of what can be imagined or not, but the modal argument itself shows that it is a matter of the things themselves, given the inherent meaning of contingency and the

nature of time. It also does not need to be experienced to be shown to follow, any more than the ontological argument requires an experience to be proven. While Hartshorne clarifies some of the key ideas concerning process theology and certainly articulates a novel conception of God, his view fails, as did the views of Whitehead and phenomenology, primarily for refusing to accept God as creator and accepting the implications of God's infinity.

CHAPTER TWO

The Kabbalah of Being

§9. BADIOU'S FIRST THESIS: BEING IS SETS

So far, we have focused on what is unsatisfying in the two key discourses on God in the current epoch phenomenology and process theology. These two elegant discourses have been criticized rather crudely for correlationism, a failure to think the infinite properly, incoherence, falling prey to the critique of onto-theo-logy, and/or the implications of refusing to accept God as creator. The only positive stance that has truly been defended is that the Kabbalah can be translated into philosophy and thereby offers a true rendering of God. But how does Kabbalah do this? Rather than simply spelling out how Kabbalah avoids the pitfalls related above to phenomenology and process theology, we will have to detour again through philosophical argumentation and the theories of more contemporary thinkers, since the goal here is not simply to present Kabbalistic ideas as such, but to present them as philosophically articulated theses. As noted, the work of the French philosopher Badiou will help us to do so, despite Badiou's self-declared atheism. The first step in articulating the positive Kabbalistic theory of ontology will consist in working through some of the key theses of Badiou's ontology.

The first and primary thesis informing Badiou's ontology is the idea that "ontology=mathematics" (*BE* 13). When we want to understand being in and of itself as being for Badiou, we must turn to mathematics, as mathematics articulates and inscribes

this idea (*BE* 3). By mathematics, Badiou in particular refers to post-Cantorian set theory. Set theory sets out to treat all possible entities as included in collections or forming collections and thereby sets forth the extensional aggregate as the form of how all that can be can be presented. Now, when we want to say what being is in and of itself, being qua being, we have to exclude all other qualities or properties. Ontology, ideally, is just about what is expressible about being itself and not any other quality or trait. In this way, one is not asking how being appears to a subject, but rather how being is itself without reference to what it means to a specific entity or to consciousness. For instance, we are not asking how a particular being exists, but just about being in and of itself, is-ness.

For Badiou, set theory forms the most basic expression of being because, following Leibniz, "What is not a being is not a being" (BE 53). The most basic thing that characterizes being is that it relates to unity and suchness, as noted earlier in reference to the Heideggerian rendering of ontological difference. Through its focus on extensional collections, set theory captures the very notion that nothing is that is not a unity or aggregate of some kind. But at the same time, one can distinguish in set theory between what is collected in a set and the set or frame itself. In this way, one should not confuse the transcendental unity of a collection with some substratum (eternal or otherwise) that underlies things or some Kantian thing in itself. Rather, the fact that set theory, in encoding ontological difference, allows us to distinguish what is in a set (regardless of what the set aggregates, whether it is of qualities, relations, perceives, etc.) means we no longer have to search for withdrawn substratums and suggest they hide from us in hidden dimensions. In this way, set theory is an actual writing and inscription of ontological difference as such. Set theory is only interested in what can be articulated as

a unity and said to be such and such. Set theory only concerns itself with collections and collections of collections. It begins with "neither cosmos nor phenomena, neither cause nor substance" and thereby makes the least possible presuppositions about the nature and form of being (Badiou 2005, 23). Whereas another ontology will immediately attempt to describe the world in its qualitative richness and divide and categorize beings, mathematics as ontology, as set theory, only concerns itself with the most minimal aspect of being, which is to say, with being itself alone.

Badiou's first thesis is that ontology should begin simply by "saying there is a multiplicity multiplicities" (Badiou 2005, 23). Here, one also has the distinction between being and existence. That is, theoretical ontology does not make presuppositions about what can exist or does exist, what is given to experience or what is not empirically found. It does not in its most basic axiom and beginning say if any particular person or entity exists. It is not even making any claims on space or time or their natures. It does not say what there is; it states what any possible "situation" can be about as such and in general (BE 27). Set theoretical ontology thereby describes the basic framework of any and all statements about being, precisely possible remaining indifferent to what one might happen to run across in phenomenological lived experience.

Badiou calls any general set containing things a situation. That is, for instance, one can speak of the situation of the room I am in now and state what this set includes in all its elements. In such a set one would include a computer, books, pens, chewing gum, a cell phone, etc. All these individual elements belong to the situation of 'this room' (Badiou 2005, 25). While for Badiou other discourses besides ontology speak about the actual nature of entities and how to

categorize them, ontology does not say anything more about beings beyond their belonging or not belong to sets and the nature of sets (Badiou 2005, 22). For example, anthropology would tell us what types of humans there are, how they behave, etc. Ontology would simply state what can be said about the act of forming a unity as such, whether that unity be something that includes humans or not. A situation is simply the presentation of the multiplicities that are associated with it and included in it. Ontology is about the general form of situations. In particular, Badiou thinks ontology is about "the pure multiple," "the multiple 'in—itself'" (BE 28). This means that pure ontology would be about inconsistent multiplicities that present only multiplicities.

Even to speak about there being a collection as such, as a unity, is already to speak about the state of a situation rather than the situation itself. However, for Badiou, one never truly encounters a pure situation: one always already finds oneself confronted with states of situation in which things appear as unities and as parts of defined totalities. In this way, to anticipate a further key thesis of Badiou's, "the one is not" in the situation, but there are ones in the state of situation in which all things have been collected and counted as one (BE 29). Without the state of situation, the multiple would not even be recognized, since there would be endless multiples of multiples. Ultimately for Badiou, set theory makes good on the idea proclaimed since Parmenides that being and thinking are one and the same. Whatever can be thought and collected is itself a being. The thesis here that marks Badiou as the next great ontologist following Heidegger is that all is multiple, all is sets.

§10. WHAT IS AN EXTENSIONAL SET?

Before continuing, let's be sure that we understand the specific way post-Cantorian theory

defines a set. Set theory has what is called an "iterative" notion of the set (Moore 2001, xiv). A set or collection is dependent on its members. The members first must be. The members precede the set itself. That is, there is something that is collected into sets (to make the claims of pure ontology we will have to posit nothing and its marking and not any objects or things as commonly understood). This is why Badiou says that the situation as pure presentation is just multiples of multiples, as here he is naming the infinity of things that precedes sets. The state of the situation is already a seeing of things together as sets. Of course, as already noted, one never actually finds presented this pure situation and thereby only ever finds things as already grouped into sets and unities. Sets come later to collect these things into unities. But these sets do not refer to the properties or natures of the elements they aggregate. Rather, the sets merely gather them together. All can belong to sets including other sets. As we will see, set theory also claims that there is no one set encompassing the infinity of all things and sets, a set of all possible sets.

We must be clear that a set is what it is simply because of the things included in it. For instance, the set of all human beings is not a set due to the properties of humans showing they belong together; the set of all human beings merely collects together a series of elements. A set is then a recognition of the many and its turning into a one. This is why one can talk about the set of all things in the cushions of my couch as much as the set of all sea mammals. Both are just the joining together of elements already there. This is also what is meant when it is said that set theory uses an extensional notion of a set. An intentional set would have a rule determining what can and cannot belong to it. For instance, the concept of rationality will determine what things can be grouped in a set of all rational things. But an

extensional set or iterative set works from the ground up and just bundles together things willy-nilly, as it were.

This is why one can say that consciousness itself aggregates sets. Consciousness (especially according to Husserl) has object-directed intuition. But that means it is always looking at things as unities, as sets. Consciousness itself is able both to recognize sets and to posit them. For this reason, I can be aware of the set of pillows on a bed, one pillow, the room, etc. Consciousness itself is constantly intending unities and recognizing them. But this is not simply true of consciousness. Being in and of itself is characterized by such unities.

That a set, as a collection, is indifferent to the things it includes does not mean that one cannot take these elements and perform operations. For instance, one can take part of the elements of a set and make a new subset. If a set includes A. B. and C. a subset would be just A and C. For Badiou, one should "abandon all hope of explicitly defining the notion of a set" as the pure multiple is simply "founded solely by a relation of 'belonging to'" (BE 43). Now, even though a set presupposes the things it collects, in pure ontology, as we will discover, the only thing that need be presupposed is literally nothing when articulating the general laws of being as such. In addition, Badiou will show how this nothing or void is to be identified with the infinite multiplicities of multiples of a situation that he sees as being without any unity as of yet. In some ways, there is a virtuous circle here, as one will only be able to show that sets presuppose infinities of infinites of things that they collect and aggregate into particular sets only once set theory itself has demonstrated the being of the actual infinite. other words, this is an equation that will philosophically confirm the Kabbalistic view that zero

and infinity not only exist, but that one equals the other and that that is the least one can say about both.

It is due to the set having such a minimal being that it is articulated and understood via the axioms that govern its laws and functioning. One of the axioms, for example, precludes a set belonging to itself in order to avoid the paradoxes associated with such a condition as articulated famously by Bertrand Russell: "Russell's paradox can best be illustrated by a famous analogy popularly known as the story of the barber of Seville. The barber of Seville shaves all the men in the city of Seville who do not shave themselves. Now comes the obvious question: Does the barber of Seville shave himself? If he does, then he doesn't. If he doesn't, then he does. This is a logical paradox" (Aczel 2001, 181). These paradoxes and this axiom show that there is no set of all sets, as such a set would have to include itself. This is also why an intensional set model is rejected, since such an intensional rule-governed set would ultimately be subject to the paradoxes of a set belonging to itself. In an intensional model, there is no reason not to define a set as governed by the concept of belonging to oneself. And for this reason concepts or laws cannot govern how sets and their elements and members are determined—only the mere act of collection can. This is also why one will presuppose that only zero, as zero, is identified with the pure inconsistency of the nonexistent whole of things.

§ 11. THE SECOND THESIS: 'THE ONE IS NOT'

On the basis of these ideas (that there is no set of all sets, that sets presuppose infinity of infinites, etc.), Badiou proposes his second main thesis: "The one is not" (*BE* 52). Badiou immediately asserts that the idea that there is no one-all means that God also does not exist (or perhaps more precisely, "God is dead") as God for Badiou only names the whole and all-

encompassment of things (Badiou 2006, 26; *BE* 277). It is partly comprehensible why Badiou makes this assertion, given that God is defined as infinite, such that many have argued that there can only be one infinite, meaning that God is all-inclusive. Following Cantor, Badiou posits that there is an infinity of infinities. There is no whole or set of all sets, and thus God as the single infinite cannot stand. If God equals the infinite unity of all things, then such a God (if Badiou and post-Cantorian set theory are right) cannot hold true. As Hallward notes, "No one, perhaps, has taken the death of God as seriously as Badiou" (*BST* 7).

But God need not be identified simply with monism. In fact, this is only the pantheistic determination of God. And if Badiou's theory demolishes pantheism as a viable option, then so much the better, as discussed above with regards to how the cash value of the critique of onto-theo-logy referred in part only to pantheism. Now Badiou seems to think that mysticism and theism, when they posit God beyond being, are only positing a One-All that does in fact exist:

I often come across this path of thought. It is well known that, at a *conceptual* level, it may be found in negative theologies, for which the exteriority-to-situation of being is revealed in its heterogeneity to any presentation and to any predication; that is, in its radical alterity to both the multiple form of situations and to the regime of the count-as-one, an alterity which institutes the One of being, torn from the multiple, and nameable exclusively as absolute Other. From the point of view of *experience*, this path consecrates itself to mystical annihilation; an annihilation in which, on the basis

of an interruption of all presentative situations, and at the end of a negative spiritual exercise, a Presence is gained, a presence which is exactly that of the being of the One as non-being, thus the annulment of all functions of the count of One. Finally, in terms of *language*, this path of thought poses that it is the poetic resource of language alone, through its sabotage of the law of nominations, which is. (*BE* 26)

It is true that even some versions of Kabbalah read as pantheistic in orientation (and we hope here to show why they should be rejected). ¹⁰ But Badiou himself

10 Here is a famous quote from Kabbalah that suggests pantheism: "Do not say, 'This is stone and not God.' God forbid! Rather, all existence is God, and this stone is a thing pervaded by divinity" (Matt 1996, 24). Rabbi Meir ibn Gabbai said: "Everything is in him and he is in everything" (Michaelson 2009, 44). But none of the quotes the pantheistic Kabbalist brings forth need be interpreted in this manner. For instance, Isaiah professed "I am and there is none else," but this could simply refer to the unicity of God. Jay Michaelson argues very directly for simplistic pantheism (if God is infinite then God must be all inclusive [Michaelson 2009, 27]). This observation of course would also count for Deuteronomy 4:35: "There is none besides him." In Everything is God, Michaelson claims straightforward pantheism relives one of the "burden" of monotheism (Michaelson 2009, 98). For us, it is the truth of infinity that relieves us of the burden of the pantheistic temptation. Michaelson is of course interested in defining Judaism as pantheism both to render its religious commandments as optional and to make it appear to be the same as so-called Eastern wisdom and thereby more attracttive to those born Jewish and who unfortunately reject their own religion (Michaelson 2009, 202-8). Spinoza is of course a famous pantheist, and I will return to a critique of his position via Badiou in another context. Of the many

pure presentation of inconsistency claims (multiplicities of multiplicities, infinity of infinities) is itself not something we can encounter, but rather only posit. In this way, Badiou cannot apply his critique to negative theologies as long as they are not positing God to be the all-inclusive whole of all. Badiou's theory also requires an unpresentable. Badiou will later posit something that is not being qua being, the event, so arguing that negative theology does so and (just on that basis) can also not hold as a critique. Mysticism does vield an insight into the absolutely other, but this does not mean it is necessarily positing that God is a set of all sets. It could be that the mystic is simply experiencing the pure inconsistency of which Badiou speaks. But God

problems of pantheism, one is also that by making all things one with God things they lose their individuality. Diversity becomes an illusion. This is the view of Hinduism as articulated by Shankara. One then has the problem of making sense of all the diversity we see and experience. Monotheism takes it as real as it is created. God also becomes nothing as God is nothing in particular. Some think that the idea that all is God including myself opens up the idea that acting as God commands is just to do as God desires, which means to be true to oneself, and rather than begin against God, one is with God as part of God (Aaron 2005, 151). But the idea of a command includes any instinct, etc. in a pantheism, thus rendering it not only incompatible with divine commands, but also as traditionally noted an amoral doctrine. Also, David Aaron here wants to state that we appear as a form of God, but that we are not God: however, his position metaphysically implies it and states it later as he says we exist within God (Aaron 2005, 134, 138). Besides being an interpretation of the infinity of God, I take pantheism to be arguing that there is no God without the world (and in many formulations that God without the world is nothing). Hence, the earlier engagement with process theology also counts as an engagement with pantheism.

is also not the world or the whole, but rather beyond it, according to monotheism. God is not the one of being.

That being is not a totality does not imply that God, as that which lies beyond being (as for negative theology, for instance), also falls to the wayside. Monotheism is posting that God is one. But God's oneness does not mean that God is one in any numerical sense (one rather than three) (Seeskin 1991, 7). What is asserted is something qualitative rather than quantitative: God is absolutely other, unique, beyond: "To whom will you liken Me, that I should be equal?" (Isaiah 40:25). In fact, to make a Lacanian point, God is that one point that in-exists or insists and is not part of the whole and is not included in it (showing that totality or the whole is always a sham and illusion). God as impossible from the perspective of being puts the lie to the whole or one-all. The whole cannot recognize God, as for it God does not exist, since from the perspective of the world God cannot possibly be part of it. When God is defined as absolutely other, it is not being as such that is being defined, but that which transcends it. After all, Gödel already showed us that there will always be axioms and statements fundamental to a system that cannot be proven within it.

Now, before continuing, we can say that rather than showing that God is not, Badiou's thesis concerning the one actually confirms a first Kabbalistic idea for us: the notion of *shvirah* (which literally means 'breaking'). *Shvirah* names the mystical experience of creation's imperfection, its not being perfect. Or, as Joseph Dan puts it, "Existence does not begin with a perfect Creator bringing into being an imperfect universe; rather, the existence of the universe is the result of an inherent flaw or crisis within the infinite . . . and the purpose of creation is to correct it" (Dan 2007, 75). In this context, the

imperfect universe is itself imperfect precisely due to the excess of the infinite. It is not so much the purpose of creation to correct the infinite; rather creation itself is shattered and broken due to its relation to the infinite for Kabbalah. Lurianic Kabbalah posits the notion that we exist in a universe that is made of scattered and broken shards, due to its being created by and in relation to God as absolute infinity. Isaac Luria presents the results of his experience in this manner: "Afterward, Grace merged and shattered, /and the vessel collapsed and fell; / meaning, he also was unable to bear the light" (KC 16). Creation's inability to bear infinity breaks it into pieces and renders it incomplete. The world is not closed. Dov Baer said: "God cannot be clothed in you, for God is infinite and no vessel can contain God-unless you think of yourself as ayin [nothing]" (qtd. Raviv 2008, 82). All vessels of creation and creatures are exploded by what they cannot contain—the absolute infinite as such. Shvirah names the mystical experience of the world being shattered and made inconsistent precisely due to its being related to the infinite. Here then, with Badiou and post-Cantorian set theory, we have a philosophical confirmation of this experimental insight much more so than a denial of it, despite Badiou's assertions.

§12. THE INFINITE MADE FINITE: THE MEANING OF THE TRANSFINITE

Given that much of the argumentation here depends on the Cantorian notion of the infinite, it is best to lay this idea out in some detail. Cantor actually does not talk only about the infinite, but rather defines something he calls the "transfinite (*transfinitum*)" or "supra-finite (*suprafinitum*)" which is an infinite determined and well-ordered as much as any finite number (Cantor, qtd. Rioux 2000, 120). By inventing this term, Cantor wishes to emphasize the difference

between his definition of the infinite and the notion of the infinite as some indeterminable and inconceivably large number. Cantor believes he has discovered a new type of number—an infinite kind. The concept of number is thereby expanded by the introduction of a new set of well-defined and distinguishable numbers (Rioux 2000, 117). What is key is that Cantor can propose the transfinite as a new kind of number by treating the infinite itself in finite terms.

Unsurprisingly, there are finite sets that can be put into one-to-one correspondence with each other in terms of the amount of elements each includes. The including A and B is in correspondence with the set containing C and D. Rather than numbers being something that one counts up like fingers or heartbeats in some intuitive act, for Cantor, "it is to sets or to collections that numbers are assigned" (Tiles 2004, 96). We do not determine that there are "as many cups as saucers by checking to see that there are no saucerless cups," rather, a set has a determined number of objects and can be compared to another set (Tiles 2004, 96). If the two sets correspond, they have the same number. In this way, one can simply extend the notion of number to a set with an infinite collection such that we know that the set of all natural numbers has the same ordinal number as the set of all even numbers due only to seeing whether they correspond or not and not by counting one by one each element of each set (Tiles 2004, 97). This is what Cantor means by the suprafinite. It is a set with an actual infinite number of elements that can be put into correspondence with other sets of the same ordinality, just as a set with two elements can be known to have the same number as a set with corresponding elements. Since we could never sit down and count to infinity, the transfinite is known not by counting, but by correlating one set with another, one series with another. All the even

numbers correlate with all the all odd numbers. This is a determination we can know just by the act of putting the two sets into correspondence, and thus we have transfinite numbers that are ordered and understandable.

For Cantor, there will not be a largest transfinite. but there is a smallest transfinite, and it is precisely the set of all natural numbers. Cantor thereby can treat the infinite as countable and orderable by treating the infinite as finite. Cantor here differs radically from all previous philosophical thought. By stating that there is a set of all natural numbers, Cantor is not saying that such a set might one day in some vast future be articulated (it is not a question of what Hegel called 'the bad infinite,' where we just have a sequence of one number after another and thereby a constant bounding and limiting of what is supposedly infinite), but rather an infinite that it is given all at once in reality and in thought and not by succession. The mere act of stating and marking that one has a set of all the natural numbers and showing how corresponds to the set of all even numbers means it has been determined here and now. If we simply counted things one by one, we would only have noninfinite numbers. But since number can also be determined by comparing sets, we can have transfinite numbers as well.

From Aristotle onwards, the infinite was only seen as something potential (and never actual or given). It was something ideal that one could say possibly exists or that in principle exists, but not something that could be treated as a number in the same way that the number 5 could. But if the number 5 is simply a set with 5 elements and any set corresponding one-to-one with that set also counts as 5, then the same operation can be performed on the infinite. The potential infinite of Aristotle is always finite, since one will always only have counted a finite

amount of numbers on one's way to counting infinity. But if one discusses an infinite set in correspondence with another, one has already before one the set itself.

Aristotle as well. the infinite "unbounded," whereas Cantor's transfinite numbers "are not entirely unlimited" as they exist in classes (all the even numbers for instance) (Rioux 2000, 119). Now some might say that even the posting of an infinite set is a conjuring trick of mathematical writing. Here the objection would consist of noting that when a normal set is written, one lists all of its elements and what it includes and contains. But here one does not of course list all the natural numbers. Rather one lists a certain number and then puts an ellipsis (...) or an 'etc.' or states 'and so on' or some other stand-in for the actual infinity of numbers. But then one will one say one does not have an infinite set, but only a marker of one. I agree. But I do not think this is purely a conjuring trick that undermines the Cantorian points here. Quite the opposite. The transfinite depends on the power of the signifier and itself encapsulates and names one of the key powers of the signifier, its power to always exceed and at the same time include itself. The signifier via an ellipsis names the infinity of numbers just by doing so. That is to say, one has a set of whatever can be marked as such. And it is the act of marking itself that shows how the signifier can both be used to hold a place and mention or refer to the content of that place in the absence of itself. It is this very power that makes for the inconsistency of the infinity of infinities that the transfinite will name, as the signifier refers to itself at the same time that it marks a place for itself and another. Once the world is subjected to the signifier, it is already subjected to the difference between frame and content (sets) and to the mark as content itself.

When one writes 'and so on', one has all the numbers because all the numbers are themselves

differences from each other. A signifier as pure difference (if only in the sense of not being any other signifier) allows it to take on any meaning in its negativity. An ellipsis is a perfect concretization of this power. Numbers themselves are differential in a similar way. And one can have them all by knowing their process of generation and thus can mark them all down in a signifier alone. The meaning of one signifier is always determined by another and so on. All numbers at once mark themselves and the rule of their formation, the very way in which the act of meaningdefinition through metaphor implies an endless regress and progress. The signifier is itself infinite insofar as it defines itself and its other without end. The signifier is always in excess of itself and always a surplus. It is already a transfinite set marking itself as set/frame by way of the space it requires and infinite via its endless production of meanings through other signifiers. The signifier bursts open and fractures all in this way. A signifier always contains more than it contains, just as the cardinality of the transfinite via the power set does.

What we mean to say is always exceeded by what we say to mean. The lesser contains the greater that exceeds it. That is its infinity. This is in some ways another way of stating the sheer power of defining number in terms of one-to-one correspondence, for it is by stating 'and so on' that we have all the numbers since it is just a matter of what can be stated and not enumerated one by one. Only the signifier in its power of marking and defining can have all at once without having it. And because the signifier is self-referential, it exceeds itself in the same way (as we will show) the transfinite does. The signifier always has more in it than it initially has and leads to more signifiers. A book for example can lead to many books. The signifier "..." can contain an infinity of numbers. We are thereby arguing that what Cantorian set theory

does in essence is to formalize the very power of the signifier itself. The transfinite defines the infinite as literally that which has no end or bound, the incomeplete. Cantorian theory writes out via the signifier and makes explicit the incompletion of the signifier. In this way, a transfinite set is a conjuring trick, but one that demonstrates the power of the signifier itself and how the transfinite is another name for that power.

To return to the explicit content of Cantor's views, there is no such infinity in an ordinal sense. If we name the set of all even numbers w, then we can always add another number to it and have w+1, etc. That is to say, when we take the set of all natural numbers, the last number would have to be larger than any of the preceding ones. But any natural number, no matter how large, is still finite such that what would be greater than the largest number is infinite. In this way, new infinites can be formed by adding finite numbers to an undetermined infinite set (Aczel 2001. 142). In other words, based on the same principle of generation one uses in counting, a succession of infinities can be counted beginning with w. W names the idea that in an infinite set there is no greatest number. There is no limit. W names the limit of that which is limited only be being named as a whole set. One then simply adds a number and obtains the next greater number than w.

However, Cantor is not really interested in identifying the transfinite with what we have called w or even w+1. There would be no greatest in this series as well. Rather, the transfinite is identified by Cantor not with ordinality but with cardinality. Every finite number does not have the same ordinality and cardinality except the numbers 0 and 1, where one has just as many subsets as the ordinal has sets, for example. In any event, no matter the ordinality of a finite set, its cardinality as marked by its power-set is also finite. The power of a finite set is as finite as its

ordinal number no matter how one renders the elements it contains, even if the power set is larger. One could count all the elements. But with sets of infinite numbers, the power set (the total number of subsets that can be produced) is bigger than the amount of elements in it. This means that an infinite set, such as the set of all natural numbers, can be seen to lead to a power-set that contains more than infinity or a larger infinity. Cantor interestingly names the ordinal set with the Hebrew letter aleph (the first infinite—for instance, the set of all natural numbers) and names the power set produced by it the second aleph. Here, we truly have two infinities, and one is larger than the other. Aleph thus basically refers to the infinity of natural numbers and any set that can be put into one-to-one correspondence with it and all those sets have the same cardinality. This is the infinity we are familiar with (although we mostly thought of it as only potentially infinite). And it is not clear that beyond the infinities produced by taking power sets we can speak of any other numerical infinite. But now Cantor has shown via the power-set that we can generate ever larger infinites of larger cardinality. This process is endless. Just as we took the power set of aleph to reach the second aleph, we can take the power set of the second aleph to articulate vet another and larger infinity and so on. To speak then of an infinity of infinities is to truly speak of the infinity of ever larger infinite cardinalities.

Whereas before one might have thought there might be only one infinite (and pantheists took this idea and the definition of God as infinite to posit that God is all), now we have an infinity of actual infinites. Not only is the first aleph without limits, but there is an infinity of infinities without limits. These infinities are distinct and distinguishable. The notion of the power-set also shows that even a part of an infinite set can be greater than its whole (Tiles 2004, 63), whereas

earlier the use of one-to-one correspondence showed that a part cannot be equal to the whole. This is in many ways the two distinct revolutions Cantor brought to the idea of the infinite. On the side of ordinality via correspondence, one can see a part being the same as the whole, whereas on the side of cardinality the power set leads to ever larger and distinct infinities. And it is the latter that demonstrates the *shvirah*, the infinity of infinities, the lack of the one-all whole.

That Cantor named the first transfinite cardinality with a Hebrew letter constitutes a not-sosecret wink towards how Kabbalah is at play here. As Amir Aczel writes, "Kabbalists seem to have had a firm grasp of the concept of infinity . . . They understood that infinity could contain finite parts, but that the whole, infinity itself, was immeasurably larger than its parts" (Aczel 2001, 36). And insofar as Lurianic Kabbalah sees the containers of the world shattered by the relation to the infinite, it already hinted at Cantor. Now, I do not know if Cantor knew Kabbalah. He would probably not reveal that any more than he would want to reveal that he and his wife were both descended from Iews who had converted to Christianity, but continued to marry only people descended from such Jews. In any event, "a kabbalist would appreciate . . . Cantor's decision to symbolize various types of infinite with the alef' as "the alef is the uncarved black, preceding the shaping of words, the verbal formulations" (Matt 1998, 109). This idea for us will have even further implications and show the implications of Kabbalah for philosophy. For example, Badiou thinks being is in excess of language due to the infinity of infinities we have laid out here (Badiou 2005, 22). There is no reason that language could not be put into one-to-one correspondence with the set of all natural numbers via letters and their combinations that form words. It is in fact being's very

subjection to the signifier that enables it to be transfinite and to express an infinity of infinities. In this way, the issue is not being exceeding language, as all things are subjected to the signifier or differentiality and are thereby able to express the transfinite. As long as a word can be any length of letters, then letters can be treated in the same way as numbers. In this way, we will be able to use set theory to confirm the Kabbalistic idea that creation was made from letters and numbers.

§13. CREATION FROM NUMBERS (SETS/LETTERS): THE SEFIROT

The Kabbalah firstly insists on seeing divinity and creation revealed through what it calls the sefirot. This term literally refers to counting, to numbers. And just as numbers work on a base ten, so there are ten sefirot: "The ten Sefirot are the basis of all that is defined numerically; thus you see that the total quality of numerals is more than ten as mathematicians well know" (Rav Yehuda Hayyat, qtd. Hallamish 1999, 127). While clearly one can list numerals beyond ten, the meaning and nature of them is already determined as they repeat what was determined in the first sequence. As number, such sefirot are like candles lighted in that no change occurs as the power of each is passed onto the next (Hallamish 1999, 158). If God is nothing or nought insofar as God is beyond human comprehension, God and God's creation can be revealed through the procession of the divine numbers: "According to Lurianic thought, the structure of the ten sefirot also presents the basic structural characteristic everything that exists, be it spiritual or material" (Dan 2007, 71). God does not manifest himself, but he does create through a universe that has been coded and decoded in numbers and numerical terms. These sefirot are the language of God.

As opposed to Neo-Platonism, which sees emanation as a process proceeding outwards from God or the One. Kabbalah sees God's creation not as emanation, but rather as a textual enactment, God created the world using numbers, and its nature and meaning can be found by understanding the basic nature of numbers themselves. And if the world is made of numbers, then it shows not only a structural and combinatorial aspect, but also that differentiated beings are interconnected just as numbers are. Each number is bounded and limited by another in an immanent development. The later sefirot contained in the previous ones until they are manifest something new and independent. development shows what many theoreticians science call 'emergence'. Emergence occurs when, for instance, atoms come together to produce an entirely new thing. Hydrogen and oxygen combine to form water. But water is something with new properties that cannot be found in the hydrogen and oxygen atoms. It is the sefirot that express and found this aspect of being. Entities may appear and seem independent, but they are still connected with the whole out of which they emerged. The world of nature expresses itself in this way and the sefirot explore its opening. Natural entities are founded on organization, one that can be understood with reference to numbers. Thus, for Kabbalah numbers are just as natural as an organic entity. The complexity of the world is like the complexity one finds as numbering increases in the divine matrix. This is its self-differentiating enactment in creation via numbers and letters.

It must be emphasized that these numbers exist independently of any numerals that code them. It is for this reason that zero itself will not simply be a mark, but the mark of the void itself that insists on itself. Such a stance should not be surprising given

that set theory wants to speak about things in themselves, and numbers are the most primary things it can relate to. Number is not something we count and bring into existence. Sets collect together something already existing. But that does not mean the numbers already exist in those things themselves. In set theory, numbers are built out of the empty set and thereby presuppose only that set. That one has before one 2 apples does not mean the number 2 arises from the apples, but rather that number exists outside of the apples collected and is put into one-to-one correspondence with the two apples. That is, the number two both adheres in being itself (there are two apples) and is not dependent on the apples to exist.

This position is Pythagorean in nature. Whether Pythagoreanism influenced Kabbalah or vice versa cannot be determined here, but what is clear is that the position of Badiou, set theory, and the idea we are developing is neo-Pythagorean in nature. As Aristotle explains, Pythagoreans

devoted themselves to mathematics, they were the first to advance this study, and . . . they thought its principles were the principles of all things. Since of these principles numbers are by nature the first, and in numbers they seemed to see many resemblances to the things that exist and come into being—more than in fire and earth and water (such and such a modification of numbers being justice, another being soul and reason, another being opportunity—and similarly almost all other things being numerically expressible); since, again, they saw that the attributers and the ratios of the musical scale were expressible in numbers; since, then, all other things seemed in their whole nature to be molded after numbers.

and the numbers seemed to be the first things in the whole of nature, they supposed the elements of numbers to be the elements of all things, and the whole heaven to be a musical scale and a number. And all the properties of numbers and scales which they could show to agree with attributes and parts and the whole arrangement of the heavens, they collected and fitted into the scheme; and if there was a gap anywhere, they readily made additions so as to make their whole theory coherent. (*Metaphysics* AF, 985b, 24-333; 986a, 1-7)

Numbers enable one to know things, and more importantly, they compose the very ontological substance of things. It is not just a matter of things having to be numbered to be apprehended, but that numbers make up what things are and thereby are real in themselves. We have already noted how Badiou's position that set theory expresses being qua being entails that anything countable can count as an entity. But this means that numbers themselves are entities in their own right as well. While we can say that anything that is known is numerable. fundamentally, we have been saying that anything that is is numerable and expressible numerically. The whole world is structured in and through number. We do gain knowledge of the world via numbers and sets, but also have to recognize that numbers are things as well, forming what is and forming entities themselves.

Cantor himself upheld that numbers must exist outside of the mind: "Reality can be ascribed to numbers in so far as they must be taken as expression or image of the events and relationships of that outer world which is exterior to the intellect, as, for instance, the various number-classes (I), (II), (III), etc. are representatives of powers which are actually found

in corporeal and intellectual nature" (Cantor, qtd. Rioux 2000, 122). The power of numbering does not depend on a human mind to count or enumerate them. For Cantor, the set of all numbers exists from eternity in God himself. The problem with this idea is that we are arguing that God insists beyond being. If we place numbers beyond being, then it is not clear how their inhering in God helps on this side of the equation, in accounting for how numbers compose being or how they exist independently of being.

As Mary Tiles notes, Cantor uses an argument similar to Pascal:

In order for there to be variable quantity in some mathematical study, the 'domain' of its variability strictly speaking must be known before through a definition. However, this domain cannot itself be something variable, since otherwise each fixed support for the study would collapse. Thus this 'domain' is a definite, actually finite set of values. Thus each potential infinite, if it is rigorously applicable mathematically, presupposes an actual infinite. (Cantor, qtd. Tiles 2004, 29)

As Tiles notes, this argument presupposes that "mathematical entities unlike physical ones" do not "change over time nor come into being and go out of existence" (Tiles 2004, 49). But as we will argue, the numbers such as the sefirot arise and are created. If they exist already in God, can it be said that they are created? What can count as a number has a definite and specified definition and rule for membership. For this reason, Cantor can argue that even the idea of a potential infinite (that we can go on indefinitely counting from any number onwards simply by adding another) already presupposes an actual infinite. "No last number can be named" by us, but we also cannot

"compute and therefore write down names for all the numbers" (Tiles 2004, 50). If all the numbers do exist they cannot exist in this world as such. The universe contains a definite (although mind bogglingly large) number of atoms. In addition, numbers cannot be our own creations as we only discover their nature. We are one person counting even before we count ourselves. They precede us. But if they precede the existence of the world, then God does not create them. God does not need to create them to create with them, but if they are eternal ideas, it is not clear how they create the world itself since the world would only be a reflection of something already given.

If the domain of ideas that Cantor speaks about is simply a divine idea, then these numbers only exist imperfectly for us in our own minds. This was the position of Augustine in The City of God: "Every number is known to Him whose understanding cannot be numbered. Although the infinite series of numbers cannot be numbered, this infinity is not outside His comprehension. It must follow that every infinite is, in a way we cannot express, made finite to God" (Augustine, qtd. Aczel 2001, 140). God already comprehends all numbers including the ones Cantor calls transfinite. This view also holds that anything God creates must already be known Something cannot be known by God as uncreated, since as God knows it is known perfectly and exists in the same way it would be for us in the world as all it is: "My thoughts are not like your thoughts" (Isaiah 55:8). Additionally, even when God is not referenced, numbers are taken to be unchanging and eternal, as are the laws for their production and definition. Only our minds grasp them, as only our minds could grasp such entities, since numbers could not be discovered through empirical investigation. The senses only speak of multiplicities and never something as distinct as unity. We also perceive only ever a partial list of all

the possible numbers that do exist around us. Since numbers are eminently cognizable, they must exist as one would not be able to know so well what was merely a product of minds. This view holds that for anything we do define sensibly, mathematics ultimately discovers something already there in transcendent reality.

In this way we will have to hold that even if God knows something or something inheres in God, it can still be created out of nothing in this world. In this world, there are only 10 books on my desk. There could not be an infinity of books since there are not an infinite amount of atoms. Physical being is not synonymous with being as such. While being as such is incomplete and marked by the signifier (the transfinite), physical being might be finite and totalizable in some ways. The way in which this world is marked by the transfinite will have to be accounted for in another way. It will have to speak to the nature of the signifier, the incompletion of the world, etc. The Kabbalah hints at this idea when it claims that the sefirot are not truly separated from God, they are revelations of God, but God already includes all possible numbers. But not every number is created. However, numbers in their created form are not arbitrary or imperfect. They are just as they are for the divine and divine in themselves as they express it. While we cannot know these numbers as fully as God does, we have knowledge of the created world through numbers precisely because these numbers are the same as they are for God.

When we study the Book of Nature, a book written in numbers, we decipher the structure given to it by the divine and thereby also what is known by God. The names and numbers of things have an ontological status of their own. It is therefore not only a question of Pythagoreanism, but also of Platonism. The essentials exist eternally. This is a realism no

correlationism would tolerate. But at the same time. all the numbers that are cannot be written down in this world; they can only be noted and written in God. God can then write them out of nothing in this world—a limited amount. This divine writing itself marks the world as infinite, but in and through the world's incompletion and by its very subjection to number itself. The transfinite is the infinite as finite. since it occurs here. Cantor is not putting forth that there is an actual infinity of, for example, atoms in this created world. Rather, he is showing how our own ability to count seemingly endlessly depends on something (and will lead him to an ontological proof of God) and that the infinite in finite garb, the transfinite, marks the radically finite and incomplete nature of a world that is composed in and by writing itself. To be realist, then, we do not need to argue there is an infinity of objects or things or numbers in this world. But an infinite of numbers must at least obtain somehow and/or somewhere if only in the mind of God.

It must be clear that we are not saying that Cantor came up with a convention for merely speaking about numbers. Numbers obtain outside of any inscription. It is not a matter of ideal statements only, nor of mathematical norms. It is a matter rather of both holding that God obtains outside of mind along with an actual infinity of numbers and also maintaining that God as creator creates out of nothing in and through numbers and thereby creates what already was for Him out of nothing.

§14. CREATION FROM LETTERS (SETS/NAMES): SEFER YETZIRAH

In Hebrew, each letter is also a number. And in many cases these numbers are just aspects of each letter. Not surprisingly, the Kabbalah also says that letters are part and parcel of creation itself. The book

of Kabbalah which best expresses this idea is the Book of Creation (*Sefer Yetzirah*), which the Kabbalah claims Abraham himself composed. It reads:

With 32 mystical paths of Wisdom / engraved yah / the Lord of Hosts / the God of Israel / the living God / the King of the universe / El Shaddai / Merciful and Gracious / high and exalted / Dwelling in eternity / Whose name is Holy- / He is lofty and holy- / And he created His universe / with three books (Sepharim) / with text (Sepher) / with number (Sephar) / and with communication (Sippur). (SY 1:1)

The Hebrew alphabet has 22 letters such that combining them with the 10 basic numbers leads to 32 paths: "Ten Sefirot of Nothingness / And foundation letters" (SY 1:2). If there is an argument that Hebrew is truly the holy language and the language of creation (and not just another language), then it is largely on the basis of this aspect. Sefer Yetzirah insists on calling the ten sefirot the "Ten Sefirot of Nothingness" and we will later connect this idea to the notion of the empty set and void as the basis of number. But at this point we can also mention that for Kabbalah, "Their limit has no end," again echoing set theory (SY 1:4). And this text insists that God is "singular" and "has no second," thereby emphasizing that we will have to philosophically confirm the thesis of God being located outside of number as a unicity (SY 1:7).

At this point, we need to point to set theory and Badiou's use of it, so as to confirm a way of seeing being as numbers. For letters are themselves pure differences like two sets, differentiated only by one lacking an element the other has. In this way as well, letters are not just marks, but the very vehicle of

creation: "these are the twenty-two letters . . . And with them He made three Books / And with them He created his universe, / and He formed with them all that was ever formed, / and all that ever will be formed" (SY 6:6). With these letters and their combinations, one can produce the infinities of Cantorian set theory, such that we can see all as a book infinite in length, even though it is formed on the basis of letters. This is the ontological function of letters and through letters the ontological structure of the world can be found. To know how to permute these letters and their basic rules is to know how "heaven and earth were created" (Brachot 55a).

Now, if we simply want all the permutations of the entire Hebrew alphabet we arrive at the number $1.12400073 \times 10^{21}$. Such a number is not infinite, but it is certainly overwhelming and would be an index of infinity itself for those unable to articulate precisely its power. But even this number of permutations does not restrict the series from being counted ad infinitum. In this way, it may be very directly the infinite as the infinity of things themselves and the transfinite in particular characterizing the world. From the infinite One (God) comes itself an infinity, and an infinity of infinities as expressed by way of creation via letters.

These letters are not atoms as indivisible, hard physical substances. But even a theory of atoms ultimately has to see letters as expressing the fundamental nature of things, as Lucretius did: "Thus easier 'tis to hold that many things / Have primarily bodies in common (as we see / The same letters common to many words" (Lucretius 1977, Book 1). This reference is not arbitrary (NKS 861), but unavoidable given that any basic element, in order to be basic, will have to exhibit the characteristics of letters: "Compounded out of different elements- / not since few only, as common letters, run / Through all the words, or not two words are made, / One and the

other, from all like elements. / But since they all, as a general rule, are not / The same as all" (Lucretius 1997, Book 2). Once one admits a basic matrix, one will have to find a way for combinations to take place in the same way that one finds with letters. And letters form words not through individual units, but only in combination. The ancient Greeks emphasized this with the word *stoicheion*. It reflects the common way in which letters and physical elements both have an atomic character. But the atomic nature of letters is not to be hard, indivisible substances, but rather pure differences with their substantiality arising by being related to each other. Letters express basic ontological qualities and show how the physical should be perceived from a differential perspective.

The structural character of letters reveals the true atomism. This structural character again comes from having no intrinsic substantial properties. Letters are seemingly purely conceptual entities except that they have form and sound. As phonemes, they are pure differences. They are almost nothing, without any real material, except that in opposition to each other they take on form and sound. They do not have any meaning in and of themselves, except if they are taken as numbers. But if they are taken just as letters they disappear as meaningful. They recede into visual marks, into images and pictographs. The letter thereby erases itself. This is why letters also relate to what cannot be said. Now, most would simply say that individual letters just represent phonetic sounds we hear. The shape of the letter is thereby totally arbitrary and bears no apparent connection to what we hear. In this way, letters have again no intrinsic meaning. They can only take on meaning by being related to other letters and in opposition to them. Alone, a letter is just a mark or sound without purpose or significance. It is for this reason that "the rabbis declared that writing must compose at least two letters" (Faur 2000, 28). To

take one of the most classical examples in English, the phonemes b and p are opposed. However, in Hebrew, p is opposed to f. In English, one is voiced and the other not, but this difference in and of itself allows us to know that 'bore' is not 'pore'. And it is via such differences that God signs the world with his own signature.

Recall that for Badiou the elements of a set can themselves be represented by letters and the differrence between the members of a set is "the difference of the same to same, that is, the pure proposition of two letters" (Badiou, gtd. BST 172). And this is also partly the basis for saving that sets are made of sets, as the differences between sets is just such a minimal These members themselves difference. intrinsically belong to a set as the set is just a collection. For this reason, set theory can make all the claims it wants simply by saying that the elements of sets are pure differences, letters. What is interesting is that despite this aspect of pure difference, Lacan relegates letters to the register of the Real rather than to the Symbolic. The letters are excluded from symbolization for Lacan. The letter is a foundational exclusion of language. While language requires it as a condition, it is not read when one reads and understands a text for instance. If one were to focus on the letters, one would have pictures and lose meaning. Letters are thereby transcendent to what they give rise to. They are a nonsense out of which sense comes forth. It is thus only when a text becomes opaque that the letter insists and asserts its force.

This is particularly true for Lacan concerning scientific and mathematics texts. They are composed of formulas, equations, etc. consisting almost exclusively of numbers and letters. These letters are not signifiers, but the "material structure that creates the possibility of the signifier" itself (Weiss 2009, 117). Letters have "no referent" outside the register of

signification itself (Weiss 2009, 117). But the letter insists in Lacan as an "exception to the chain" (Weiss 2009, 117) and returns to upset it if only by way of slips of the tongue where one letter might substitute another and through a difference point to something. Since meaning is ideal, the letter is identified with materiality. And this material is opaque and resistant, but insistent insofar as it can destroy meaning. But it is not the materiality of the ink on paper. It is of the Real, which means it always returns to its place, is impossibility, and names the gaps or fractures of meaningful networks. For Lacan also, one can overcome fantasy precisely by turning to math and its way of reducing reality to letters, whereas in physics, letters often refer to something (the E of E=mc² is energy). But letters as pure differences cannot be replaced by another signifier, as they note the absence of a signified. Mathematics is thereby purer than physics insofar as it is a formal language with only letters: "A mathematical letter marks, not any positive entity, but the *lack* of objects and objectivity" (Clemens 2003, 89).

For Derrida, Lacan's idea that the letter is thereby something in-divisible is wrong insofar as there is always a "divisibility or internal difference of the socalled ultimate element (stoikheion, trait, letter, seminal mark)" (Derrida 1996, 69). But it is not clear that for Lacan letters are not differences themselves. Letters, even if elementary, are not in one sense divisible except as pure difference, which is itself founded on nothing (as we shall see). More importantly, modern science, for Lacan following Alexandre Kovre, became possible once the real was reduced to the mathematical and that means to letters. Science thereby devotes itself to an analysis of purely differential being. It *literalizes reality* such that it can see it as diverse and multiple. This is why infinity arises in the world at the moment when modern

science begins investigating reality in this way. This view also contends that the mark or letter creates space rather than space preceding the mark: "To inscribe a mark is to posit two things: the mark (its materiality, as a trace of ink, for example) and its place. If one affects the mark, its trace remains, in the form of place" (Miller 1997, 46).

More importantly, one should not forget that letters are ultimately linked to names and compose them. But it may be that a letter can also function as a name. In particular, this issue will arise relative to the mark for the empty set. That occurs, as Badiou reveals, by identifying being qua being with the letter. The letter insists in its power by the mark that, while unfolding the infinite, also leads back to the unique one. For it is by way of the name that creation via letters finds one of its most powerful expressions: "This is a sign / [Alef with them all, and all of them with Alef] / he foresees, transforms and makes / all that is formed and all that is spoken / one Name / A sign of this thing / twenty objects in a single body" (SY 3:7).

And as has already been argued, "What is not a being is not a being," and that implies that every being is a set, named/numbered. Being qua being always occurs as counted as one. But to be counted means anything that is is already named and numbered. And this means that being itself consists of names and numbers at its most fundamental level. We already attempted to show what it means to speak to the world's ontological constitution as letters, but letters already can be counted as numbers. When the Kabbalah says that things are composed from letters and numbers, it means on one side pure difference, and on the other, the numerable and nameable. Of course, many might suspect the Kabbalah to have a view of names as being natural and expressing the very essences of things. If things are divinely created,

then its name is as well. First, Kabbalah only makes this claim for Hebrew names. That is, insofar as Hebrew is the divine language of creation, only the Hebrew name of a thing can reveal its true essence. Second, it is not clear that names do not often reveal such an essence. It is well-known that the numerical value of names of colors in Hebrew corresponds to the same proportions as the proportions between the wavelengths of colors when arranged properly. The word for water in Hebrew, for instance, has three letters—two of the same and one of another type apparently mirroring the molecule formula of water. Whether or not such a theory of essential names can be fully supported is not our concern here, as for us all that matters is that all that is is named and that name captures its transcendental unity and status as a being as such. In addition, the qualities of any given thing can be articulated by names, such that even if the names were arbitrary, taken all together they figure each thing. That is, one would not want here to claim that the map is the territory, or that a name is the thing named. But the name names a fundamental aspect of the thing no matter what the thing is, and no thing can go without name. Even if we name something 'whatchamacallit' or 'unknown', we still have given it a name and thereby shown that it is a being. Anytime something is named a new existence is carved out of the world. All of this is to say that the materiality of language embodies essence.

The transcendental nature of being (for instance, the transcendental unity each being requires) is apprehended only through names. It is not a question of names imitating something greater than them, but of names themselves forming the fundament of being. All that can be named can be truly known. We do not just label things, but rather true knowledge of the world arises by way of the name itself. Names are not then arbitrary in terms of their structure and function. Here,

one has a nominalism in which universals such as whiteness are seen as themselves names, but therein lies their power to reveal being rather than merely abstract from it. Each name has an ontological status of its own as name.

From the perspective of Badiou's ontology, every situation is rife with names. If it is possible that there is an infinity of names, then a specific situation might even be condensed into less than an infinite number of names. But this is no more than to say that it is made up of sets (names/numbers). And these names can be named by others without any reference to the nature of the thing named, just as a person can belong to a state simply by way of an "identity card" (BST 85). As Hallward notes, "the only form of predication involved here is belonging itself," such that a name is always a proper one (BST 85). Even if I simply refer to the pen and my keyboard, this designation numerates a being and offers it a proper name. Each being is individual—related to itself and differentiated from all others. But in speaking thusly, we are not restricted only to names, as each thing so named is numerable at the same time. We have then something larger than a mathematics. We have an ontology wherein the minimal constituents of any possible situation are noted. We do not need to ask what is re-presented by the name, but can just by names themselves learn about the being of it. The name finds itself in itself and not in something else outside of it.

One might here than say that by looking at being as purely nameable/numerable, one simply brackets "the material qualities (this shape, purpose, history, and son)" and does not speak to the specific nature of a particular object (*BST* 57). But I do not think this is truly a worry, as we will later discuss how mathematization of things (which itself expresses the fundamental ontological thrust we have been articulating) captures these qualities. If anything that

is, even in its material particularity, can be mathematized, then to seek out its being in this fashion is to seek out its very substantiality and nature. One can have a set of all relations, qualities, etc. of one marked-out thing. And that set of relations or properties can itself be marked by sets of further complex mathematical properties. Particular beings are not thereby truly excluded by this approach, as their nature will find itself captured by names, numbers, and letters given that reality itself is fundamentally informed by them. "[T]he concept of name is absolute," such that any particular thing is a proper name first and foremost (BE 378). Before we ask what makes this car what it is or attempt to deal with it in its particularity, we know some basic things about it—such as that it has a transcendental unity as expressed in and by its name. We can also say that such names are, as Kripke called them, 'rigid Such designators capture designators'. transcendental unity of a being and what amounts to substantial substratum. Thev are components of any being. Without such designators, anything would simply be dissolvable into its components. But at the same time, what is individualized can always be part of a larger set.

It is important to note here that letters are sets even if they are purely differential relations. That is, when we are forced to account for numbers, letters, etc. as ontologically fundamental, we are forced to note that they too are sets and not just elements of sets (sets are after all made up of other sets—any element also plays the role of set). In doing so, it cannot be that objects or things are what is most fundamental. Letters are not clearly independent substances that exist in their own right solely. Rather they only exist as pure differences and as differences linked together—as a set. As we will argue later, this relationalism shows why letters are related to bits: "So what this means is

that in a computer numbers are represented by sequences of 0's and 1's, much like sequences of white and black cells in systems like cellular automata" (NKS 117). Of course, in computer code bits make up letters and numbers: "But in a computer, numbers are elementary objects. Instead, they must represented explicitly, typically by giving a sequence of digits" (NKS 116). But this is true only insofar as these bits are themselves such relational entities meaning that bits themselves are a form of lettering. Once you admit that numbers, letters, sets, and bits are fundamental, then one's very outlook on the world and its inherent differentiation changes. It is no longer a matter of the world being differentiated into chairs, moons, and frogs as substratums underlying all other qualities and properties. As letters become included in of fundamental things, the world differentiated into sets as the objects we are used to are themselves sets and come into being through letters, numbers, bits.

Also, two things may have all the same qualities, making them indiscernible. But there will always be at least one aspect that keeps them apart and shows they are two—their names themselves as two different collections. Names/numbers (sets) are themselves the very medium in which the nature of things is grasped in their being. Since Galileo, nature itself, in its diversity, reveals itself in a writing system that at its most basic is about what is numerable. Number is the form of being itself. When we reduce the plurality of what is to number, we retain its plurality even if its material qualities will have to be articulated at a latter point. Take here as an example my voice (and this will be an example we will return to). First, in its very being, my voice expresses itself as a being, as one thing numerable as such (and that is here expressed in its proper name as 'my voice'). But my voice has or may have many qualities—hoarse, scratchy, quiet,

deep, etc. When we determine my voice in its being as such, we do not treat it as a thing, but precisely as its name. It merely notes a set of which these qualities could belong. If we were to concentrate on my voice as a thing, then we end up describing how it appears to the perceiving subject or attempt to pinpoint which qualities seen are truly parts of the thing. But it will be our contention that only the mathematicization of the thing can reveal this ultimately. Also, treating a voice a thing means attempting to understand its qualities—what makes something deep. Only analysis of sound waves and the nature of sound could reveal this, as just describing the sound or contrasting it with other sounds adds nothing new. Finally, in treating it as a thing, we may be forced to search for a substratum that names that which underlies all these qualities and divides them between essential and accidental. But such a substratum ends only alwavs up being reification. а hypostatization, and projection of the name itself into a shadowy thing in itself that haunts what is right before us: a named set of properties, relations, etc.

The most famous attempt to achieve such a theory, Aristotle's, reveals this. For Aristotle, substance is ultimately that of which all is said, but it said of anything else. Here, the very grammatical nature of things is taken for granted as naming being. In particular, substance cannot be anything other than proper names (all substance is treated as a proper name). My voice is not said of anything else, but many things are said of it. But while my voice can be said to be deep, depth itself can in turn be given the same status once it is seen as a name. In addition, when we will want to deal with its qualities, then we can express them as sound waves, etc., which means the same thing as mathematical relations. A recording of my voice is not representation of my voice. It is my voice. And this

recording is possible precisely since the voice itself can be expressed strictly in terms of mathematical relations pure and simple. This math is built out of sets, the sets that first express to us the most basic elements of being.

§15. THE GOD OF CANTORIANISM

First let us clarify the background of this Cantorian set theory, specifically, what it now means to speak of God as infinite. First, as opposed to Badiou who thinks that this theory undermines the idea that God exists by undermining the idea that that there is a set of all sets or whole, this theory potentially undermines viewing God as omniscient. That is, if there can be no set of all sets, it is not clear how God can be all-knowing, since total knowledge would presumably require a totality to know. Gary Mar lays out the issue in his essay, "Why 'Cantorian' Arguments Against the Existence of God Do Not Work." Mar summarizes the argument against the existence of God based on the impossibility of omniscience in this manner: "1) If God exists, then God is omniscient, 2) If God is omniscient, then, by definition, God knows all [or alternatively, the set of all truths, 3) If Cantor's theorem is true, then there is no set of all truths. 4) But Cantor's theorem is true. 5) Therefore, God does not exist" (Mar 1993, 430), Mar attempts to refute this argument by showing how "the non-existence of a set of all sets does not entail the impossibility or incoherence of quantification over the universe of all sets" and that a "set of all truths" is not "needed to make sense of the notion of omniscience as knowledge of all truths" (Mar 1993, 433). Following Mar, we can say that God's not being able to articulate a set of all sets is no more problematic than God not being able to lift something heavier than the heaviest thing or know what color hair a non-existent person had (Mar 1993, 438). It is not required of an

omniscient or all-powerful God to know or be able to do absurd or nonsensical things.

These considerations adhere as well to Russellian set paradoxes. I would also add that the atheist argument begs the question in terms of truths. It is not clear that there are an infinite number of truths about the universe. One could then very easily have a set of these truths. Now some might argue here that there would be an infinite regress that would upset divine omniscience, even if we restrict the set of truths to being a finite set. This regress would occur insofar as the set of all truths would itself have to be recognized as a truth and so on. But even if that were so, there is no real introduction of new content such that to know the first set of finite truths is to know them even if such a regress were started. Second, the only thing so far shown to be infinite and thereby subject to the rule of infinity of infinities is numbers and perhaps lettercombination/words. But in both cases, one has the very rule to know any possible word or number. Even a human can know any possible letter combination except those infinite in length. God could know a word infinite in length given God's posited infinity.

Mar further shows that the argument against God here undermines itself insofar as if it "were to succeed," it would show that "there is for example, no universal propositional quantification" and so the argument's propositions could not themselves be coherently articulated (Mar 1993, 438). To be more particular, to state "for all x, if x exists, then x is not God" is to already presuppose that one has total knowledge of all things (Mar 1993, 438). From whatever angle we look at it, the one key way in which Cantorianism might undermine monotheism is not successful.

Badiou's assertions and the above considerations might lead us to believe that God is not a part of Cantorianism explicitly. However, it is quite the

contrary. Cantor himself used his notion of the transfinite both to clarify and to attempt to prove a monotheistic position. For Cantor, God is the "absolutely infinite," and that means an infinity greater than anything one can conceive including the transfinite (Mar 1993, 439-41). Such a conception subtracts God from the order of finite and transfinite sets heretofore considered and places God on the level of that which is greater than anything conceivable. The transfinite can lead to larger and larger infinities via the power-set. But God is absolute. There is no way to show that a part or series of subsets exceed God. In this way, God names a qualitative infinite rather than a quantitative one.

Such a qualitative and "absolute infinite can only be recognized, and never known, not even approximately" (Cantor, qtd. Moore 2001, 128). In some ways, we could say here that the sheer transcendent nature of God places God beyond the transfinite since as Cantor showed those could be measured and ordered numerically. God is not the largest possible number, but rather something qualitatively different from sets and numbering in God's absolute infinity. God marks the mathematical conception of infinity as itself limited (which was always the case given Cantor's treatment of the finite as an infinite number). God is without number for Cantor. The divine infinite then exceeds the contours of counting and collections. It inhabits its own space.

If for Badiou being qua being is defined by sets and sets presuppose all that exists, then God does not remain within the field of Being. But rather than say that God does not ex-ist, we should say God in-sists (an idea we will elaborate further). It must be emphasized that God as absolutely infinite is not an attempt to find a set of all sets by other means. God cannot be expressed within set theory, but only as that which exceeds it. In this way, Cantor the mathe-

matician becomes Cantor the theologian the instant he posits an infinity outside the bounds of the transfinite. The greatest cannot be associated with a number. The transfinite as we noted was not perfectly infinite. It was always undermined by its own power set that exposed it as relative. But God is perfectly infinite. Such perfection is hidden from set theory. The absolute infinite is also one as unique. There cannot be two absolutes.

Absolute infinity is not truly knowable. We still might say that we partly comprehend it and not just as that which cannot be known, but rather we gain partial insight into it via the infinity determined by the transfinite. For instance, the transfinite tells us what the entirety of all natural numbers would look like as a set and how that set can itself be exceeded. In pointing that out, we gain a sense of what the absolute largest would have to refer to. At the same time, God as absolutely infinite is a necessary presupposition and condition for conceiving the transfinite that is now exposed for Cantor. As has been noted, the identity conditions of sets are determined by their elements. A transfinite set, such as the set of all natural numbers, therefore presupposes the actual existence of all the natural numbers. For Cantor, "All these particular modes of the transfinite have existed form eternity as ideas in the Divine intellect" (Cantor, qtd. Mar 1993, 440). It is God as absolutely infinite that could guarantee the transfinite. Cantor has thus proposed a unique ontological argument for the existence of God using mathematical conceptions alone. Ignasi Jane writes:

Indeed, the existence of the absolute is said by Cantor to be inferable from the *limit*lessness in the realm of the transfinite of the sequence of ordinals, in a way similar to that which one infers the existence of ω , or

equivalently, the sign of the set of all natural numbers, from the *limitlessness of the realm of infinite*, of the sequences of natural numbers. The inference principle here at work may be aphoristically expressed as: *no potentiality without actuality*. (Jane 1995, 385)

For Cantor, the potential infinite (the ability, in principle, to count endlessly) actually presupposes an actual infinite in order to make any sense. Cantor says:

But there is another viewpoint from which one can irrefutably prove the occurrence of the actual infinite and its indispensability both in analysis and in number theory and algebra. There is no doubt that we cannot do without variable quantities in the sense of the potential infinite; and from this the necessity of the actual infinite can also be proven, as follows. In order for there to be variable quantity in some mathematical inquiry, the 'domain' of its variability must strictly speaking be known before hand through a definition. However, this domain cannot itself be something variable, since otherwise each fused support of the quantity would collapse. Thus, 'domain' is defined, actually in a set of values. Thus, each potential infinite, if it is rigorously applicable mathematically, presupposes an actual infinite. (Cantor, gtd. Jane 1995, 385)

The domain of all numbers must already exist for there to be a transfinite set of them. But for them to actually exist, they must exist in the mind of God. Of course, earlier it has been argued that the transfinite itself is founded on the power of the signifier (and later we will argue it is identifiable with the void as its

point of departure). But Cantor's point here resonates. Even to discuss the transfinite one needs to presuppose God (and the void and the signifier, as we will show, make the same presupposition). What this view opens up is the possibility of viewing creation itself as not strictly finite, but transfinite in nature.

An absolutely infinite Creator can create and render a transfinite infinity of infinities in creation. There is something infinite in creation even if creation is created by number, because there are transfinite numbers. God is therefore not the only infinity, as traditional theology has asserted, as from God there can be an infinity of infinities without God's status as absolute and creator being violated. But insofar as God names that which is greater than what can be conceived, God also is unnamable in his ineffability. Insofar as in Kabbalah the letter aleph names the finite nature and oneness/unicity of God, Cantor should have named what he is calling here the absolute infinite by aleph rather than the transfinite, unless we see the aleph as the first creation of God rather than God himself. Cantor may have intentionally chosen the letter aleph to hearken to Kabbalistic ideas, but insofar as the aleph is the transfinite, God is not aleph. God creates alephs and via alephs.

All things that are finite or can be shown to have something larger than themselves, like the infinite itself, are all equally far away from the absolutely infinite. The transfinite, from a divine perspective, is as finite as any other number. God as eternal is not created, but the transfinite itself is created, created by the signifier, the void, the act of collection, etc. We can also here return to Levinas and say that the infinity associated with the human face is also not mathematical, but rather associated with the absolute infinity of God. After all, humanity is created in the image of God. But this is not an incarnation, it is rather the infinite in the finite as it relates first and

foremost to what exceeds us in confronting the human face, rather than, as with God, what is absolute in itself. In any event, the holy one is withdrawn from the transfinite as much as the face of the other is withdrawn in its holiness from the grasp of the self.

Such considerations also return us to the argument against God's omniscience. God as absolute infinite has access to the infinite in a non-quantitative way. God does not need to enumerate things. "Every infinite, in a sense, is finite to God" as God's "intelligence has no number" (Cantor, qtd. Jane 1995, 399). Here, we also have the complete inversion of correlationism, as Cantor attempts to see numbers as they appear not only to us, not only as they are in themselves via the idea of sets and one-to-one correspondence, but also as they appear to an absolute infinite intelligence. For us, of course, it is most intuitive to see numbers as succeeding each other through basic counting. For God, all numbers are one finite number essentially since all are contained in each other. Perhaps, it was inevitable that God would appear precisely here, since one cannot simply ignore the idea that the infinite is that which nothing is greater than and the transfinite seemed to overturn that idea.

Such considerations also overturn the idea that God is just a container of the infinite (like the infinity of positive integers) or of several infinites—that we are positing again a set of all sets or giving into the pantheistic temptation which Cantor himself at times did not resist (Newstead 2009, 545-50). Rather, since the transfinite appears finite to God (and even to us in writing it), all numbers (at least all positive integers) appear as derivable at once from one rule. As Anne Newstead puts it, "only if one held that God's absolute infinite were fully realized in another would one truly be a pantheist" and that very possibility is restricted through God's radical transcendence (Newstead 2009,

549). Now, as Newstead points out in great detail, if Cantor places the actual infinite in God, it not only appears, that a set of all sets is reintroduced, but that there can be a Spinozistic collapse of the possible and the actual (Newstead 2009, 545-50). In other words, if all is actual and the possible presupposes it, then Cantor, under the influence of Spinoza, believed that all possibilities must be seen as being actualized. But if all that is possible is actual, then God does not with Spinoza, but rather necessarily create as produces all possible conceptions. But Cantor resisted this Spinozistic detour, not just because he posited God as absolutely infinite and transcendent, but also due to his very idea that the possible presupposes the actual. All that is possible is actual only in God and from God's perspective. The absolutely infinite can only be acknowledged by the finite. And even if the absolutely infinite contains the actual infinities that transfinite presupposes, God need necessitated to actualize any except those God freely chooses.

Badiou is directly critical of many of the propositions put forth here. Firstly, Badiou would say that for Cantor, God "in-consists" rather than in-sists, as we do, since for Badiou the absolute infinite is the name of an inconsistent multiplicity, one that cannot be contained (Badiou 1996, 35). We will return to this idea via the void. But here it can be said that for Badiou, Cantor turns back on the ideas that he founded by posting the idea of an absolute infinite. However, it is not a matter of where the "count-as-onefails" that God appears, as we have argued (BE 41). Rather, Cantor posited God necessarily due to the need for the actual infinite that the potential presupposes. It is not a question of something that cannot be totalized, as much as preserving the idea of the infinite as that which nothing can be greater than. It is also precisely another way of preserving the idea

of nature as infinite, which Badiou thinks is modern (*BE* 143). That is to say, Cantor runs against Badiou's view by showing that God alone, via the transfinite, can mark nature as infinite through creation and via what exceeds set theory. Cantor also does so through an ontological argument, rather than via a cosmological proof, which alone can show nature to be infinite. Cantor, rather than closing off the transfinite, moves beyond thinking creation as purely finite and thereby does not repeat the finitism Badiou attributes to traditional theology (*BE* 142).

Hallward contends that Badiou sees Cantor's absolute infinite as a mathematical God who is "altogether-Other" (which is true), but his idea does not imply "an endless enlarging of the universe," as the absolutely infinite marks the point at which enlargement is no longer possible (BST 216). Cantor is also not positing the absolute infinite relative to the transfinite or its cardinality by proposing names such as "inaccessible cardinals . . . inaccessible cardinals. eventually ineffable cardinals, and beyond," since number itself does not apply here (BST 216). In short, Badiou confuses Cantor's God with the infinity of infinities of the transfinite. God, according to Cantor, is not an absolute being as God transcends the realm of being and is not the inconsistency and that which inconsists as God is not the same as the ever larger cardinality of transfinite alephs.

§16. THE ONTOLOGICAL/MODAL PROOF OF DIVINE INSISTENCE

One of the most important things about Cantor is the manner in which he refreshed ontological arguments by attempting to prove the existence of God via notions and concepts alone. In particular, Cantor's very identification of God as that which is maximal clearly reverberates with Anselm's famous ontological proofs. Ontological and modal arguments (which I

take to be often the same thing and already a key modal argument for God has been used here as part of a critique of process theology) are the strongest and most convincing arguments for divine existence. Cosmological proofs depend on the impossibility of an infinite regress. But already with Cantor, we have seen that potentially undermined as far as being qua being is concerned. For cosmological proofs, one cannot infinitely regress without a beginning, as that would imply that an infinity of time would have to take place before we arrived at this moment. And that ultimately means this moment would not arrive. And yet it does. However, the Cantorian transfinite opens up the possibility that an infinity is already given all at once.

As Maimonides already noted, arguments from design always presuppose that we know what the purpose or goal of a thing is. But that knowledge may be hidden to us, in particular, when it comes to what God intended. Second, teleological arguments are always either arguments from analogy (from design we can infer a designer due to how other things are designed) or credulity (is it more or less believable that the world could be as it is and not be created by God?). However, all arguments from analogy are problematic, because one has to select the features in common that are relevant given the non-identity of the two members of comparison. But at the same time, the always undermine very non-identity will relevance of the features chosen, given that other features will show disanalogy. As for credulity, the most famous argument here is what is now called the 'fine-tuning' argument. But here, not only is there dependence on measurements that may be imprecise, but also on a statistical view: there is a low probability of things being otherwise. However, as long as there exists even a possibility of being otherwise, the argument is only partially persuasive.

Modal reasoning deals with possibility as such. Now, what is interesting is that Hartshorne showed us how to treat the ontological proof as a modal proof. I think this proof is stronger than Cantor's ultimately, since Cantor's depends on showing that the actual infinite could only exist in God. But it is not clear that, for instance, a Platonic heaven could not serve the same function. Hartshorne translates precisely Anselm's own argument concerning that than which a greater cannot be thought. Now, Anselm's argument, as is well-known, attempts to show that the concept of that than which a greater cannot be thought exists already in mind. Anselm shows that this idea in mind, also by its very nature, shows that which is conceived must obtain outside of mind. The proof here is deceptively simple. If the idea is confined only to our minds, then there is something greater that can be thought—that which is outside the mind. But once we entertain this idea, we see that that which obtains outside our minds is greater than that which only obtains in the mind. We cannot think something greater than can be thought. For this reason, that than which a greater cannot be thought obtains both in mind and in reality.¹¹

Kant famously criticized this argument. He argued that no concept can show that the thing conceived exists. For example, my concept of a dollar has all the same properties as a dollar I hold in my hand except for one—that the dollar I hold in my hand exists. For Kant, existence is not a real predicate. It is only something known empirically. The dollar one conceives cannot be used—only the dollar in hand can. This is why, for instance, conceiving of a unicorn does not show there are unicorns. But God is different

¹¹ I am drawing heavily here on the work of Gary Mar, in particular his essay "The Modal Unity of Anselm's *Proslogion*" (1996), in order to elaborate these arguments.

in nature from dollars or unicorns, due to His noncontingency, perfection, and infinity. And as Marion shows, Anselm is not necessarily using a concept, but rather a "non-concept" since God is defined as something we cannot conceive (anything greater than thought) and thereby indicates be "transcendence": "Anything 'conceived within fixed limits' will not be God as a result of this view" (Marion 1992, 208). The question of God exists at the limits of conception. It is when conception "cannot go experiences limitation further" and one attempting to conceive God that our finitude, for Marion, is supremely indicated (Marion 1992, 209). For Marion, Anselm's key point is that God remains outside of our understanding (Marion 1992, 212).

But Marion's point still should be noted. As opposed to Kant, the issue here is not how existence is derived from a concept, but rather how God's existence is inferred from the inability of producing a concept of God that would not exceed us (Marion 1992, 213). I would say that the issue here is not our not being able to think God, but rather that the concept exceeds itself. For Marion, the key is showing that Anselm's argument is not ontological, since God exceeds the order of being (Marion 1992, 217). But the key should be to still affirm that God obtains outside of mind or conception, despite or because of the excess of the concept itself. First, Anselm himself argued that one who denies that there is the greater than which cannot be conceived already admits the thing he denied, for in denying the thing we attempt to think it and conceive of that than which a greater cannot be thought. That is to say, it is for Anselm a matter of confirming that the conception takes place. But the denial of this concept works to show the truth of Anselm's proof by taking it modally as Hartshorne showed us.

A perfect and infinite being that is also contingent is a contradiction in terms (LP 50). Anything contingent must by its very nature be imperfect. Perfection can only obtain necessarily. Hartshorne, "Kant misled thousands by his blurring of the distinction between saying, 'there may not be an idea of perfection', and saving, 'there might not be anything perfect'. If the idea is not logically possible, then there could not be anything perfect; if it is possible, then there must be" (LP 97). Hartshorne's key point here is that insofar as the idea of perfection is conceptually possible, it must obtain. And even the one who denies the argument must conceive that which he is denying in order to deny it. When one denies that that than which a greater cannot be thought obtains outside of mind, one denies that if that than which a greater cannot be thought were to obtain, it would not be able to not be, either outside of or in the mind. But one cannot deny such a thing as logic dictates such possibility must be granted to all things. In other words, assuming that it were not true that that than which a greater cannot be thought obtains outside of mind, if it were true that that than which a greater cannot be thought obtains outside of mind, it would be impossible for that than which a greater cannot be thought not to obtain outside of mind. If God obtains outside of mind, then it is impossible for there not to be God. A key condition here is that one agrees that if God obtains outside of mind, it would be necessarily so as noted by definition above.

When it comes to God, God's obtaining outside of mind is either impossible or necessary conceptually. But one cannot show that it is impossible that that than which a greater cannot be thought can exist outside of mind. In fact, one constantly has to posit that, since one will posit that what obtains outside of mind is greater than what is just in the mind. That is

to say, the modal version of Anselm repeats the standard version. This argument has then attempted to show that the possible non-existence of God is contradictory in modal terms. As for Kant's idea that existence is not a real predicate, that only holds for contingent things. The necessity of God means that the predicate is included. If we say God is possible, but may or not be, we have a contradiction. The very idea of God's possibility shows God's necessity. This is why it is so important to Anselm to show that even the denier of God agrees that God is not impossible. On the basis of that idea alone, one can show God must obtain outside of mind. Now. Meillassoux argues that the necessity here claimed is only a "necessity for us" without any basis for saying it holds in itself (AF 53). But there is no reason to say it is for us, as the proof here does not concern what is possible for us, but what is possible by definition alone. As Marion suggested, it may not even be strictly possible for us to conceive of God.

In his articulation of the modal proof, Hartshorne lists several well-known objections. Many believe that all claims about what obtains outside of mind have been contingent (LP 45). But this claim has shown not to be such that just claiming all others have been does not necessitate all future ones will have to. Some find this proof to be tautologous. But the existence of God is not presupposed, just what is conceived, definitions of contingency, perfection, etc. Some also say that this proof only shows "if he exists, he exists necessarily" (LP 45), but the whole proof is that the opponent has to show it is impossible to say God exists, otherwise the proof holds. Some also argue that "logical necessity does not prove real necessity" (LP 45), but not only does this criticism presuppose that the real is not logical, it also seems to think physics deals with necessity or that something other than logic shows necessity. There is also a criticism that this proof

would open the door to saying that any perfect instance of a thing would exist (*LP* 45). For instance, the perfect apple exists. But that is why the concept here has to be absolutely maximal. An apple itself is not something greater than which a perfect apple can be thought. Some think what has been shown to obtain outside of mind here is a property rather than an individual (*LP* 45). This is perhaps the strongest critique. But properties can themselves be things. If we call God the perfect one, it is the same as saying there is perfection. And only contingent things are individuals on this conception.

The most interesting criticism is one Hartshorne attributes to Kant and calls the mystical paradox: "If God's reality followed from our idea, then this idea must be (or contain) God himself" (LP 46). Here again Marion's points find their importance, for this conception always exceeds us, such that it shows why this critique could not hold. One also here might assert a pantheistic critique: "If God necessarily exists, then it can only mean he is reality itself" (LP 47). But we have already endeavored to show why pantheism does not hold. The final critique worth considering is that there is "no need that perfection be perfect" (LP 47). This critique ultimately takes the argument as saying that perfection must exemplify itself. But this proof only says that the contingent is imperfect and cannot exemplify it. But God is not contingent. God relates to necessity. And it is by this necessity that we can again assert that God in-sists (necessarily so) as only the contingent ex-ists. Gods obtains outside of mind not because he is understood, but irrespective of the fact that he is not. God obtains outside of the mind due to his not being in the understanding.

§17. DIVINE INSISTENCE

Such divine insistence places God beyond being. This means in turn that God is beyond all predication.

God is nothing from this perspective, as the human cannot contain what God implies. It is partly for this reason that the first name for God for Kabbalah after infinity [Evn Sof] is avin [nothingness]. But avin refers to perception first and foremost. For this reason, the Kabbalah calls it the eye, which is also avin in Hebrew. One here has a vision of nothing. Undifferentiation is the same as nothing, such that God as unique is not able to be differentiated from something else. God is one simple essence without diversity, duality, complexity, etc. It refers to the unique one. God, then, refers to an ineffable mode superior to existence as such. God refuses predication and contingent existence in order to insistently remind us of something beyond these things. God is the one who does not manifest or reveal himself in this world on the order of the things of this world (Ouaknin 2000, 50).

Many might challenge these remarks by noting that when Moses encountered God in the burning bush, God says 'ehyeh asher ehyeh,' which many translate as 'I am that I am' or 'I will be what I will be' (Exodus 3:14). But it is precisely the tautologous nature of the statement that should be emphasized rather than any reference to being or existence. The bush is both burning and not burning at the same time. The bush is aflame, but is not consumed. It is by this contradictory phenomenon that God names himself. In this way, if there is a contradiction, God's name is a name that cannot name. God is nameless. God is ineffable, and such an ineffability can only be spoken by saying that it is what it is. This is not a name (although the names of God will play a role) as much as a lesson in the namelessness of God. It is revealed to Moses at this moment that God remains in God's essence despite what anyone will say determined there without change. God transcends all and is determined by himself, but in this way God is

only something that can be acknowledged in the same way we say 'it is what it is'. God alone states what God is, and it is something beyond.

Now all these formulations echo what negative theology long determined. For Plotinus, the One is beyond being. It is other, absolutely other, than any definition of it. It cannot be revealed, not due to the limits of knowledge, but due to the limits of being itself. But such negative theology always admits that one still must say something about God and cannot avoid doing so. Here, one such insistent and unavoidable designation has been God as creator, as infinite, and as the maximal. In this way, negative theology itself admits that its very goal is always necessarily undermined. God can only be defined negatively (as not a being), but in doing so we implicitly say what God is and risk freezing our understanding in a false image. Negative theology also acknowledges the limits of language. Our languages themselves do not offer us any more than difficult phrasings, since to say God is not a being means we still have to say what God 'is', as the 'is' intrudes in the very grammar and syntax itself.

Negative theology understands itself as caught in this double bind of saying what God is not (God is not a being) in order to say what God is, while at the same time attempting to affirm that as such, God transcends even being itself. God does not know like humans, but God knows all or maximally in a way that exceeds our very understanding, for example. Negation therefore implies and leads to eminence. It is for these reasons that deconstruction, even as it attempts to criticize negative theology and to distance itself from it, cannot succeed in doing so. Negative theology already knowingly engages in its own deconstruction and by doing so thereby achieves its purpose. Negative theology, in denying God on one order only to affirm explicitly or implicitly God on another, performatively

enacts at one and the same time the realization of God's transcendence and eminence. But it also enacts the necessary unavoidability of God and our failure to think God. One cannot avoid predicating properties to God and discussing what God is at the same time one realizes a relation to a holiness greater than what can be thought and beyond the limits of conception. God can be named and conceived only in the very same instance that such naming is necessary overturned.

This is why when Derrida, in "How to Avoid Speaking: Denials," acknowledges that "language is inadequate to the hyperessentiality of God" and that the "possible absence of a referent still beckons, if not toward the thing of which one speaks (such is God, who is nothing because he takes place, without place, beyond being), at least toward the other (other than Being)" (Derrida 1992, 97). But whereas Derrida wants to say that negative theology is ultimately false, he truly has no grounds for doing so. Negative theology accepts its failure as its very proof. It is deconstructionist avant la lettre insofar as it notes that the conditions for the possibility of engaging with God are also what make it impossible. And it is superior to deconstructionism, since deconstructionism would only see it as the moment "a logos necessarily speaks about something it cannot avoid speaking of, something it is impossible for it to refer to" (Derrida 1992, 103). But negative theology is still willing to say that this shows that God insists and that that insistence is not a transcendental illusion, but the real proof of transcendence.

Deconstruction would prefer that we remain stuck insisting on the impossibility of a God that insists and suggests its possibility. But it is time again to twist and turn this rhetorical figure to see how, beyond the double binds of thought, there lies a reality created and brought before us, and necessarily so, by what we can only reach indirectly. Derrida knows that

his own statements about deconstruction sound like negative theology (Derrida 1985, 6-7). But Derrida insists that *différance* is not the same as God. For Derrida, the very difference between God and the contingent order of being can only be understood by way of *différance*. But this is once again to insist that ultimately all there is is our conceptions of things rather than anything lying beyond these conceptions. Negative theology might agree that in conception this is true, but as seen in the ontological argument, God obtains outside of mind precisely due to our inability to conceive of God as such.

Derrida may believe he has the very principle for making determinations, but these determinations are only ever conceptual in nature. It is our contention that at some point these conceptual determinations give way to a realism, and God marks the first opening. Via divine creation, the rest will appear. In one way, what makes it possible to even show conceptual determinations requires that there be something in excess of what these conceptual determinations note as existing and a part of being. God names the most fundamental excess.

§18. NOTHINGNESS/THE VOID AND ITS MARK: THE HOLY NAME OF GOD

It is not enough for a God beyond being to be proved or grounded, given our critique of contemporary philosophy. Rather, in addition to asserting God in himself as infinite, one needs also to demonstrate that God is creator, insofar as this was also a key dimension missing from contemporary philosophical theology. Now, to approach God as creator is necessarily to approach the question of creation *ex nihilo*, creation out of nothing, since true creation only takes place in this fashion. ¹² But to have

¹² For Maimonides, there is another model of creation—that

creation from nothing, one first needs to have the nothing itself. It is here that one need re-enter post-Cantorian set theory, along with its interpretation by Badiou, in order to establish the nature of the nothing out of which God creates all things.

Set theory treats the question of the nothing first and foremost via the notion of the 'null (or empty) set.' This is a simple set that has no elements. One need not presuppose anything in order to posit this set since it contains nothing positive. One can simply assert its existence. It proves itself in its own writing. While any other set is an aggregation of something else including other sets, the empty set merely aggregates nothing itself. It presents nothing and nothing but itself. The null set thereby gives being to non-being. This may seem odd since the one thing that should be, per the philosophical tradition Parmenides, is non-being. But the empty set allows for the appearance of non-being itself. And in order to put forth set theory itself, one only need assert this set, the existence of the zero. If set theory is ontology, being qua being is an axiomatic system of the void. To think being is to think the implications of this existence of the void.

Here, being itself is named for Badiou by that which is said not to exist, the void. The unpresentable forms the very condition of presentation itself. The void for Badiou is not a negation, as it is for Hegel. It is not a something that appears once something else is destroyed. However, as the Kabbalah will show, this nothing itself does come into being via God and is

of the demiurge in Plato's *Timaeaus*. Maimonides thinks both ideas are compatible with a monotheistic view. However, such a Platonic model, as with its latter incarnation in Whitehead's metaphysics, suffers from a god rendered limited by an eternal matter. However, it seems that God's perfection requires that there not be something equally eternal in this way.

thereby closer to Sartre's concept in *Being and Nothingness*, where pure being-in-itself is annihilated by the for-itself. But the world is not made of nothing for Sartre. Only consciousness is. The world itself is the inertness of the in-itself. Without the nothingness of consciousness the world would simply remain in its formless muteness. Only consciousness allows things to be disturbed.

The empty set is the zero whose material is made of nothing, no elements. This empty set subsists in its own nothingness. It is not an object empty of a concept, but rather a concept without an object. Or perhaps even better, the concept of a lack of objects. It is thereby a treatment of and engagement with the noumenal itself, the in-itself as it is in itself. It is an object designated by lack. Negativity itself appears. Reality is thereby not something as much as the appearance of nothing. The empty set happens as nothing. A being itself, the empty set may be contested in its being, but not in its existence. Nothingness has already sublated itself into the empty set and found its being there. But in doing so, the nothing as per the dialectic is preserved and noted.

The empty set, insofar as it includes nothing, is itself "universally included" in any set and in any presentation and is also perhaps unique in that its subset is itself and void (*BE* 86). The void is thereby everywhere and in everything, as much as not belonging to the empty set is universal. In particular, it is "a subset of every set," insofar as for this idea to be proven false, one would have to show something "that belongs to the null set but that does not belong to a given set" (which is impossible given that nothing belongs to the empty set) (Aczel 2001, 107). As Badiou puts it later in *Logics of Worlds*, the contingency of worlds and beings is marked by each thing possessing and including the "inexistent" (Badiou 2009, 322-33).

Badiou emphasizes how this is true of all things with an example of a cat:

Let's return to the example of my cat (7.6). It is an element of the set of living beings, and it is composed of cells that are in turn elements of this set, if one grants that they are living organisms. But if we decompose a cell into molecules, then into atoms, we eventually reach purely physical elements that don't belong to the set of living beings. There is a certain term (perhaps the cell, in fact) which belongs to the set of living beings, but none of whose elements belongs to the set of living beings, because those elements all involve only 'inert' physicochemical materiality. Of this term, which belongs to the set but none of whose elements belongs to it, we can say that it grounds the set, or that it is a fundamental term of the set. 'Fundamental' meaning that on one side of the term, we break through that which it constitutes: we leave the original set, we exceed its presentative capacity . . . Now the void is not an element of the original set ((0)), whose only element is (0), because the void 0 and the singleton of the void (0) are different sets. So (0) represents, in ((0)), a local foundation-point: it has no element in common with the original set ((0)). That which it presents qua multiple—that is, 0—is not presented by ((0)), in the presentation in which it figures. The Axiom of Foundation tells us that this situation is a law of being: every multiple is founded, every multiple comprises at least one element which presents nothing that the multiple itself presents. (Badiou 2008, 71)

Here, Badiou exemplifies how anything includes in it something that is not part of it at any other level, just as the empty set is included. And presumably, the empty set is of course included in a cat. Everything that is contains at least one thing that presents nothing but itself and that can only be the nothing itself. These properties of the empty set can of course also be exhibited by numbers themselves, which is the way set theory builds up its own elements.

Given that the empty set has a power-set (itself), "since the [empty set] exists, the set of its subsets exists" (BE 88). The set of its subset can be named simply 1. That is, from the empty set itself, taken in this fashion, one can generate the number one by counting the empty set itself, its subset. This then formulates again how Peano defined numbers. For Peano, zero is the empty set, and one is the set containing that empty set. Two is the set containing both the null set and one (which is the set that aggregates the empty set): "The process was then assumed to continue ad infinitum, defining every whole number" (Aczel 2001, 109). Infinity here contains nothingness insofar as the nothingness of things leads to the infinite of numbers "starting with nothing at all" (Aczel 2001, 227). All numbers are a finite form of being, precisely because each contains nothing and is formed out of it. But there is no reason in principle that things like cats do not contain the same nothingness. After all, atoms themselves have been discovered to be almost all empty space.

In any event, numbers show themselves to be precisely the presentation of nothingness. Almost nothing, they remain in being by counting nothing into themselves. They separate the void from the infinite itself by interposing themselves. The matter of numbers is zero, while their form is the remarking of emptiness. Absolute zero itself is the void that numbers and anything else is. And the difference

between the empty set and any other number that follows it is always only the empty set itself. Derived from the void, pure sets merely double and recount the empty set. This model of the production of something from nothing will also be the model for how God himself realizes things out of absolute zero. But God is not the number one and is not oneness in any numerical sense. God remains without second and thereby cannot be included in these sequences, as God's unity is before the one itself. But it is important to note that the empty set is not already one, but itself zero. Things do not arise from the one, but rather from nothing. The empty set is not a first, but only part of a sequence—one it is cut out and distinguished from. This cut distinguishes an always already initial primordial negativity that the empty set then embodies.

This theory of number only gives ontological confirmation of the mystical nothingness from which all things unravel and unfold according to Kabbalah. The sefirot emanate from the divine and from nothingness itself as *Sefer Yetzirah* emphasizes:

Ten Sefirot of Nothingness / their vision is like the 'appearance of lightning' / their limit has no end / And his word in them is 'running and turning' / They rush to Him saying like a whirlwind / And before his throne they prostate themselves / Ten Sefiroth of Nothingness / their end is embedded in their beginning / and their beginning in their end / like a flame in a burning coal / For the Master is singular. He has no second. And before One, what do you count? $(SY\ 1:6-7)$

Absolute being is nothing for Kabbalah, and nothing can change for it without contact with this absolute.

For Kabbalah also, this nothingness is a primordial point that, at this point, can be identified at least with the empty set (Scholem 1995, 218).

For Badiou, the empty set does not just present nothingness, but also presents the unpresentable as infinity of infinities. Badiou names this infinity of infinities 'inconsistency' and identifies it with the void. The void belongs to all. It thereby names the inherence of what allows for any situation to change or be re-configured. It opens up and allows for an excess that the power set axiom names. The infinity of infinites itself derives from how an infinite set implies an even greater infinity via its power set. But this action is itself established via the empty set that shows it can take itself as its power set. The empty set is counted as one, but remains as something not yet counted in its status just of itself. This is true because the void itself cannot be presented as such (BE 93). It is only ever remarked by and through the empty set. What is counted as one is always a remark of the empty set, and the empty set itself is only ever the collecting of nothingness. But the insistence of the void, as that which cannot be counted or presented, makes possible and names an inconsistency always there that will inhere through the need for counting. In this way, for Badiou, the infinity of infinites is the same as the void in and of itself. We only ever experience or interact with consistent presentation wherein all things are counted, named, and numbered. But the empty itself, in its necessary reference to the void, presupposes that prior to counting and numbers there is a pure multiplicity, a non-being, inconsistency that inheres as unpresentable. The empty set presents nothing and confirms its existence even as it does not form a one (that occurs via the power set). In this way, we have an identification of zero with infinity.

This identification should not be totally surprising given that all numbers are made up of the empty set ad infinitum. The empty set, via presenting nothing, enables there to be a relation between nonbeing and being without interfering with their identity. Badiou's thesis that 'the one is not' is thus identifiable with the idea of both non-being and beingas the two cannot be distinguished conceptually (BE 93). What is presented and counted, such as numbers, only ever makes sense of an inconsistency that at any moment will shuffle all the cards and upset things into a mess of infinities. This inconsistency itself is prior insofar as the beingnothing of numbers can only arise out of a remarking the presentation of this unpresentable inconsistency. But one always encounters this nothing in numbers or anything else that is presented.

It must be emphasized that set theory implies that the void is; "there is a being of nothing" (BE 54). The void may not be something presented or presentable such as a number, but it is not non-being in the sense of the opposite of being. Just as sets aggregate things they presuppose, once one can demonstrate the existence of the empty set, one has demonstrated the existence of nothing as the empty set presupposes it. All numbers are a result of an operation, meaning that they presuppose the empty set. But this empty set in turn presupposes and is based on the being of the nothing. This nothing cannot be presented as it is in and of itself, but that only means that it is not a being: "there exists that to which no existence can be said to belong" (BE 67). It thereby also in-sists as God does (although we must be careful not to confuse it with God). This void that obtains outside of mind and independent of any marking is unique, as two voids could not be identified in the same way two somethings could be, since difference already requires

that the nothing be remarked via the empty set (BE 68).

Nothing can differentiate the void. In other words, "it is because the one is not that the void is unique" (BE 69). This means that we could say that there is a necessary vacuum. It is not a vacuum in nature, as nature can only consist of beings already delineated like numbers. Posting that there is a being of nothing runs directly against the idea that substance in its indivisibility or fundamental nature precludes it (think here of the substance ontology of Spinoza for example). For such substance ontology, a vacuum could only limit a substance, but if substance cannot be divided, then there is no room for it. Here, on the contrary, the empty set itself grounds an existence of the void. This is not a phantom of language, insofar as sets only act upon a pre-given domain. We then also have here an ontological argument for the void, just as we had one for God. We deduce the existence of the void (non-belonging, 'there exists that to which no existence can be said to belong') from its very nature, just as God could be deduced from his. Again, it is precisely by asserting the opposite of this idea that helps to form the proof. If we deny that there exists that to which no existence can be said to belong, then we deny that that there cannot be an empty set. But to deny nothing is to deny nothing. Non-belonging must obtain since to deny that it does not is to already posit something that does not belong. It is not a question of concepts, but rather of what independently of concepts and what concepts presuppose. The nothing obtains extra-discursively.

Many do not think that Badiou or set theory requires that there be a physically existing vacuum or lack. However, it cannot be simply a name and must refer to a nothingness that is and obtains outside of mind, outside of beings, and outside of sets. It is also not simply something that cannot be presented or is

not part of the field of beings such as numbers are. Nothing in-sists prior to these presentations. This insistence refers to and requires something that is more than simply an impasse of thought or product of the way set theory is written. It does not name a human inability to think the totality of all that it is. It is not just an index of failure. On the contrary, it is positing a real lack that, although it cannot be presented itself, is that from which presentation arises (the lack of lack makes real). We should not, as philosophy has done since Parmenides, posit that nothing is a mere illusion based on the impossibility of presenting it as a being. Negation cannot appear as such, but that does not mean it is a dream. There is an appearing of nothingness in the empty set, but even though it is not nothing as such, it does not mean nothingness is only the empty set. While the philosophical tradition since Parmenides has said that nothing does not exist due to the seeming inherent contradiction in the idea, these considerations lead us to conclude that the nothing insists

As Badiou suggests, here poetry (and mysticism is itself a form of poetry) is able to present a truth that philosophy itself has avoided (*BE* 54-55). Aristotle argued that the void is not possible due to the impossibility of movement in a void (*Physics* IV.7). In a vacuum, there would be no resistance. Things would move infinitely fast. Thus, anything near a void would immediately move into it at an infinite speed. If all things near move towards it at infinite speed, then it will not be, as all things will immediately overlay it at the speed of infinity. But we here speak of a metaphysical void that necessarily cannot be presented, even though what is presented presupposes it.

Also for Aristotle, something in a void has no reason to move, and yet we always see things in movement. Aristotle also takes the non-differentiable

nature of the void as proof against it. But rather than its non-differentiable nature showing that we can just fill up the world with voids where ever we like, it rather shows that the void is unique in nature. There is only one void. The absence of things may not be a thing or being, but that does not mean it is not. The void here should not be confused with empty space, as space itself may only be a product of the relation of beings themselves rather than a background upon which they occur. If philosophy has asked repeatedly 'Why is there something rather than nothing?', then we will now begin to be able to answer that there is nothing, and that is also why there is something.

Heidegger also posits that the nothing is and not as a being. But for Heidegger, the nothing is treated only in correlationist terms. Dasein encounters the whole of beings as an idea. The nothing is thereby a question only for Dasein, wherein Dasein discloses to itself the possibility of the negation of all beings (Heidegger 1993, 98-108). In experiencing such a disclosure, Dasein then experiences anxiety, but only by way of taking the whole of beings as given and then negating this whole (Heidegger 1993, 98). The nothing nihilates insofar as it allows Dasein to accede to itself. But nowhere does Heidegger speak of a nothing independent of how things are disclosed to Dasein or outside of the anxiety Dasein experiences.

Even if Cantorianism is premised on the nature of the signifier and is a function of writing, the nothing still obtains, for the signifier itself is the presence of absence as much as numbers are. God, as we will see, creates by writing and creation is being written. This is why creation is always marked as infinite as it is always marked by writing. The void is real. It posits itself and shows itself in the empty set. And the absolute in the sense of the infinity of infinities and not the absolute infinity does not exclude nothing in any way.

It is important not to confuse God, the absolute infinity, with the void or nothingness. This is something Scotus and Eckhart do by speaking of the nichts or as John of the Cross does of the nada. Hallward presents Badiou's position that "in the absence of God, what there is is indeed, as we shall see, purely and simply the void" (BST 7). But this view is one that holds that the void is the ultimate. However, this cannot be, as the void in and of itself cannot lead to anything other than itself-from nothing comes nothing. In order to have creation, God must necessarily be posited. Even the sequence of numbers we noted that arises out of the empty set are not possible unless an act of counting or remarking occurs. If left to itself, the void or even the empty set would remain in and of itself. This is why there should be no confusion with what Kenneth Revnhout posits in "Alain Badiou: Hidden Theologian of the Void?" and what we are arguing for here. First, Reynhout takes up Tillich's idea that God is being—a thesis that we have attempted to render illegitimate (Reynhout 2011, 230). To repeat, God not being a being does not mean God is being as such. Second, and more importantly, we should not posit that "God is the void" as Revnhout does, precisely due to the fact that the void does not give rise to creation (Revnhout 2011, 231). As we have argued, the notion of the absolute infinity in Cantor is distinct from the infinity of infinities deduced from the power-set cardinality of the infinite. This inconsistency ultimately not even in being itself, as unpresentable.

We can agree with Reynhout when he says that "God is not one," "is unique," "cannot be counted-asone," and "escapes the count of the count" (Reynhout 2011, 231). But God not being a thing does not make God nothing in the specific sense of the void. God creates the void which, as void, does not limit God

since it is nothing. God creates from nothing. While we argued that the void insists and is unique just as we stated concerning God, if we were to say God is the void, then we would say God creates himself. But this returns us to the pantheistic problems we have attempted to delineate and avoid. Pantheism still is not tenable even if one posits a void. The Kabbalah will offer us another solution to this problem with the idea of the *tzimtzum*. It will also inspire us to conceive of a different relationship between God and nothingness other than a simple identification of the two.

This does not mean that Kabbalah does not say that nothingness [ayin] is not a name of God. But ayin names primarily the idea that God is not a being, not a thing of this world (thereby no-thing). The word ayin is also related by Kabbalah to its Hebrew homophone that means 'source'. Nothingness is the source of the world. It is created from nothing. Ayin is the zero point. In fact, all that we see that is is really ayin for Kabbalah (Michaelson 2009, 85). Nothingness in its primal nature exhibits simplicity due to its lack of differentiation with anything else. It is neither this nor that.

the Kabbalah that savs nothingness is ultimately only thinkable "primordial point" that emerges out of the vast empty abvss as being pure and simple (Drob 2000a, 94). This point is thought as being inscribed as the first letter, the "primal letter aleph" (Drob 2000a, 97). Such a conception overlaps perfectly with how the void is thought by Badiou's set-theoretical ontology. The empty set and zero are themselves nothing more than a letter, "the mark of the void," Ø (Badiou 2006, 41). The void always sublates itself into the instance of a letter and insists there. The choice of the symbol Ø notes how the zero is "affected by the barring of sense" (BE 69). It is not meaningful in and of itself, but

only a sign of the nonsense from which meaning will emerge. Nothingness cannot be presented. It insists. And in its insistence the unpresentable is first and foremost merely as a letter, a pure signifier. It defines itself by its lacking any referent. Nothingness is thereby always split from itself and reduces itself in this world to such marking. It will not cease to repeat itself, as once a mark occurs its repetition does not cease. As we have already seen, no whole can be made of it once it is allowed to enact the infinite. It is not totalizable. It is already in its very marking a multiplicity irreducible to a unity and multiplies. It is this insistent and persistent process. It will diverge into other things and disseminate a whole world. And all from just a non-signifying letter.

But the literal existence of the void as a mark is also a name. Badiou notes that for theologies the "supreme being has been the proper name since long ago" (BE 69). And the empty set, Ø, is also the Name of God. Badiou excludes this possibility as he thinks it is linked to presence and the idea that the whole is. But as we have noted, God is connected to the unpresentable and non-being of the one such that \emptyset is just another name to write the very proper Name of God. As Badiou shows, the very act of marking the nothing in and through the empty set is to present a proper name as a letter (*BE* 59). The empty set thereby arises in an act of naming itself, but can name itself as nothing, as a pure point. And the purely proper name, pure act of self-nomination, refers to God. The name of the void is the Name of God. This is why God is not the void as the void is the proper name of God. The unpresentable and nameless one could not be named otherwise. And since the name is that from which everything derives, it is by way of the name of God that all is created. All that is is nothing but an elaboration of the divine proper name that names

itself. It is not yet differentiated from anything, as it is only by it that later differences will be understood.

The proper name here also marks the unicity of God. For a purely proper name is unique in and of itself. The mark of the void, its name, presents the unpresentable by name: "What belongs to this set [the null set is the proper name which constitutes the suture-to-being of the axiomatic presentation of the pure multiple; that is, the presentation of presentation" (BE 89). And in God's self-naming, one sees that the Name of God does not belong to God but rather to being, to this world, since this element would not be the void as nothing that it is, as the unpresentable. It would be the *name* of the void, the existent mark of the unpresentable. The void would no longer be if its name belonged to it. Certainly, the name of the void can be included in the void, which amounts to saving that, in the situation, it equals to the void, since the unpresentable is solely presented by its name. Yet, equal to its name, the void cannot make a one out of its name without differentiating itself from itself and thus becoming a non-void (BE 88).

The Name of God is all we have of God in this world, in being. God insists on it and on God's transcendence being marked by a purely proper name. This name is not one and it thereby leads to differentiation and becoming non-void in creating the world. The unpresentable is for us only in and by its Name. And by that truth the world is built and founded.

The unpresentable always vanishes into such an act of pure nomination that that act reveals for us that the unpresentable insists. That is why the unpresentable insists on itself in the purely proper name. God is not the void as such, but the void names God, enacts God's holy Name and gives rise to it, embodies it. As much as for Judaism the Torah is

composed of endless permutations of the divine name, the tetragrammaton, so is the universe itself. Rav Zadoq ha-Kohen of Lublin said: "Thus I have received that the world in its eternity is a book that God, blessed be He, made, and the Torah is the commentary that he composed on that book" (ha-Kohen, qtd. Drob 2009, 52). While God insists beyond being, God subsists here by way of the void as the pure name. God only can be present to us as his holy name. The nameless and unpresentable one insists via a name devoid of sense, as pure mark.

If the empty set is the very foundation of pure ontology, of being qua being, it is not because the void is the ultimate, but because the void, through the empty set, names that which is absent—nothingness and God. In the beginning, there is the self-naming, a void name, and the empty set. The void itself must be created and is so by this act of nomination. Since from nothing comes from nothing, the void would not instantiate itself. It insists, but only after its instantiation. This pure designation is pure unicity, which is why God is related to nothingness without being it. God is not God's Name. Before we speak of any properties or attributes, God is a name pure and simple and founded in an act of self-nomination. This is one reason why, in a play on the Hebrew letters of the word for nothingness [avin], the Kabbalah says it is also 'I' [ani]. But only by a pure act of designation can the ineffability of God be maintained.

Badiou, rather than banishing the logic of negative theology, offers us a way to confirm the most audacious experiences of the mystic. The empty set instantiates the void and thereby forms the Name of God. The Name of God is the mark of the void. But through creation it will become the primary name of Being itself, its subsistence and matter. As rehearsed above, letters are of the real. This name is not a symbol. It is in and of the real, both as the impasse of

what cannot be formalized (and thereby only presentable as name) and what cannot be directly presented. Out of nothing comes the name: "It comes out that all that is formed / and that is spoken / Emanates from one Name" (SY 2:5). But nothing comes from nothing. Only God can be responsible for such an act of self-nomination. But once enacted, it will be included in all and form the material of all that is. It will repeat itself, but only once named. Nothingness, the void, could not do the job on its own without external force.

God is not the void or the name, since the name is what allows for being. And God is not the being common to all things, as that is another name for pantheism and a repetition of onto-theo-logy. Creator and creation remain opposed as one transcends the other. One cannot deduce the name of God. One could not deduce from other ideas the pure act of designation involved here. God, the unnamable as unpresentable, declares it and declared it long ago in events such as Moses facing the burning bush: "The name is then the proper of the proper, so singular in its singularity that it does not even tolerate having a proper name. The name is the point where the situation's most intimate being is submitted to thought; in the pure presence that no knowledge can circumscribe" (Badiou 2005, 66).

As we will see, God's namelessness means that even this name of God is in many ways inadequate. For Judaism, one should not even attempt to pronounce the Name of God. The Name of God is the real of thought and prayer. It is also why the name of God is only ever written. For Derrida, writing is an ofinfinities that disseminates differentiates. Writing names and enacts unpresentable. Recall here the nature of numbers and how they were created. They were created out of nothing, which here means created out of the pure

name of God (Drob 2001, 18). Numbers were produced by empty sets repeating. Out of zero information, out of the void itself in its mark, all numbers appear through their being counted and repeated. The materiality of letters spells out things as they spell out numbers. God is repeating and operating his name as it elaborates itself into more and more complexity:

When it arose within / the will of the Blessed Name / to Create the universe, / in order to manifest goodness, /so all creation would acknowledge / the goodness of the Creator / the Blessed one emanated one point / that included ten points. / These are the ten sefirot / one point included within all ten. (KC 10)

Perhaps, this is what Philo meant when he claimed, "the logos, the divine 'word' acted as an intermediary in the process of creation" (Scholem 1995, 114). Philo himself believed, as Kenneth Schenk states, that "God had set his *logos* as shepherd of the universe. He could call the *logos* the commander and pilot of the world" (Schenk 2005, 58). But we are not positing that God's Name governs the world and also not that the world is a representation or reflection of this holy name. In this way, while Philo does say that the logos is used to create, and that the logos is the Name of God, we differ from Philo at the very least insofar as we do not see the world as a Platonic image of some higher order (Schenk 2005, 58-61).

And it is the literalization of the world by mathematics and science that will ultimately bear out this truth. They literalize the world by depending on that which has no sense (letters) to enact sense. This literality of being can only arise if we see it as a weaving of the divine name—a name that insists in each aspect of being. We can do the same. We can

observe the empty set. We can write it out. We can include the name with another. We are again made in the image of God.

Behind difference, there is nothing. The simple nature of the mark of the void shows its relation to the absolute. The nameable name is built from the unnamable one. The infinity and emptiness of the mark, of the letter, of the name, lead one to the unsayable. As separated from God, we can only repeat the name and see this emptiness. The emptiness of our words arises as we depend on the name itself of God. All of these thoughts find their own expression in Judaism and Kabbalah. As Schneur Zalman of Lyadi, the rabbi of the Chabad movement, said: "The purpose of creation of the worlds from nothingness to being was so that there should be a Yesh (Creation, and that the Yesh should be null" (qtd. Drob 2001, 207). The created world on this view is no more than an appearance of the void itself, its elaboration.

We are not saying that creation occurred at some time. It did not happen in time, as time will arise on the basis of creation. We can follow Friedrich Schelling in saying that creation does not happen in a temporal past, but rather in an eternal past that never actually was in time. We can logically and ontologically identify this instant and conceive it, but that does not mean we are locating a moment on a timeline. Creation is immemorial. But that does not mean that the creation is eternal. It was not always the case. It was not necessary and did not need to occur. It has always already happened from our end, but not from the perspective of God. Creation is not an event. It is a divine act.

¹³ Slavoj Žižek develops the logic of this concept of Schelling's in detail throughout *The Indivisible Remainder* (2007).

Edmond Jabes also glosses these ideas throughout his books by seeing the world as an infinite self-emptying of the name. The world is the exile of the name. All of creation is the nomadic wandering of the holy Name in its elaborations. The name is always moving nomadically. God exiled his name into the world to make the reality of creation itself. This name only presents an absentee silence, for our words cannot make present what insists in the holy name. In this way, the proliferation of the Name disperses meaning throughout and gives meaning to what is.

It is not surprising, then, that Jews refer to God simply as 'The Name'. The name of God is just 'The Name'. And in Hebrew the word for 'name' is spelled the same as the word for 'there', as space itself is created only once the name intervenes and not before. As Maimonides famously said in the very introduction to his commentary on the five books of Moses, the whole Torah is made up of divine names. All is elaborated from the divine name—especially a divine text. The name of God is the "metaphysical origin of all language" (Scholem 1972a, 63). All language is just a discourse on the holy Name of God and reveals it. The world itself is the language and writing of God founded on God's holy name. There is a single name at the center of all that is spoken and all that is presented.

Judaism focuses on the four-letter name, YHVH, of God. These four letters take the idea of 'I am that I am' [ehyeh asher ehyeh] and turn it into pure letters, no longer referring even to being. God should not be noted as one more being amongst beings, as a simple name would do. In this way, God's name should not only not be produced, but should only consist of an iconic sign, a purely written mark. It should be

¹⁴ For a good overview of Jabes's work see Rosemarie Waldrop's *Lavish Absence* (2003).

recalled that Hebrew, while being a phonetic language also has aspects of pictography. For instance, the letters themselves refer to images (the letter gimmel is a camel for example). In this way, a word can in and of itself take on purely illustrated form. For Peirce, the divine name is iconic insofar as its very lettering gives rise to its nature and significance. Without its actual articulation, it would not be able to function as it needs to. This sign signifies according to its nature rather than what it refers to. Even if what it presents in its shape or sound is not an object we recognize, the sign itself takes on the form of an object. A circle is such a sign. As Marion wonderfully notes, even the name given at the burning bush only marks a "tautology" (I am that I am), as any name that would describe that which transcends being itself can only be a name that tries to capture the nameless (BG 297). This four-letter name is a pure proper name. It should not be conceived from another point of view. It is peculiar to God alone. Yet one should see this name as just another of writing Ø. This name should not be pronounced. It is made up only of vowels after all. It signals the lack of a name to indicate the unpresentable. In fact, rather than being pronounced, another word is always substituted for it, to hide it. It is only ever written in a divine text or text for religious purposes. It is named to be hidden and written not to be said aloud. The consonants without vowels leave nothing to be said. It is a name that forms its own secret.

This is why, rather than contemplating oneself, one can simply contemplate the holy name to achieve mystical insight:

Peculiarly Jewish object of mystical contemplation: The name of God, which is something absolute, because it reflects the hidden meaning and totality of existence; the

Name through which everything else acquires its meaning and which yet to the human mind has no concrete, particular meaning of its own. In short, Abulafia believes that whoever succeeds in making this great name of God, the least concrete and perceptible thing in the world, the object of his meditation, is on the way to true mystical ecstasy. (Scholem 1995, 133)

All that is is only by its "participation" in the great name of God. The name manifest itself through creation and as creation:

All creation—and this is an important principle of most Kabbalists—is, from the point of view of God, nothing but an expression of His hidden self that begins and ends by giving itself a name, the holy name of God, the perpetual act of creation. All that lives is an expression of God's language,—and what is it that Revelation can reveal in the last resort if not the name of God? (Scholem 1995, 17)

This is why *Sefer Yetzirah* emphasizes how the combinatorial power of letters and numbers is the same as creation itself. It is such that God will take on more names that simply repeat this name, as creation repeats itself in elaborating more and more: "These are the twenty-two letters / which engraved / Ehyeh, yah, YHVH Elohim, YHVH tzvaato, Elohim Tzvaato, El Shaddai. / YHVH Adonai / And with them He made three Books/ and with them he created His universe / and He formed with them all that was ever formed, / and all that ever will be formed" (*SY* 6:6). Every variety can occur in this fashion.

The name has a simple meaning such that seemingly only a simple thing should proceed from it. But from the simple the complex can arise. As Moshe Idel informs us, there are "mathematical qualities of the letters consisting the Ineffable Name," and he thereafter writes that "all of the numbers are nine from one direction, and ten from the other direction" (Idel 1987, 28). In other words, the ineffable name of God should not be looked at as a regular name with a referent as such, but taken literally via its lettering and marking alone. As Scholem notes,

In this context the Midrash tells how, before the creation, God and his name existed alone. When the name becomes word, it becomes an essential part of what we may call the language of God, the language in which God, as it were, represents and manifests himself, just as he commits with his creation, which the medium of this language comes into being itself. (Scholem 1972a, 70)

Creation arises out of the name, which means that God, along with his name separated from God, appear at creation itself. God then communicates with this communication by creating it as a communication.

Recall that "one shall not take the name of the Lord in vain" (Exodus 20:7). It must be respected at all turns given its nature. For Levinas, the name of God "is a name" [Adonai] which demonstrates how the name is related to that which is always at a reserve (Levinas 2007, 121). But in turn, that name [Adonai] can also take on a name for itself, as it should not be spoken unless one is engaged directly in prayer. And in prayer itself, as Levinas likes to note, one shifts from speaking to God ('Blessed are you . . .') to speaking of God in the third person immediately after

this statement. Here, the moment one speaks to God as though it were a personal relation, one is returned to the name itself as the remainder of the transcendence of God. As Idel argues, "the true name is a dialogue between man and God" (Idel 1987, 84). It reveals the nature of God and creation of the world. The name of God does not tell us what a thing is, but it also is not related to a who. It is a pure call. But even saying there is this name is too much, as it risks thinking that one has captured the unpresentable.

If God did have a name we could know and understand fully and say aloud, God would be limited to that name and thereby seemingly presented and known. From that perspective God has no known name. God is not able to be contained by a name. No word could constitute God. Hence the anonymity preserved in referring to God just as the name. And since God's name fills all things and names, the entire world becomes the name of God as well: "Kabbalists believe in the 'unlimited mystical plasticity of the divine word" (Drob 2009, 33). Even Levinas, who notes he has "avoided conceptions taken from Kabbalah" (Levinas 2007, 122), still quotes Maimonides who wrote, "The foundation of the foundation and the pillar of wisdom consists in knowing that the Name exists and that it is the first being" (qtd. Levinas 2007, 119). The divine one is only ever noted as "the name' a generic term," for God is not a divine species of thing (Levinas 2007, 119). In fact, as Levinas here emphasizes, Judaism also calls God the Holy one, Blessed be he, in order to emphasize the holiness (radical transcendence and unpresentability) of God beyond being itself. The name of God is not subject to any sense and thereby names that which escapes its very naming in naming itself. The name thereby annihilates itself at the same time that it insists on its naming and in calling us to this name. Ernesto Laclau writes:

have spoken about the need for representing an object in its fullness which, by definition, transcends all representation. Now, this is, at its purest, the problem of the mystic. He aspires to give expression to direct contact with God, i.e. with something which is strictly ineffable because it is incommensurable with anything existing. He is the deus absconditus, a mystical Nothing. For the great monotheistic religions there is an unsurpassable abyss between the Creator and the ens creatum. Mysticism does not deny or overlook the abyss; on the contrary, it begins by realizing its existence, but from there it proceeds to a quest for the secret that will close it in, the hidden path that will span it. (Laclau 1997, 16)

This mystical problem is solved only by invocation of the Name and an understanding of it as pure nomination. As Laclau notes, Scholem distinguishes, on the basis of this mystical problem, between the represents allegory wherein one something presentable by an understandable figure and the mystical symbol itself, which is a name that attempts to repress something that lies beyond expression (Laclau 1997, 16-17). More importantly for our purposes, "The symbol 'signifies' nothing nothing, communicates but makes something transparent which is beyond all expression" (Laclau 1997, 17). This is precisely how the name of God functions for us. But at the same time, its nature in itself should not be forgotten. The name of God is God's own act of nomination and is connected to the creation of the world and forms its very matter. One cannot remain only with what it is for human cognition. In this way, Kierkegaard was also wrong: while God is not a name, God is also not a concept (LP

115). To say God is a concept would again restrict God to the approach human cognition takes to the matter and its inherent limitations. Sanford Drob believes that "Ramakrishna states, rather 'kabbalistically,' 'God is the container of the universe and also what is contained within it'" (Drob 2001, 109). Only God's name is contained in the universe. And God is not a container of the infinity of infinities, but the absolute infinite. In referring to God's name we should not forget that God transcends even his own holy name, the mark of the void.

§19. TZIMTZUM: CREATION OF NOTHING TO CREATE FROM NOTHING

God's relationship to the void is illustrated and explained by what is perhaps the most original Kabbalistic concept: the notion of the tzimtzum (this word literally means 'contraction' or 'reduction'). The tzimtzum is God's complete contraction into himself, concealment, and withdrawal. Here, God withdraws in order to allow space and time to come into being. It is the ultimate first act of creation for the Kabbalah. God creates out of an act of an excess of divine love and creation by limiting the divine itself to allow something non-divine to arise. And what arises here is nothingness itself, which is immediately marked by its name, the mark of the void, the holy name. That is, it is a hollow that is made once God withdraws from the world. Before this as it were, there was no 'before.' Time and space themselves are only enacted once the absolutely infinite creates an empty space and a hollowing. Before, there is only the unending light of God.

This purely excessive act shows the true absoluteness of the divine insofar as it is able to allow for limitation even in its perfection.¹⁵ In this way,

¹⁵ The name of this self-limitation is Sabbath—the rest taken

however, God exiles himself in order for there to be a world. God insists beyond the world that persists without God. A space of nothing is created—nothing precisely insofar as it is devoid of God. Marc-Alain Ouaknin stresses this rather startling aspect of this theory of the divine: "The Kabbalists stress this astonishing fact: The space of the world is a space void of God, an atheistic, atheological space" (Ouknin 2004, 278). God is not found in the world of being and beings.

Here Kabbalah is at its most 'Heideggerian': Revelation takes place via concealment. The space of the universe is created as emptied of the absolute. It is freed for the contingent and for differentiation. Our world is just such a sphere. The first act of creation is thereby negative. It involves the creation of nothing in order for there to be creation ex nihilo. That creation occurs from nothing also contests any Kabbalist or ontologist who claims that creation occurs via emanation. Emanation is always emanation from something already there, rather than from the void via tzimtzum. God lets be something by allowing it to arise from nothing. The beginning of that creation is itself the holy name and nothing more. It is the name itself that is the first foundation. As Zohar Raviv phrases it, "tzimtzum is the initiatory actualization of the zero's singularity" (Raviv 2008, 418). But the zero is immediately canceled out by its mark. We then have, as Raviv puts it, the "perpetual pulse of 01 01"

from creation on the seventh day by God. But it is not clear that we have reached the seventh day yet. In my view, we are still at the end of the sixth day just after the creation of humanity. On the other hand, from the eternal perspective of God, God has rested. In this way, the observance of the Sabbath is not a memorial as much as anticipation of what is to come. The Talmud itself says in a few places that the rest one experiences on the Sabbath is one-sixtieth of the peace one will find in the World-to-Come (Cf. *Brachot* 57b).

(Raviv 2008, 419). We will return later to spell out the full implications of this statement, but it is enough to say now that creation takes place via the creation of the primary bit, the act of information.

The void left by withdrawal is called tehiru or sometimes chalal (this term literally means 'space' such as in open, empty space). One can also think of it is as an empty circle or sphere, hence making the mark of the void Ø all the more fitting. This idea also implies that God as absolute infinite prior to creation surrounds and fills all, as it were. It is only with the addition of nothingness that an infinite number of things can take place via the creation that follows this initial moment. Sanford Drob emphasizes this aspect by noting that this "process . . . creates finite plurality through a[n] . . . occultation of that which is infinite and whole" (Drob 2000a, 130). In this way, the whole is not. It is withdrawn as the world is marked by a creation that leaves it incomplete. It should be noted that the Pythagoreans also argued that the void exists (as did the Epicureans) and that it allows for separation and differentiation, as Aristotle related:

The Pythagoreans, too, held that void exists, and that it enters the heaven from the unlimited breath—it, so to speak, breathes in void. The void distinguishes the natures of things, since it is the thing that separates and distinguishes the successive terms in a series. This happens in the first case of numbers; for the void distinguishes their nature. (*Physics* IV.6)

The issue here is how the unlimited (what we would call the absolute infinite or *eyn sof*) gives rise to the limited via the void. All things that are and can be known have to combine into being by having a definite shape. Just as a sequence of terms or numbers

are differentiated by the void, they are solely made up of the void. For Pythagoreans, that idea is articulated via a relation between emptiness and limitation, the unlimited and the limited, apeiron and peiron.

God does not require this act despite what some commentators suggest (Drob 2000b, 241). It is rather a gratuitous act of love and giving. Yet God's selfconstriction is necessary for creation to take place, for "if he does not exile himself from it all creation would be overwhelmed by his essence" (TB xxiii). The absolutely infinite would overwhelm creation, but creation itself is still fractured and cracked and left incomplete by its arising from the void and its mark. Ultimately, as Ouaknin notes, the notion of the tzimtzum answers the questions of 'how can there be a world if God is everywhere?' and 'If God is "in everything" how can anything exist that is not God?', which are the questions pantheism attempts to pose (Ouaknin 2000, 194). We also answer here the question of philosophy and metaphysics, 'why is there something rather than a nothing?' and 'how can God have created the world ex nihilo, if there is no nothingness?' (Ouaknin 2000, 194). Leibniz, among others, felt that the simplest state of being is nothingness. Given that things tend to simplicity, it is a wonder that there is something, as something requires more energy, effort, etc. That we see something for Leibniz is already sign of a creator, as left to itself things should be in their simplest state. A zero state as a state means there is not even any information to record that there is nothing. In this way, something like God is needed to information and things to arise.

This concept also helps flesh out the account of creation given in Genesis. Why does God rest on the seventh day? This act of rest is itself related to God's creation. The absolute can abstain from creating just as much as the absolute can withdraw itself and add

nothingness to itself. Interrupting creation is an indication of absolute power, the power to delimit oneself. Creation is violated. God does not create the world because God must or requires it to fulfill some need. The absolute infinite can violate creation itself, even destroy it, if need be. There is no better indication of perfection than being limited to the infinite itself. In other words, it is an implication of that than which nothing greater can be for it to be able to limit the maximal. The absolute infinite makes of itself nothing and separates himself from that nothingness to allow beings to emerge and acquire an independence of their own.

Scholem insists that "tzimtzum does not mean the contraction of God at a point, but his retreat away from a point" (Scholem 1995, 260). That is, God is not reducing himself to what is left, the nothingness, the mark of the void, his holy name, but rather retires to allow for that point to emerge. It is thereby not creation by "emanation," as God here contracts himself to allow creation to occur and offers limitations rather than extension (Scholem 1995, 261). Here one sees a crucial difference between the Kabbalah and neo-Platonist metaphysics, despite so many attempts to see Kabbalah as influenced by or being simply a redundant restatement of, the work of Plotinus, Proclus, etc. Neo-Platonists see creation as ebbing and flowing out of the One, but here it arises based on the nothingness that the One leaves in and by its disappearance. The notion of the *tzimtzum* also drives another stake into the heart of pantheism and pantheistic interpretations of the Kabbalah (Scholem 1995, 262). For this retreat from the point means that the tzimtzum is connected to the primordial and singular point that arises. For the Zohar, this primordial point is connected to the Hebrew letter yod, which is itself just a line, a pure mark (Zohar I, 2a). Drob identifies this primordial point with "a

thought" (Drob 2000b, 20). We will pursue this idea later via connecting the tzimtzum to information, since this first point is the first registration of information itself. But this point itself is infinite in nature, as it is dimensionless and non-differentiated. the void itself transmuted as it evaporates into its mark, the Name of God. This point, based on the abyss, is the center of the world around which all crystallizes. It is the beginning. The very beginning referred at the beginning of the bible: 'In the beginning . . . 'Creation takes place in a word, the first word, the name of God—B'reshit bara Elohim. The manifestation of this point conceals God via God's name. As dimensionless, a point itself is not differentiable from anything else. It is a pure and primitive notion from which spatial notions themselves can only later be articulated. The point is thereby a hole into which all can disappear, but from which all arises. One is none The single point based on the nothing's nihilation. As infinitesimal as this point may be, it is a word created by an action of nomination: 'Let there be light'.

The world thus suffers from the absence of God. The world exists apart from God as it arises from nothing. God is absent from nothing. And only nothing could subsist independently from God. Here the point that could be written Ø is the 'trace of the Other' (as opposed to Levinas's definition of this concept). And for the Kabbalah, there is residue or trace of the divine that occurs despite the divine contraction. This trace is known as *reshimu*. This trace does not remain with the void, but the mark of the void is itself this trace. Again the name of God is the trace of the Other. And in this way each thing contains within itself a trace of the trace. The world empty of God is built of this residue of the divine.

Here, we have another way of understanding the primordial ooze.

Isaac Luria, the mystic who envisioned the tzimtzum itself, says one should think of this residue like a bucket of water once full. Even though the bucket has been emptied some of the water still clings to the sides. The saturation of the absolute infinity leaves a remainder even after it withdraws. Another way of taking this idea is that the Name is the trace of the divine. God would suffocate all things if God did not withdraw. But the name interrupts this eternal presence and marks its absence. There is a gap then in the eternal one. There is a gap in God. God and his name are not one. And with such an interpretation, time itself as the moving image of eternity becomes possible. This interruption is itself nothing, but nothingness unfolds and turns into a universe of emptiness.

Insofar as there is a trace, we may understand what physicists mean when they say that all vacuums are false, that they are charged with energy. Daniel Matt suggests directly that the Kabbalistic sense of nothingness with its traces of God matches the idea of "zero-point energy" or of the false vacuum that "still shimmers with a residual hidden energy" (Matt 1998, 41). For physics, such a vacuum is a "region of space from which everything has been removed," including "particles," "fields," "waves," etc. (Davies 1985, 104). A pure vacuum is not truly possible in nature. One always has "a tiny residue of gas" or energy, such as the "universal background radiation left over from the big bang" (Davies 1985, 104). For this reason, physiccists speak of a real vacuum as an "idealization" since any empty space they discover in the world is "alive with energy" (Davies 1985, 104-5). What Davies's description here implies, beyond the idea that a pure void is a metaphysical rather than a physical concept, is that the false vacuum noted by physics is itself a

product of the Big Bang. Since space does not exist before the Big Bang, the empty space and false vacuum analyzed by physics is itself made possible by the space created in and through the expansion of the universe. However, despite this seeming truth, many physicists such as Alex Vilenkin "suppose that in the beginning the universe found itself in an excited vacuum state" (Davies 1985, 192). The universe thus arises out of a false vacuum that gives rise to a "cosmic repulsion" which leads to the big bang. The energy found in this empty space (they also call it a "quantum vacuum"), as becoming a "true vacuum," suddenly and for a vanishing instant leads to the big bang (Davies 1985, 193-97).

As another advocate of this view, Sean Carroll, makes explicit, space and time obtain prior to any big bang as the big bang is just "a kind of transition from one phase another" (Carroll 2010, 51). Carroll has to speculate that space obtained eternally since "vacuum" energy" is a "feature of space itself" (Carroll 2010, 312). Thereby, if our view that space comes into being with the big bang is right, false vacuums would only be a function of that expanding space. Carroll explains that as a "false vacuum decays the formation of bubbles [occurs] like when liquid water boils when it turns into water vapor" (Carroll 2010, 328). Each bubble formed in the void expands via the energy it retains and thereby forms a universe (Carroll 2010, 329). This void is a "de Sitter space" that allegedly shows how the energy of the vacuum positively arises (Carroll 2010, 329-30). But the problem with this view is not only that we cannot confirm that there are other bubble universes, but with the very idea of the false vacuum being eternal along with space. In fact, Judaism was perhaps one of the first religious traditions to suggest that our world was not unique, as a famous Midrash states that "God created and destroyed many worlds before arriving at the one that

now stands" (Drob 2001, 60). But a key problem is that the multiverse view now proposed by physicists is an attempt to treat the world deterministically. Insofar as there are many universes, it would seem that all possibilities are actually realized. Any contingency that could characterize the world is thereby eliminated. But such an ever-existing eternal world that realizes all possibilities is not possible due precisely to the insights we have explained from Cantorianism. As we will later hear from Meillassoux in our engagement with his ontology, there can be no total set of all possible infinites and we cannot say that one arises. Not only in this way could we not know whether one universe is more likely than another, but we cannot say all possibilities are realized. And if all could be realized, ultimately the possibility of nothingness would arise, again requiring a creator to achieve something from nothing.

This does not mean that God designed the world from a set of perfect and unchanging laws. On the contrary, it is not via laws, but rather a program/name that the universe unfolds. This will mean that any laws that appear to explain the regularity of phenomenon can change at any instant. The laws of the universe are not immutable. A multiverse also does not explain how we have the laws we do have, but shifts the problem to a different level. It says we have the laws we do since all possible laws are realized in some universe. Beyond whether we could ever possibly verify such other existing universes, it seems unlikely given that even in our own world what is possible is not realized. Another version of this deterministic ontological view in physics comes from the many-worlds interpretation of quantum physics. But this view says that consciousness is part of the physical universe, when various aspects of consciousness seem irreducible to the physical world, as many such as David Chalmers have shown. When

consciousness is seen as a piece of reality, every possibility is realized in some universe. In one universe Schrodinger's cat lives and in another it is dead. All that can possibly occur given the wave function does occur. There is no free will and nothing is not realized. But as we will argue, our consciousness, as self-referential, exhibits our own alienation in the signifier just as the world is so alienated via the *tzimtzum*. This alienation of the world directly implied Cantorian transfinity and incompletion. ¹⁶ For

¹⁶ A reviewer of this manuscript indicated that some may accuse the ontology I develop here of being phallic or phallologocentric. While I want to address the issues signaled by the critique of phallologocentrism in depth in a future work I have planned, let me say this much at this point. First, this critique stems from one of two things as I currently understand it: 1) that the logic here only exemplifies the logic of the male side of the graphs of sexuation as Lacan renders it (cf. Levi Bryant's The Democracy of Objects [2011], section 6.1): and 2) that what is emphasized is that just as the human organism is an alienated signifier so here reality itself is alienated in the letter and via God's self-negation by way of his own naming. Let me take the second view first. For Lacan, only psychotics are not fully alienated in the signifier. Otherwise, it is part and parcel of our very being. It is not something that can be avoided. It is constitutive. Here, I argue reality itself is literalized, which is the complement of that view. It is therefore no more 'phallic' than our reality as speaking beings. One would have to show how differentiality, the binary, etc. are avoidable and non-constitutive. Next, our being alienated in the signifier is the basis for Lacan rendering of the difference between the sexes and for the graphs of sexuation. On the male side, all males are alienated (there is a closed set of males) except for the one who stands outside uncastrated (the primal father). This seems to follow a basic theological model—that God is the exception and withdrawn (something transcendent). But one of the key things (there are others) that is often missed in applications of Lacan is that the feminine side is the

consciousness, it means it is ever absent, like the empty set, showing how we are made in the image of God.

Many worlds may have been created, but they were each a unique creation and not the deterministic realization of all possibles. While the universe may have no discernible boundary, such that if we traveled in space indefinitely we would never hit the end or would simply arrive back at what should be the same place we started, it is not thereby infinite. It is limited

logical *equivalent* (even though irreducible one to the other) of the male side for Lacan. The groupings that form the sexes are logically identical. That is, the rendering of the feminine logic is but the negation of the negation of the male (or viceversa) in the same way that not not-A is A. They are but two ways then of looking at the same thing—of beings alienated (we are, after all, all speaking beings). The feminine side says that there is no all (no closed set-no essence of woman) of the feminine, but rather each woman is herself an exception, a singularity. That being said, no ontology can be one-sided and true as much as no psychoanalytic theory worth its salt will just be able to describe the desiring nature of one sex. No ontology should present one side of the story (for instance, offering a view of pure immanence). For us then, we will have offered a way of looking at entities as themselves alienated in the letter. We will have shown this in the following way by combining both the logics of the male and female sides (and necessarily so since we will have argued reality itself is marked first and foremost by the letter via the bit for example). On the male side, we have said all entities are equal as beings, as sets, but that the void and God transcend it. On the female side, we will have tried to show that one can also treat this world as incomplete and subject to the implications of the Cantorian transfinite. This meant that any set one can isolate is itself an exception and singular in its being. All that is is immanent to a code iterating itself. Thus, the ontology presented here will have comprehended the male and the female aspects of reality as much as Lacanian psychoanalysis does so for humanity.

by the Big Bang and by the curvature of space itself, which is seemingly limited to the surface of some shape, such as a sphere or some other threedimensional volume. In this way, while the Kabbalah may agree in many of its formulations with the idea of a multiverse, it means there are infinite possibilities, but not all occur, as creation itself is contingent and optional. As Carroll himself admits, this story cannot fit the very "universe in which we live," as one still needs some outside force to allow for the inflation seen in the big bang to arise out of the void (Carroll 2010, 330). In fact, as Carroll notes several times, since "our universe began at the Big Bang it is burdened with a finely tuned boundary condition for which we have no good explanation" (Carroll 2010, 5). The early "in a very special low entropy universe was configuration" (Carroll 2010, 38). These two ideas themselves show that the vacuum is not enough. We can agree that the metaphysical concept of the void is a vanishing instance that leads to a false vacuum or to being, but this vacuum itself requires something from outside, both to come into being and to possibly give rise to entire worlds. The fact that there is a beginning with absolute order could not have developed from a void state, de Sitter space, or previously disordered state, no matter what speculations physicists enjoy indulging in.

We are arguing here that the primeval order and concentration of the universe came into existence through intelligence, God, not because it shows signs of being designed, but due to the metaphysical nature of the void itself. Speculating that space is eternal helps the metaphysics that underlies the physicists' claims. But there is nothing about space that shows it should always be. Even a de Sitter space is a contingency. However, one may claim that whereas the vacuum is uncaused, the universe is caused by it. The issue here is then whether a false vacuum, empty

space as space itself, can be an uncaused and eternal entity. But if this space is always there, it is infinitely there. That implies that its energy would have to never dissipate. But since it receives nothing from outside itself, it is not clear how that would occur given that there is nothing necessary about space conceived in itself. What we have then is a contingency that is supposedly uncaused and lasts indefinitely.

Beyond treating a contingency as an eternal necessity, this view treats space itself as a container when space is something that only arises on the basis beings themselves. We argue, rather, nothingness itself requires a foundation, the tzimtzum. God created the void or empty space out of which things arose. With Big Bang theory, one posits an infinitely dense singularity out of which things arose. And this model at least empirically lends more weight to our view than the one speculated by Vilenkin, Carroll, etc. In this way, science can give empirical weight, if not confirmation, to a philosophical view, just as we are using philosophy to attempt to confirm the experiments of the mystics. This "singularity has no positive ontological status," as it is the "limit at which the universe ceases to exist," and it "originates out of nothing" itself (Craig 1995, 224). This singularity thereby overlaps with the tzimtzum as it has "zero dimensionality and exists for no length of time" and is thereby described by a "mathematical point infinitely dense," as William Lane Craig explains it (Craig 1995, 227). An ontology compatible with the Big Bang thereby requires not only a theory of the void that vanishes instantly, but also a topology of how a point becomes the finite world of three dimensions and beings that we now see. tzimtzum forms a key moment of that ontology.

However, Craig also argues that the Cantorian transfinite cannot exist in our world and that "an infinite temporal regress of event is an actual infinite"

(Craig 1995, 3). But even if our own world exhibits finitude. that does not mean it is not characterizable by the transfinite. As we have argued, this view means the world is incomplete. In this way, the Cantorian transfinite does preclude the cosmological argument that Craig wants to articulate. For Craig, since an infinite regress is impossible, then God must be posited as the first cause and cause of the Big Bang itself. What the Cantorian notion of the transfinite shows is that there could be an infinite regress, even if there might not in actuality be one. This possibility is due to the incompletion that characterizes being itself. Such cosmological proofs did not rely on infinite regress, but the idea that if time stretches back infinitely, then an infinite amount of time needed to elapse to reach this moment. But that would mean this moment would not arise, as the infinity would never find completion. However, the Cantorian infinite shows that the infinite is at once, and can be smaller or larger than, other infinites. In this way, the moment we exist in may be part of another infinite series that has already been counted. The infinite for Cantor is not based on successive additions. Arguing that new parts arise increasing that infinity does not therefore count as criticism as Craig thinks it does (Craig 1995, 32). There can be additions because there can be more than one transfinite. Also, the number of events in the past might be characterized by one infinite whereas those in the present by a greater or larger one. In fact, our memories might be a larger infinite subset of present experiences.

Craig also argues that Cantorianism is only related to a mathematical world (Craig 1995, 9). But sets arise on the basis of things that exist and the empty set is the only thing that needs to be posited for set theory to work. Also, Craig thinks set theory is undone by antinomies it leads to, but those antinomies gave rise to an extensionalist view of sets

that Craig thinks do not relate to the world (Craig 1995, 21). In this way, Craig's objection can only obtain versus an intentionalist view of sets. More importantly, since Cantor's view shows that being is incomplete, one cannot bring forth causal arguments to prove God exists. Rather, one can only refer to modal arguments that show that if contingent things exist infinitely, eventually nothingness will arise. Only God can create on the basis of this nothing. It is God's necessity and the insistence of the void rather than causality that forms proof and is compatible with Cantorianism. If being is incomplete, then it may not ever reach a first cause on a causal chain.

In this way, we agree with part of Badiou's basic critique of Big Bang ontology:

First of all, it is being as such which we are declaring here cannot make a whole, and not the world, nature or the physical universe. It is indeed a question of establishing that every consideration of beings-as-a-whole is inconsistent. The question of the limits of the visible universe is but a secondary aspect of the ontological question of the Whole. Furthermore, even if we only consider the world, it becomes rapidly obvious that contemporary cosmology opts for its finitude (or its closure) rather than its radical detotalization. With the theory of the Big Bang, this cosmology even re-establishes the wellknown metaphysical path which goes from the initial One (in this case, the infinitely dense 'point' of matter and its explosion) to the multiple-Whole (in this case, the galactic clusters and their composition). That's because the infinite discussed by Kovré is still too undifferentiated to take on, with respect to the question of the Whole, the

value of an irreversible break. Today we know, especially after Cantor, that the infinite can certainly be local, that it may characterize a singular being, and that it is not only—like Newton's space—the property of the global place of every thing. In the end, the question of the Whole, which is logical or onto-logical in essence, enjoys no physical or phenomenological evidence. It calls for an argument, the very one that mathematicians discovered at the beginning of the twentieth century, and which we have reformulated here. (Badiou 2009, 111)

The Big Bang ontology that Craig puts forth with his causal cosmological argumentation for God therefore presupposes that a whole can be made of the world (for this reason he believes there is only a potential and not actual infinite and must reject Cantor). But God is fully compatible with saving that the whole is not. Even if the world itself exhibits finitude in fact, the transfinite is the infinity as it pertains to the finite. A created world can also be non-whole and finite as we are arguing here via Cantor, set theory, etc. It must also be emphasized that the singularity is not a one in the sense of a whole and no more so than the very empty set and void that Badiou's own theory relies on. In addition, not every thing is infinite in the Cantorian sense necessarily, unless the transfinite is connected directly to the logic of the signifier. And in that way, again, it is more so about the incompletion of things than an actual infinitude of properties for instance.

God's absence from the world is also what makes atheism possible. It entails a constant atheistic temptation. But God's transcendence leaves us without other means. It means also that the least obvious thing will be monotheism and belief in God. That is why it is important to gain awareness of the

pure name in which God is revealed. Badiou himself is already aware how his thesis concerning the nature of the void and its name will provoke theologians to start to draw conclusions as we do here:

The theologians, besides, already knew that the thesis 'God is One' is quite different from the thesis 'God is unique.' . . . Thus, the name of the void being unique, once it is retroactively generated as a-name for the multiple-of-nothing, does not signify in any manner that 'the void is one.' It solely signifies that, given that the void, 'unpresentable', is solely presented as a name, the existence of 'several' names would be incompatible with the extensional regime of the same and the other, and would in fact constrain us to presuppose the being of the one, even if it being the made of one-voids, or pure atoms. (BE 90)

To protect it and prevent it from becoming one name amongst others, one must recall the absence of God. That is a precondition for our own being, and forgetting this truth is also always a perennial possibility. We can forget God since in the beginning God leaves only a pure name to remember him by. God is silent except for such a trace. And the mystic, in contemplating, calls us to remember. The ineffable nature of the divine Name also calls us to silence, to preserve how the reference remains outside it, the impossible. But also, then, all names and things is a point in a line. In each point appears the whole precisely due to the whole's being incomplete. This is how the tzimtzum is thereby repeated in a collapse and condensation found at each instance and in each differentiation. The infinitesimal vanishing point enacted in and by the mark of the void, Ø.

The residue of the infinite then is finite, but makes possible the infinite as infinite, the transfinite. The tzimtzum is not a myth. It is no more a myth then the empty set being the mark of the void is. The tzimtzum is confirmed on the basis of the principles of set theory and their implication, on the basis of philosophical argumentation via ontological and modal argumentation and what can be deduced from it. On the other hand, these ideas show that the tzimtzum is a necessary account of things. Once one reaches impasses of being itself, and on the basis of the real one confronts, only such accounts remain. But these accounts are the products of the mystic's knowledge, the experimental results achieved through contemplation of the divine Name. The Name is a stand-in for God.

§20. THE NAME AND THE NAMES

While we have now explained the holy Name, this Name does not exclude the other names attributed to God. But the holy Name we have emphasized does differ in kind from these other names/attributes. In the first place, the holy Name itself does not describe or attribute some property to the divine. It is a pure name, a pure act of nomination. It is also itself an icon, a name whose very shape and structure take on significance. Most importantly, we are arguing here that this divine name, as mark of the void and primary bit of information, forms the very material of beings themselves. Other divine names we could list either attempt to repeat what this name again does or act as predicates of the divine. The number of such divine names is limited only by what can be said of the absolute infinite. We can name the divine one the 'perfect one' or 'that than which none can be greater' in order to emphasize some property God has in and of himself. But divine names can only simply name how we perceive God and the effects of creation ('the

Merciful one', for instance). There is no one predicate for God, but rather multiple.

When you try to name and describe the absolutely infinite in terms of what it is, one is lead necessarily to an endless diversity that the absolute, which is simple and unique, does not have in itself. While the Name itself, the mark of the void, is the divine itself in this world, the divine names/attributes (in the plural) one can pinpoint are plagued by the problem of referring to and signifying the nature of the divine itself. This is not to say that the mark \emptyset is the only possible way to present the absolute name of God. But rather, when we write the Name of God with Ø or with the four-letter name of Jewish prayer or some other way, we are not writing multiple names, but the same name again and again. This one holy Name repeats in written form the ineffable nature of God, but this can be executed in more than one way. It actualizes the name of God as it is in this world, and the only way in which God is in this world as a being whereas the plural divine names do not actualize the divine, but help us comprehend it.

For Judaism, the tetragrammaton, for example, is not a predicate or attribute that attempts to describe how God relates to what is created or the manner of God's perfection, as Yehuda Halevi explains his Kuzari (Halevi 2003, 67). But any other divine name/attribute either attempts to describe again the inherent nature of God as absolute and creator or to describe God's relation to the creation and to us. For instance, God is called "merciful if he improves the condition of any man" (Halevi 2003, 68). That is to say, as God created all, if one's condition improves, one sees in it mercy. But in no way with this differentiation between the Name and divine names are we trying to differentiate between the God of religion and the God of Philosophers, the God of Abraham, Isaac, and Jacob and the God of Aristotle,

etc. For us, there is no distinction between the two. In prayer, one reaches out to a metaphysically understood creator as much as one does to a merciful figure that hears one's prayers.

The divine names thus answer the questions 'who?' and 'what?' in way that a pure proper name does not. Marion thinks that "the divine names have no other function than to manifest . . . impossibility," the impossibly of having full knowledge of God (GWB 106). But even though the names are plural insofar as none fully can comprehend God, only the unique holy Name indicates such an impossibility in its very name. It is only the holy Name that in and of itself notes that God is unpresentable and beyond. We are ignorant of the nature of God, but at the same time are able to form predicates that both indicate that fact and confirm the little we do know. Admitting our lack of total knowledge of God is positive, but even in negatively saying what God is, we still confirm some limited knowledge of how God is in himself or how we relate to God. This view does not deny then that when we try to affirm something of God (some particular quality), that our predication does not fail in many ways. In addition, when we deny something of God (for instance, that God is a being), we speak truth. Also, when we say that God is that than which nothing greater can be thought, we again speak truth, even if we do not fully grasp the implication or meaning. In this way, while negative theology must always risk appearing as atheism insofar as it denies, for instance, that God is a being, this is but a consequence of negativity which still in its negativity contains a positive determination. Negative theology still affirms and must do so. It contains not only a desire for God, but also an affirmation, for instance, of this transcendence as such, of negativity as such. While it affirms an absolute Other, it affirms the necessary tension between denial and attribution.

This is also the danger of any name. A name makes it appear as though we have a thing. But any name of God denies and annihilates this possibility at the same time as God is truly nameless. And this namelessness also is what necessitates that we will have names that will both describe God and God's relationship to us and to all creation, for no name is truly ever able to capture God. It may be an attempt to say how God is or how God is for us. In this way, divine names as adjectives may not be truly names. They are not proper names as such. One's proper name does not describe one. However, when we call a person 'Shorty' we do not so much attempt to describe them as to refer to them via term of endearment or insult. However with God, we turn properties into attempts at names, dissimulating names, because we seek a way to address God, also to discover more importantly how we are addressed. The only unique and proper name is the Name whereas the names are inadequate and yet reveal truths concerning the divine.

We are here taking issue with Maimonides's engagement with divine names. Maimonides wants to preserve at all costs, in any act of philosophical argumentation, the idea that God is unique and beyond anything that can exist in this world. For this reason, whenever we say something of God (for instance, that God is merciful) we do not say what God is, but only that God is not merciful the way a human is for instance. We only say that God is not cruel. For Maimonides, directly affirmative statements concerning God are secretly denials about God. Given the manner in which God exceeds human knowledge we can only continually say what God is not. If we were to compare God to humans more directly for Maimonides (for example, if we were to say that God is more merciful than humans), then we risk seeing God as one being amongst others and on a scale that

goes from highest to lowest. For Maimonides, God is off the scale itself. But even negation here has a positive dimension, it tells us something true.

Maimonides also wants to emphasize that God is beyond all emotions as God is not corporeal in any way. In this way, when we say that God is 'compassionate', then we are only deriving this idea of compassion from what humans know and do and thereby risk hiding that God is totally different from precisely due to God's perfection (Guide I.XXXXV). To God cannot be compared with creatures made of flesh and blood that exist in space and time. Our understanding is very limited to negating whatever we think of God (Guide I.LVIII). But Maimonides still affirms that we can know God by his effects, by his creation, even if for Maimonides this is true because these effects follow from God's nature, rather than truly being part and parcel of God as such (Guide I.XXXIV). In this way, we can derive certain truths about God via the world and its very existence. even for Maimonides. This means that saving God is creator is already to know something true about God that can be affirmed. For instance, to say that I am a human already negates that I am a leopard or house. Also, for Maimonides it is positive knowledge to say we know that certain terms must be understood negatively. We do increase in knowledge when we say that God is not a creature or like a creature or being, even if we deny that God exists as a being or like a spatially extended substance. If, by saying that God is merciful, we really mean that God is not cruel we have increased our knowledge. But if we speak only of how we are affected by the world, we have also spoken of God as well.

¹⁷ Citations of Mamoinides's *Guide for the Perplexed* are cited throughout by part and chapter numbers.

For Maimonides, part of the danger is that by affirming any attributes of God we will also think that God is complex rather than simple. But this is not a problem when these attributes are a matter of how we apprehend him. As for God himself, any attribute recorded would only have to be compatible with pure simplicity. Maimonides also believes no property we speak of is truly identical with God. That is, God is not mercy itself. God is not necessity itself (recall here one of the criticisms of the ontological argument). But if we say God is all-knowing, we do not say that God is knowledge itself since there can be imperfect forms. And if we were to say that God is Goodness itself, it is only due to Goodness being transcendentally interchangeable with the other key properties of God.

Our position here is closer to Maimonides than to Aguinas. Aguinas sees divine names as showing how creatures are analogous to God. A person can be merciful; God is most merciful or perfectly merciful. The term 'merciful' is here used in two ways (that is, equivocally). For Maimonides, it is a total equivocation such that one should not really even say God is merciful. For Aguinas, it is more so a question of how one and the same term can be said of creatures in a less than maximal way and for God in the most exemplary way. And in this way, Maimonides is right as the total transcendence of God must be perceived. The holy Name marks God's withdrawals. The divine names would describe only something they truly cannot. Aguinas thus still places God on the scale (Seeskin 1991, 30-31). There is only a difference of degree for Aguinas whereas there is a difference of kind for Maimonides (Seeskin 1991, 30-33). But that does not mean we cannot say how God is. When we look at creation, we do not say that it is not that God is creator, but just that things are created and in their creation call for a creator. We say that God created. In this way, not every discussion of God's properties can

be a discussion of God's effects on the world (Seeskin 1996, 35-36).

In addition, Maimonides does not listen to the mystics of his own religious tradition (and it was partly for this reason that Kabbalah exploded discursively after Maimonides) who reveal to us in part how God does in fact create the world. God's creation may be good and therefore God is good, but we can also say that God created the world using numbers and letters. Also, God does not depend on creation. God insists beyond creation. It is for this reason that the via negativa of negative theology has already required three steps. First, one says God is merciful. Then one negates this name by noting how God is not merciful like a human, as God is not a being, not corporeal, etc. In the final step, one negates that negation by noting how this mercy follows from God's creating and that God has only one pure proper name. Here, the path of negative theology attempts to have names as both attributes and proper names at the same time (the Merciful one or most Merciful one) by turning adjectives into names.

Divine names are problematic for they attempt to enact a language for the unnamable. They therefore try to name without naming. But this problem does not escape the Name. As a purely proper name, it also has the problem of never belonging essentially to what it names. No proper name of a person belongs to that person. And the Name of God also is not God and separate from God. This is yet another reason that the tetragrammaton is not pronounced, since it is not fully appropriate to God. For this reason, we try to note who a person is by describing them. We attempt to do the same with God. But in the case of a person, their otherness as other escapes, as Levinas points out. So does God as absolute other. The proper name indicates and adds on, even to a person. But whereas the proper name marks how the individual remains before us

even though their otherness is hidden, God's name marks that God is fully withdrawn and only leaves behind a point, a name, a mark of the void. The pure name marks God's withdrawal. The name of a person however can evoke that person and call them forward into presence. When they come upon us, we can greet them with it. But in prayer when we list divine names of God, we do not call God forth to us in this way. Rather, the very iteration and reiteration of names empties them of meaning and predication to the point that God's very absence and insistence beyond them is marked. Laclau uses an analysis by Scholem to make this point:

Now, how is it possible to express the inexpressible? Only if a certain combination of terms is found in which each of them is divested of its particular meaning—if each of them does not express but destroys the differential character of that meaning. We already know the way in which this can be achieved: through the equivalence. I will take as an example one of the cases studied by Scholem: the litany haadereth vehaemunah Zehav olamim, to be found in the "Greater Hekhaloth" and included in the liturgy of the High Holidays. I quote its beginning: "Excellence and faithfulness—are His who lives forever Understanding and blessing—are His who lives Cognition and expression—are His who lives forever Grandeur and greatness—are His who lives forever Magnificency and majesty—are His who lives forever Counsel and strength are His who lives forever" etcetera. The other attributes of Him who lives forever are lustre and brilliance, grace and benevolence, purity and goodness, unity and honour, crown and

glory, precept and practice, sovereignty and rule, adornment and permanence, mystery and wisdom, might and meekness, splendour and wonder, righteousness and honour, invocation and holiness, exultation and nobility, song and hymn, praise and glory. (Laclau 1997, 17)

This is another way to achieve the desired goal of negative theology. In repeating divine attributes, we do not grow in knowledge, but rather, as Laclau emphasizes, all the terms are made "equivalent" and made to refer to a God that transcends them—something beyond these names that can only be accessed and indicated for us by listing these failed names (Laclau 1997, 18-19).

For us, God can only be noted via particular experiences of names that fall short of the absolute itself (Laclau 1997, 19). It is not enough to say God is transcendent, but one must insist on repeating divine names. This is the way that the philosophy and religion differ, as philosophy would be content with just noting a thesis. But the same God is at stake. These divine names/attributes do not tell us what belongs to a thing, but indicate the absence of a thing that has withdrawn from this world and that insists beyond it. However, the properties of a thing that belong to a thing are supposed to explain it. God's not being a thing makes this action problematic. But we can still say what reason requires us to of God in himself (e.g. perfect, necessary). If we could not, we would risk having many gods. It is the monotheistic intervention that says that all the different possible attributes we truly attribute to God and that we refer to God based on God's effects refer to one and the same thing and in many cases are interchangeable. Otherwise we might have those who think there are multiple gods. We can also say we know of God based

on the fact that there is a creation and it requires this creator. And we can also discuss how God relates to us even if we do not truly understand God.

Kabbalah calls God nothingness [avin] because of a lack of proper attributes. God, in order to reveal himself, does so only through a pure name and through creation via numbers [sefirot] and letters that follow from this name and themselves involve infinity in their finitude. Calling God absolute [eyn sof] means God is not determinable as something finite. The finite can in many respects be understood and fully so. God's infinity lies in being unfathomable. For Kant, things in themselves are unknowable, but that view risks disseminating a negative theology of all things. However, a thing itself, as extended, will have limited known properties. Also, saying that God is not often leads us already onto the right path. We take the Kabbalistic determination of God as infinite [evn sof] not to mean that all things are God. And in fact, all did not proceed from the one, but rather from its withdrawal.

Also, many want to see God as a unity of contradictions. God would then be both the whole union of beings and nothingness at the same time. But against this view we have argued that one must make choices. God is not both all-knowing and ignorant at the same time, for example. God is not the union of all including the opposite. If God's being eyn sof means there is nothing physical or corporeal about God, then God does not have presence in a physical world but is thereafter withdrawn from it, rather than filling all places. There is a place empty of God. God's Name may be present in all things, but not God himself. All things may be connected due to their being created in through the tzimtzum, but that meant there is a distinction in all between the universe and God. All is not one. One cannot predicate everything of God, even if God has a long list of divine names/attributes. As

opposed to Spinoza, God is not an infinite extension, ¹⁸ but his Name may be.

¹⁸ I agree completely with Badiou's critique of Spinoza and have nothing to add to it (*BE* 112-22). While I will later take up a Spinozistic viewpoint on the irreducibility of matter and mind, I reject Spinoza as a pantheist in general and in particular due to his inability to think the transfinite and the void.

CHAPTER THREE

'From It to Bit': Informational Ontology

§21. ALL IS MATHEMATIZABLE

On the basis of this holy Name we have attempted to isolate and identify that creation occurs. But how does creation occur on the basis of the mark of the void? It has already been hinted that such an account depends on seeing all as mathematizable, seeing the holy Name as the primary bit information. In this way, it will not be enough to evoke this idea, but rather we need to formulate a clear ontological model for it. This means doing no less than trying to philosophically articulate the insights brought to us in Sefer Yetzirah, that the world is created in and through letters and numbers. Such a view first means that, as Galileo would put it, the great book of nature is written in a language. That language is mathematics. But by mathematics, one means more than just numbers, one means letters, differential relations, etc. For Galileo, the mathematical laws that grounded the workings of nature were supported and created by God. But we want to contend something perhaps more radical—that the world of nature is built up out of the very holy Name of God himself. That is, it is not that God simply created an ordered world expressible in exact figures, but that the world itself is built up out of the elementary element produced by God in creation as we have described it so far. It is not a matter of saying that mathematics, numbers, letters, etc. can represent or symbolize what is (we are not proposing a representationalist model), but rather of arguing that all is expressible in terms of numbers, letters, etc. because all is made of them: "He engraved them, He carved them / He permuted them, He weighed them, / He transformed them, / And with them He formed / every letter in the Universe, / Seven days in the Year, / Seven Gates in the Soul, / male and female" $(SY\ 4:6)$. This is essentially a position the Kabbalah itself requires: "If God spoke the world into being, the divine language is energy; the alphabet, elementary particles; God's grammar, the laws of nature" (Matt 1998, 28). The claim is more radical than arguing that things can partially be expressed as an equation (that for instance, how a rock falls can be expressed as an equation).

One way to think about this expression is via the celebrated 'wave functions' of quantum physics. The wave function succinctly expresses the essential features of all that is known and knowable about a quantum event or system. Equations express the relations that obtain amongst quantities and between things. One can take what one witnesses and put them into symbols. But one needs to ask why these expressions involving numbers and letters in and of themselves can comprehend the things they stand for. We contend it is possible because the things they stand for are already made of such matter. Formulas thereby must take on a real existence, rather than that of an ideal mimicry or reflection. Mathesis is poesis in and of itself and not fundamentally a mimesis (although it can play this role epistemologically). The question then shifts from an epistemological one to an ontological one. In the past one asserted that numbers and mathematics are vital because one can know the world through them, yet this is only possible because their very being is made of numbers. We do not mean here just that physical objects can be counted or that human perception projects unity and numbering onto

a pre-existing world. We also do not mean simply that things have physical properties such as shape and proportion that can be measured. Being measured is allowed by a thing's being numerical in its very being.

The revolution Galileo and others inaugurated by literalizing the world, subjecting it and expressing it via numbers, merely revealed a truth already at work. It is not one dimension of the world, but the world itself. Many will agree that Descartes, for instance, helped us to see the matter of the world as defined primarily by its being extended in space. They will say that Descartes idealizes the world of matter and bodies by seeing them as pure extension in this way and therefore purely amenable to geometry. This is not a trick that Descartes or someone else pulled on us. Rather, the volume and shape of things can be expressed using the equations of geometry because that is the very nature of their being. This view is counter-intuitive insofar as intuition and the 'natural attitude' tell us that the world of matter is something primarily known by the senses and thereby seemingly something that exists in and through itself. But matter itself can be seen at its most elementary level to be comprehended by mathematical operations. Physics itself deals with the material world only in and through applied mathematics. Science deals with patterns, but this is not an idealization of the world insofar as the world itself is already ideal. The possible patterns that express relations have a reality of their own as the very things we see, touch, etc.

Whether or not there is a single pattern for all things (for instance a wave function comprehending the whole universe) is a separate issue (we will address it when addressing the work of Stephen Wolfram). For us, it would be the expression of the divine Name in its initial articulation at creation. But we may not be able to express this name ourselves, since it might require the whole universe to do so. If

there is one possible pattern for all that is, it is not a matter of finding it or expressing it as a representation since the world itself is the thing. It would require a reproduction of the world itself. But that a single pattern detailing the ordering of all objects may not be possible in this world does not exclude that the universe itself does this. It simply means that one should not look for a representation of all within the world. The very incompleteness of the world may even preclude it. An entire universe of mathematical objects representing all the possible expressions will not contain one expressing itself, etc. But that again is why it is not a matter of detailing representations, but how the world itself is already created from number.

On the other hand, if one can express things in a pattern or equation, then one can show it is possible to articulate it. A "clear and precise symbolism" for expressing "any possible thought" was already dreamed bv Leibniz and called bv "characteristica universalis" (Moore 2001, 64). For Leibniz, all could be known and evaluated via such symbolism and calculation, as he lays out in his Dissertation de arte combinatoria of 1666. It should not be surprising that Leibniz was directly under the influence of the Kabbalah and Kabbalists (mainly Christian ones by the way) when articulating this mathesis universalis, a universal and purely symbolic language that often called a 'cabala of the learned' [cabala sapientium]. 19 But Leibniz did not study his

¹⁹ While Leibniz was the first to envision a version of what we are trying to articulate here, Leibniz's own metaphysics as far as I can tell does not attempt to do so. Leibniz's own monadology is built on the notions of identity (A=A), noncontradiction (A is not not-A), and sufficient reason (there is a reason for everything). Here, Leibniz is basing his theory on traditional subject-predicate logic rather than any sense of coding or computation by way of syntactic information. In this way, Leibniz can take a notion like that of Julius Caesar

Kabbalah closely enough, as he only searches for a universal formal language that will represent our thoughts distinctly and clearly via calculable symbols. In this way, Leibniz did not take the more radical step of seeing reality itself as made up of these symbols, rather than just being expressed by them. While Leibniz does endorse the idea that God creates the world with a well-made language, he sees one as only being able to express this language rather than take the world itself as a language. Also, Badiou criticizes Leibniz for allegedly hunting "down the void with the same insistence that he employs in refuting atoms" (BE 327). But what Badiou misses here is that saying that all can be mathematized does not necessarily involve refusing the void, since numbers themselves are made of it. While Leibniz may have difficulty with the indiscernability of the void itself and thereby does not want to admit it, the undifferentiated ultimately leads to the differentiated and that action is what grounds seeing the world as structured by number

and list all the predicates of any nature belonging to Caesar (crossed Rubicon, defeated Gaul, born by Caesarean section, a particular height, etc.) and see all these predicates as contained within the concept. Caesar is then a set certainly, but one only including such phenomenal, historical, etc. predicates in this logic. Caesar is not his DNA, a rule or program, a real pattern, a mathematical set of relations, etc. for Leibniz. That is, Leibniz does not ever attempt to say Caesar is computation by using some non-representative and non-semiotic set of code. In this way, while we do not disagree with Leibniz that a figure is a list of all these concepts as a set, the set must also include the code. To take a crude and inadequate example (but instructive nonetheless), Caesar is his full DNA sequence. One can list it as one of the items in the set. This is not to turn the set into something other than an extensional one since the basic nature of such a set allows it to contain anything. Rather, it shows how a full rendering requires the set contains a program, rule, and/or set of mathematical relations as well.

itself. As we have tried to argue, one can hold that "indifference" is prior to difference and still maintain the essence of Leibniz's universal mathesis, for the incompletion of the world does not exclude its being created (*BE* 326-27).

While Badiou thinks that Leibniz excludes "the indiscernible, the indeterminate, the un-predicable" (BE 318), these things necessarily exclude themselves, as seen in the void disappearing into its mark. Badiou himself admits that "presented in-difference is impossible." But we can take Badiou's criticism of Leibniz here to be not that Leibniz is not a realist, but that Leibniz does not allow that differentiation arises from the void itself, from a pure name. And in that wav Leibniz's learned Kabbalah forgot a lesson. But Badiou is wrong in saying that "God cannot tolerate the nothing which is the action" and cannot tolerate "two indiscernible beings" if we take this statement as true outside the context of Leibniz (BE 318). God is not a "complete language," as Badiou contends that Leibniz claims, but rather in creating the world via his holy Name, God creates it as an incomplete language marked by the signifier. Such a conception would always have superfluous extras that repeat the same things. It does not exclude noise. God is himself the unnamable surplus that founds the world. And as we noted, God can be named by the sign of the empty set or the name given to him in the Hebrew tradition. Both names are thereby indiscernible from each other and vet are noted as two.

We will return to these considerations when discussing the nature of what Badiou calls the event and its relation to the Name. But at this point it is enough to say that God's creation of the world does not require a "complete language" as Badiou claims:

Being and meaning are made to coincide only insofar as the name, within the place of

the complete language named God, is the effective construction of the thing. It is not a matter of an extensive superimposition, but of an ontological mark, of a legal signature. In definitive: if there are no indiscernibles, if one must rationally provoke indeterminate, it is because a being is internally nameable. 'For there are never two beings in nature which are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic nomination.' If you suppose a complete language, you suppose by the same token that the one-of-being is being itself, and that the symbol, far from being 'the murder of thing', is that which supports and perpetual its presentation. (BE 320)

Badiou here attempts as it were to make Leibniz be more of an ontological Kabbalist than he is. Leibniz does not see being as nameable in this way since he sticks to a representationalist model. In addition, that being is nameable does not require a complete language, but rather an incomplete one insofar as the name itself through the signifier requires a transfinite marking. This signifier is what makes it possible that two sets can have all the same elements and still be marked as two sets as the set itself is a framework independent of the elements aggregated in it. And the signifier itself is not necessarily part of a representationalist model.

§22: THE HOLY NAME AS THE PRIMORDIAL BIT: AN ONTOLOGY OF INFORMATION

To show how this model of creation presents the world as made out of number, we need to refer again to the holy Name as the primordial information bit

since it is via a theory of information that we will see how we speak here not of models, but of information itself as the very being of the world. Jacques Derrida, in *Of Grammatology*, contended that "the so-called 'thing itself' is always already a representamen" (Derrida 1976, 49).²⁰ Derrida here argues that anything we perceive or conceive is already mediated by the signifier and thus by conceptual determinations. But Derrida does not take the further step of arguing that, ontologically, things themselves are represented because they are, in their being, really made of

Let's be clear. We are not arguing for a version of representationalism. Representationalism is based, as Deleuze would say, on resemblance, identity, analogy and opposition. For instance, a painting of an apple represents an apple because it resembles it somehow. Representation is thereby stuck in the logic of mimesis first systematically formulated by Plato. As a shadow of a dog resembles a dog we see and/or the one we imagine, the concept is the perfect exemplification. But code or a rule does not follow this logic. DNA for instance is not identical to me in the sense of being a perfect analogue or resemblance. One thereby breaks with representation by not having degrees of being ordered along these terms. Also, if one posits that there is some thing in-itself beyond mental representations of a thing, one is still within the logic of representationalism. Making the difference between concept or mental imaginings and thing the very heart of things is imprisoning us in the very representationalism Kant systematized, as if some shadowy substratum identified with the true thing is forever withdrawn all we have are representations. Stating there is a thing rather than code or quantum wave functions is to remain with the idea that there is a series of analogues in this fashion. The digital concept is of course not analogue. Ultimately and literally re-presenting a thing (bringing it back to life from the dead for instance) involves a breaking with this logic of representation both insofar as one has an emulation of that thing and not a likeness and insofar as it occurs by way of a program that relates to the in-itself as pure differentiality.

differences, that they are ontologically constituted by the signifier. Kant already hinted at this direction when he argued that our own minds play a constitutive role in determining the nature of reality. In this way, a purely mimetic view of reality gave way to one constituted by the poesis of the human mind. But the human mind is itself a limited way of engaging with a world that always exceeds it. Even Kant had to presuppose things in themselves that transcend how the mind makes work of reality.

It is our contention that the very thing in itself is constituted by the signifier, by information. This idea is as old as the Kabbalah itself and also found in other traditions. For example, John, one of the authors of the Gospels, says that the logos is the divine source of information which creates the world by ordering it via distinctions (John 1:3). This gospel thereby picks up on a Gnostic tradition wherein the informational patterns combine to form things on their own. Given that John [Yochanan] came from the land of Israel might mean he was influenced by sources such as Sefer Yetzirah (said to have been first composed by Abraham himself over 3,000 years ago and passed on orally). In any event, what we are proposing here is not necessarily new, but we hope at least to give new philosophical and theological foundation to the idea that an information matrix forms what emerges and thereby constitutes the very basic fabric things.

Aryeh Kaplan, the translator of *Sefer Yetzirah* and eminent disseminator of Kabbalah, emphasizes how this central text is about the ontology of information itself by noting how the writing that constitutes the world via the *tzimtzum* involves the actualization of information (*SY* 32). The "letters and digits" of which *Sefer Yetzirah* speaks form the "basic bits of information" that through their engraving enacts creation itself (*SY* 143). Vlatko Vedral notes that information itself can replace mathematics as the

language in which the very nature of things is expressed:

Here is a quote from Galileo clearly expressing the view that the truths in the Universe are coded into mathematics: 'Philosophy is written in this grand book-I the Universe—which continually open to our gaze, but it cannot be understood unless one first learns comprehend the language in which it is written. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures, without which it is humanly impossible to understand a single word of it; without these, one is wandering about in the labyrinth.' But we want to go beyond Galileo's sentiment in two key respects. First, we want to information instead of geometric characters. Second we want to explain how information in the Universe arises. Once the information is decoded and compressing into appropriately defined laws, we can then understand our reality according to the information encoded in these laws. The laws themselves must be an integral part of this evolving picture. Otherwise we are stuck in an infinite regression. The universe can rather be seen as an information process, in other words a gigantic quantum computer. (Vlatko 2010, 191)²¹

²¹ Some might take issue with our argument that the universe is a computer. For instance, they might argue that computer programs run instructions similar to logical rules and steps (If x, then y; if y, then z; etc.). Since we are arguing that the universe as computer is founded by the holy Name

of God (and its elaborations) and identify this name as the mark of the void, they would say that all we have is a name or at best bits rather than instructions as in a program. At most such a name can merely repeat itself or lead to a repetition of the same without further instructions. But the bit itself is already instructions. That is, 0 means off and 1 on in its most basic meaning. To speak about a string of bits, such as 01110 for example, is already to have instructions indicating what should be of one type rather than other. Also, to think of a program as a set of rules would mean that God is constantly commanding things to act as they do rather than them unfolding on their own. If the universe is a computer, and it must have rules and instructions in this already developed sense, then we more so have a model where matter already exists and through some act of commanding or active manipulation it runs as a computer. We reject this view inasmuch as we reject the idea of eternal matter. To anticipate the snowflake example we take from Wolfram, there the patterns of a snowflake arise precisely via a string of instructions for just freezing or heat-release. In this way, each part can correspond just to an on/off command. One can also think of things on the relation of language. A statement like 'if x then y' is already fairly advanced. The core of language of itself arises from phonemic opposition itself. In the initial phonemic opposition a child first acquires one has the seed of all that will be spoken. The name of God already as YHVH can be seen as a string of bits and commands. Each letter would itself represent a bit then. Whether such a string of commands would produce the sort of complexity one sees in Woflram's 'Rule 30,' only an experiment would say. But a name itself can be a command. How this command would relate to moral and behavioral commands would be another topic in and of itself. But at this point, I think we can say that it is part of the holy Name itself being a program that relates it to commands. All religious commands in Judaism for instance are done in the Name of God. Also, some might think we are collapsing two distinct ideas into one: the holy Name as mark of the void and as program. But these are two aspects of the same thing. As pure mark YHVH can be the mark of the void, but it also can itself express as a program.

Beyond seeing the world as expressible mathematically, Vlatko represents a new tendency in physics and science in general to see information as the basic language of nature. But more so, to avoid an infinite regress, we need to see the universe as composed of information. The universe as a gigantic both information as computer is software and one and the same time. hardware at information is itself a physical pattern as much as an ideal one. Anything on any level that is thought, imagined, felt, touched, etc. can be rendered as information and more as a pattern of bits such as those processed by computers (01).

This information itself is not necessarily linguistic in nature, although words also form one version of it. As Badiou puts it, "the notion of information" we are working with is "that of a code," something "differential" (*BE* 362). It is not the idea of information in any semiotic sense where one thing represents another (for instance, smoke indicates fire).

In this way, even if we say that God's Name is primordial bit, this does not exclude it also from being made of a string of bits and commands to form the program out of which the universe unfolds. Such a program, if it cannot unfold from a single bit, is itself made up of multiple such elements. In addition, we have argued that the world is created via numbers and letters. And it is by such letters and numbers alone that we have rules. For instance, a rule can be abcbac. This string of letters can simply read as [a,b,c] then [b,a,c]; that is, just from a string of letters one has a rule for switching them around. The 'then' aspect is itself immanent and implied in the string. Given that letters are numbers in Hebrew, we then already have them in play. Also, the string can be take itself as a whole and thereby a mark. In this way, we return again to YHVH as both mark of the void and holy Name of God/rule/program. Keep in mind that the Torah itself was given to us without any punctuation marks. It is in itself just a string of letters.

This is then the idea of syntactic information wherein the elements, signs, and features work regardless of any possible reference to things in the world. This type of information transmits, displays, processes, etc. symbols regardless of what they stand for. Information embodies relations and the transformation of those relations. What we encounter does not appear random. It involves distinct patterns. But bits can also be ordered randomly if need be, just as numbers can be generated randomly. But this information is not a parallel universe. Rather snowflakes only emerge when water molecules appear in arranged patterns and in this way the molecules themselves function as differential informational entities. For this reason, the bit is the best way to represent things, as the traditional bit is simply the differential relation between 0 and 1, on and off.

Our rejection of semiosis will seem strange to many since information, even as coded bits, is taken by many to mean information as instructions. That is, the software one installs on a computer tells it what to do. Bits themselves as the expressions of on/off relations may seem to simply involve actions. But the universe as computer is both hardware and software at the same time. Things do not need to receive instructions to be. They are those instructions. Think again of genetics. The genes exist as constantly unfolding processes that do not need to commanded by something outside of them, but rather are information encoded unfolding itself. Like all that is, these processes are ultimately traceable to the act of creation itself.

There is nothing about information processes that allow for one to differentiate between them and physical or mental processes. The very features of our world are computations and they are manipulable and intelligible as such. We here have the notion of information that Claude Shannon first encoded. Bits

work without any reference to what they are 'about' or even that these bits are supposed to refer to anything. Any difference can be encoded in such bits, and such bits can later be said to represent or refer to something.

The semiotic concept of information is always already dependent on the differential and syntactic idea. Recall that for semiotics the sign is always triadic in nature. The sign not only stands for something beyond itself, it does so for some mind that interprets it. The sign in semiosis is therefore in many ways another name for causality or the interpretations made by mind. Smoke causes me to think of fire. It is also a question of epistemology and whether one thing can indicate something about another, a referent. The sign relies on this mind to exist in the first place. All the causal interactions of the world, such as a rock bearing the signs of a previous volcano, can only become meaningful when related by a mind. Semiosis is thereby dependent on humans who can differentiate between signs and things. That is to say, semiotics is already a conscious observation on what is presented rather than the substance of things themselves even if other living things for example receive signals and signs from the world and process themselves. One first needs differentiation itself before one could ever say smoke indicates fire otherwise all would be a blurred monolith.

Bits are intrinsic to the world, but the world as a set of references and objects is not intrinsic to bits and information. David Chalmers emphasizes this definition of information in his own work:

. . . which I will call *information states*, and a basic structure of *difference relations* between those states. The simple nontrivial information space is the space consisting of two states with a primitive difference

between them. We can think of these states as the two 'bits', 0 and 1. The fact that these two states are different from each other exhausts their nature. That is, this information space is fully characterized by its difference structure. (Chalmers 1997, 278)

What Chalmers here calls an information space is the space of the world itself. All that is is always structured in itself. If this is what Derrida meant by saying that the thing in itself is a *representamen*, then we agree with Derrida. However, Chalmers thinks that such information spaces are only "abstract" and "not part of the concrete physical or phenomenal world" (Chalmers 1997, 280). But this is because Chalmers himself remains wedded to a representation model. He thinks that information is something we consciously abstract from the world without considering that what makes possible this expression is that the world was always already an information space in itself.

All that is is ultimately discrete. It is that discreteness that makes the universe possible and allows it to be modeled. We can then compute how the universe itself changes and develops. But this ability does not mean that we need to differentiate between an abstract space of possibilities and the actual thing. The actual thing is already made of differences, information, bits. Again, we should not confuse the fact that we can represent things digitally with the idea that the digital thing is just representation or model. Things are computing. The universe itself is the computer that digital information and all physical, computes mental. etc. phenomena arecomputations. The universe is the computation, in our terms, of the holy Name of God and its complications. The bit is not only the simplest possible model. It is the substance of things. At any level we choose

(atomic, molecular, galactic, etc.) there are differences between states. The physical world is not something that we abstract from and then compute. It is already itself a computation. We therefore see our view as overlapping with what has been called 'ontic pancomputationalism.' All systems whether physical, mental, spiritual, etc. if they are of this world then they are computational in nature. It is not that computation comes before the physical, but that the software of the universe is also its hardware. Anything we see is a computation entity as much as anything we think. The universe is built up from differential bits. Atoms and the subatomic are not then any more fundamental then trees and texts, as both are built up from these same information bits, 0 and 1.

To recall the Pythagoreanism and set theory elaborated above, all is number, sets, and bits. It is the same ontological orientation. This view was perhaps best first formulated by John Archibald Wheeler (although perhaps Konrad Zuse first had the idea of the universe as a computer and first formulated digital ontology). Wheeler wrote, "the building element [of all] is the elementary 'yes, no' quantum phenomenon. It is an abstract entity. It is not localized in space and time" (Wheeler 1982, 570). For him, the bit is not in space and time because space and time articulate themselves in and through bits. It is not just that the laws of physics can be formulated as information, but that all that is is in differential states that give rise to effects. And it is only the differentiation that makes up things and the position of things that allows for space itself. Space is not an empty container. Time is also not a container. Time might seem to us to be continuous and interrupted. But just as a movie is made up of frames so things are made up of discrete instances that in their computation and elaboration give rise to the idea of spatial and temporal continuity.

Many here would believe we are just confusing the things in themselves with the information that represents them. But this is not an inversion, as along it was information that allowed for things themselves to arise. Physics and computer science show us this endlessly, for instance, in the way that computers allow us to grasp on a screen a thing such as the very text I am writing. Wheeler explained:

every 'it'—every particle, every field of force, even the space-time continuum itselfderives its function, its meaning, its very existence entirely—even if in some contexts indirectly—from the apparatus-elicited answers to yes-or-no questions, binary choices, bits. 'It from bit' symbolizes the idea that every item of the physical world has at bottom—a very deep bottom, in immaterial instances—an source and explanation; that which we call reality arises in the last analysis from the posing of yes-no questions and the registering of equipmentevoked responses; in short, that all things physical are information-theoretic in origin and that this is a participatory universe. (Wheeler, gtd. Gupta 2010, 159)

The most primary bit is the holy Name made from the *tzimtzum*. It is this event of 'symmetry breaking' where without any other use the divine decides on the basic path the universe will take. But it is this first act that sets things in motion and the effulgence of bit after bit. *Bits come from nowhere*. There is no prior information telling us how bits should be formed and ordered. Only God is required so that information can be created from emptiness itself. There is no infinite regress as information itself is founded on nothingness, on pure indifference. There is no more

fundamental law or moment than creation itself, and creation itself is about the informing of the bit.

Think here of four states (00, 01, 10, 11), these states require two bits alone to be registered, but eight states will take three bits and so on (Lloyd 2007, X). In this way, just by a complication of 0 and 1 one can reach an endless amount of information. And information is unique here. If we were to see in creation the formation of matter, energy, light, etc., these ideas are themselves divisible, not made of the void itself, not something that by their very natures can be seen as arising from nothing. For this reason, the way in which numbers were created out of the empty set is not just a model or idea pertaining simply to the numerical itself, but to the entirety of creation. Out of zero information, the empty set, we receive all the numbers just as we receive all that is insofar as it is made of bits. A transfinite amount of information can be obtained from the initial zero information of the void—but only if the divine plays the key role of Creator as from nothing otherwise comes nothing. As Seth Lloyd puts it, "In the beginning was the bit' (Lloyd 2007, ix). Lloyd expands on this idea here by saying that "things or its arise out of information or bits," whether it is the genetic code that "programs the structure of future apples trees" or the themselves that make up the molecular structure of DNA (Lloyd 2007, xi). For this reason, Lloyd calls the 'big bang' the "Bit Bang," as before it there was nothing, no energy, no space, no time, etc., since to generate more information one needs differentiation (Llovd 2007, 45-46). The big bang happened everywhere. It says the world has no center. But as we are contending, this is not to say that all is one as a whole, but rather that all is one as marked by the transfinite. This is the idea of the 'Bit Bang,' which shows that the signifier, the differential, is what is there at the start.

A state of emptiness is a state needing no bits to describe it. Yet Lloyd and others do not see the need for the divine in order for such a state to lead to information, as its paucity of information would simply remain the same, in a simple state, as Leibniz perhaps the difference between thought. But philosophers and physicists is that philosophers by nature ask 'why is there something rather than nothing?', especially if a zero state is one that is simple and one in which nothing can be described or arise on its own. Lloyd contends that the universe is a computer and that it has been computing from its first instance, but also argues that only a computer the size of the universe itself "can accomplish what the universe does and thereby we cannot predict the future or anticipate by building a computer that does the work of the universe itself" (Lloyd 2007, 4). In other words, "the universe is a physical system. Thus it could be simulated efficiently by a quantum computer—one exactly the same size as the universe itself" (Lloyd 2007, 54). But short of the universe itself, there is no reason why elements of it could not also be simulated or possibly emulated. A "prefect depiction of the universe is indistinguishable from the universe itself" (Lloyd 2007, 153), but such description would require the universe itself as a whole for the description. But if all can be digitized and that means that it is marked by incompletion, limited aspects such as physical being can be described in full. As Lloyd himself notes, there is a finite "number of bits required to specify the microscopic state of [an] apple and its atoms" (Lloyd 2007. x).

Lloyd here introduces quantum physics into the picture. We already met this viewpoint when we discussed how the wave function can express the reality of things by noting in one mathematical space all possible outcomes and positions of a thing.

Quantum physics holds that there is no true being of a thing, as its wave function contains all its possibilities. In some amplitudes a thing expresses itself in one way and in another a completely opposite way. The wave function therefore has an amplitude for every possible state. This theory therefore seems to introduce the wave function as the most fundamental aspect of realty. All things are ultimately wave functions. There are no atoms or molecules or cats (Schrodinger's or someone else's) in addition to wave functions. The wave function comprehends things.

This idea can also be expressed via what is called the 'qubit.' This new understanding of the bit captures the idea that there is a superposition state in which 0 and 1 can both occur. In this way, a gubit is not just 0 or 1, but also 0 and 1. It is therefore the differential relation of 0, 1, and 01 rather than just 0 and 1. Here, in superposition, two mutually contradictory states obtain at the same time. But the essential ontological points being made here hold in terms of how the differential is at the heart of creation itself. Moreover, creation is needed since if superposition is possible, only an observer can allow the states to disentangle and for there to be differentiate. In this way, prior to the tzimtzum, one has a state of superposition that God himself in his withdrawal allows to arise. Such superposition also explains why things appear continuous rather than discrete as the "wave nature of things along with the things be in similar states makes them not strictly discrete (Llovd 2007, 152). In addition, quantum theory does not just apply to the subatomic, but to the large as well as the small, just as information does. The difference is that a qubit, as Hans Christian von Baever explains, "is not fully specified until its longitude and latitude are fully described, out to an infinity of decimal places" (von Baeyer 2005, 191). The qubit, in its very differential

structure, could hold an endless amount of information and embodies incompleteness itself.

One of the most powerful arguments for seeing the bit itself as the fundamental element of reality and that from which reality is made (rather than from things like atoms, substances, things, objects, etc.) is that such bits are purely relation entities and avoid the problems signaled by Kant's second antinomy. This problem is the infinite regress with regards to things, atoms, objects. It seems that we can always divide things into more discrete parts indefinitely. Most simply, take an infinite regress as a sign of incoherence as such. If there are objects and parts all the way down, then it is not clear why or from where objects came from. In any event, Kant takes the idea that all answers to the second antinomy are false as a proof of idealism.

The easiest way to take what Kant argues is to say that both sides (the idea that 'all things can be infinitely divided' versus the idea that 'there is an indivisible element out of which all things are composed') have equally logical proofs, but cannot both be right. So we need a way for Kant to say both are false and articulate a new way to solve the problem. Part of Kant's proof concerns the idea that one side posits that time is finite (has a beginning and For Kant. end). space and always incomplete, since they are finite yet our minds always project them out. Both parts of the antinomy presuppose that matter exists as a thing in and of itself. For Kant, things are constituted ideally by the structure of the transcendental subject. One option of this antinomy is finite and the other infinite and taken as contraries and contradictory. An infinite series would never begin and thereby cannot be. It would also be totally confused in its infinity. A finite series would end, but we cannot say or point to such an end without positing a next step. The main upshot

is that the Kantian idealist solution of saying we cannot say how the in-itself is structured proves at least to be at this point better argued than its predecessors.

But we are arguing that the in-itself is structured and is so by bits. This presents a new solution to this Kantian antinomy, for bits are not atoms or particles that cannot be divided and not underlying indivisible substratums or atoms. Rather, bits form an elementary basis precisely because they are purely differential in nature. It is this differential nature that prevents the infinite regress. One does not need to ask further what a bit is made up of. Bits cannot be subdivided into smaller units. The bit is the smallest possible unit. The bit has no parts—only relations. The bit is made up of nothing and that is also why it forms a stopping point unlike the atom and solves Kant's antinomy. The logic of the signifier also shows that bits are not finite as they lead from and directly imply the transfinite. Information is the very entity to base a theory of everything on, including a theory that refers to God and creation ex nihilo.

To posit objects as a solution to Kant's antinomy would mean that these objects are either substratums (eternal or not) or divisible. If eternal, then one needs to have all the objects that now are always be. If the substratums are not eternal, they are contingent, and thereby if the space in which they occur is eternal we are led to the modal proofs of God via contingency. More importantly, it is not clear how a substratum itself can exist other than as an eternal thing in itself, as it is removed from the change that it underlies. It thereby appears indestructible and yet, if the thing it underlies disappears, so does it. If these substratums are divisible, it is not clear what would cause an end to their division. With such an infinity of division, it then becomes completely arbitrary when one says one has an object, as anything could be collected as an

object. With this insight, we are back to our own theory of sets, information, etc. In this way, even if one were to suggest that substances are a solution to Kant's antinomy as part of a rejection of Kant's idealism, then this view can only found itself on the one we are advocating.

For this reason as well, there is no reason to search for a God particle. The bit provides the answer. Kant's own antinomy was influenced by the Newtonian idea of matter as being made of solid and hard masses that cannot be penetrated. These particles combined and were explicable by the laws of nature. But with the bit we no longer have such hard substance, but rather relation itself as the ultimate urelement. The bit allows one to understand how the macroscopic and microscopic world are interwoven and interconnected. One does not need to reduce everything to some indivisible hard particle, but rather understand how on every level things are structured information patterns. Big and small occur at the same time. Atoms do not absorb all else and explain it. We do not mean merely that the properties of trees, for example, cannot be reduced to the atomic properties, as these properties are not found in them, but more so that an atom or molecule is just as much an information pattern as a tree.

Many would argue that a tree may have emergent properties, but it cannot exist without atoms. But as others have noted, a metal has, like many other things, a particular melting point. However, the individual atoms of that metal do not have a melting point. In this way, only the metal when it occurs on a large scale can melt and thereby affect what happens to the atoms. The emergent whole has effects on what seems to be its components. Atoms also cannot exist without trees, etc. and without informational patterns which obtain at all levels. Paul Davies writes:

Quantum physics teaches us that electrons simply don't exist 'out there' in a well-defined sense, with places and motions, in the absence of observations. Even when a physicist uses the word 'electron' he is really referring to a mathematical algorithm which enables him to relate in a systematic way the results of certain very definite and precisely specified experiments. (Davies 1988, 175)

In this way, atoms are no different from anything that is both expressed mathematically and as a pattern. It is itself composed of information and relations systematically. Rather than contending there is a hard, impenetrable thing out there, one should hold that the same information rules apply to the bottom as to the top. The only really elementary thing is the bit itself, differentiality.

Once all things are seen in terms of bits, atoms are no more basic than apples, as both are reducible to bits and expressible as patterns. An apple is not reducible to its atoms, for when one has only atoms the apple disappears. And the apple also is not made up of components any more than anything else, insofar as it is a matter of bits and information. Also, an apple, just as a human, remains the same even if the atoms contained in it are not all the same. We recycle cells in our body and yet remain the same body. Apples also have seeds that emerge within new subparts that can lead to new apples containing and involved in new atoms. The issue here is then not just epistemological. Not only can one not understand the nature of large-scale phenomenon from atoms, but atoms themselves cannot be without the 'infostuff' of which they are made. Furthermore, particles are no longer considered by most to be the most fundamental entity, but rather that fields are. Particles are only ever perculations in a structured field. Particles have a

derivative status. Once one begins thinking in terms of field, one is already thinking in terms of structured patterns. It is important to note that we posit patterns rather than some underlying thing that persists through change. The pattern itself is developing and changing.

Our view here must be differentiated from the one James Ladyman and Don Ross advocate in their book Every Thing Must Go. Ladyman and Ross contend that "neither things, nor properties, nor events turn out to be ontologically fundamental" (Ladyman and Ross 2009, 51). For these authors, what truly exists are "real patterns" which mean "mathematical models," "sometimes constructed by axiomatized theories, sometimes best expressed by set theory" (Ladyman and Ross 2009, 119). "So real patterns behave like things" (Ladyman and Ross 2009, 120). There are "not things," as all there is is structure (Ladyman and Ross 2009, 137). In addition, these two authors identify their view with Cassirer's notion of a field (Ladyman and Ross 2009, 140). Ladyman and Ross thereby see all as part of a differential system wherein each element is related to others.

These two philosophers clarify what they mean by a real pattern when discussing Napoleon. Here, "a person is an extended pattern over a run of data," such that one tracking Napoleon in 1801 could get information and data that enables them to say how this pattern will look in 1805 (Ladyman and Ross 2009, 229). A person like Napoleon is therefore determined by patterns. And if we could not project how Napoleon would be via the pattern, then we have an individual in the sense of irreducible entity or non-projectible pattern. For this ontology, a real pattern is like a "trend in the market data" where its reality is dependent on whether or not one can project on its basis (that a broker would not say that trend is just a flash in the pan) (Ladyman and Ross 2009, 230).

But for Ladyman and Ross, not all patterns one can articulate are real. If physics does not offer us a way to track the pattern or a way to empirically verify the pattern, then it is not real (Ladyman and Ross, 235). In this way, God for them is not an idea they need to take metaphysically seriously. It is true that God is not a pattern just as much as God is not a being. But metaphysics has to explain where the patterns came from, what allows them to exist, etc. But there is no reason to say numbers, fictional characters, etc. are less real than books, market trends, etc. All patterns are made of bits and thereby are ontologically equivalent. Ladyman and Ross want to distinguish between real physical patterns and other ones that are built out of them. But once the bit is made the most fundamental aspect of reality, one can no longer hold this distinction, as writing is made of bits as much as our thoughts or a table. Ladyman and Ross would call fictional characters like "Tarzan" "second-order" patterns that are based on extra-representational real patterns (Ladyman and Ross 2009, 243). For us, all patterns are extra-representational since they are all made of bits. For example Sherlock Holmes is not represented in the "human genome" and is thereby not a real pattern (Ladyman and Ross 2009, 247). But "prices, neurons, peptides, gold, and Napoleon" are all real patterns as much are any atomic or subatomic particle (Ladyman and Ross 2009, 300).

The position here is based on verificationism. But verificationism cannot verify itself. This means that at the most fundamental level, anything that is a pattern has being. The main issue should be what makes for a pattern, as opposed to whether or not the pattern is perceived as a physical being. To say that some patterns only exist in one way rather than another is itself the second-order issue rather than that of the patterns themselves. Real patterns track another real pattern (Ladyman and Ross 2009, 243), but we still

have to ask where that real pattern comes from via a question of regression (and the answer should not be metaphysically simply that physics and the other sciences provide them).

On the face of it, and in terms of many larger picture issues in metaphysics, our views and those of Ladyman and Ross agree insofar as we both offer what has been called a Structural Realism—that the world consists of informational stuff that interacts and forms all there is.²² But they also argue that, "The fact that we only know the entities of physics in mathematical terms need not mean they are actually material entities" (Ladyman and Ross 2009, 160). We are arguing precisely that their being mathematical in nature as bits, etc. is what makes possible this type of physics. Ladyman and Ross also put forth that the "world is made up of a new substance or substantative particular called information ('infostuff')" (Ladyman 189), but they never provide and Ross 2009. philosophical and ontological reasoning that supports this view other than accepting whatever current physics and physicists put forth as the basic ontology which philosophy must always work with. For them, scientists populate ontology with all its possible entities, and philosophers are just "janitors" who come and order what the scientists provided (Ladyman and Ross 2009, 234). We do not have such a deflated conception of metaphysics.

Ladyman and Ross also do not make clear whether information is a fundamentally epistemological concept for understanding the modality of the world or if the world is itself information. In this way, while we both put forth a

²² They say at one point that what they call second-order patterns are not less real than any other pattern, but only ones that have a historical relationship, wherein the one pattern always follows another

structural realism, our own ontology is more fundamentally a digital one. This means not only that the universe is a computer, but that all that is composed of bits, digits, etc. including matter, energy, material objects, and so forth. Material objects are not secondary manifestations, as they are differential structures and made up of bits as much as the text I am composing on this computer. All is reducible to the digital, including apparently continuous phenomena.

§23. AGAINST THE ONTOLOGY OF THE VIRTUAL (FOR IT AS EPISTEMOLOGY)

One must beware of taking information states and projecting them into another realm distinct from what it is. All that is is actual. It may develop and change on the basis of the initial creation and the incomepleteness of being. But there is not a potential or virtual realm that exists wherein information is coded and an actual realm wherein things appear. Some people, for example, take a gene to be a set of instructions that tell molecules what to do. But the genes are not an abstract space. They are as actual as any other molecule and themselves made of bits. It is not a question of informational code preceding material configurations. The material configurations are themselves already informational code. While logically we might be able to distinguish the two, we need to beware of creating a split reality wherein information is one aspect of reality that what we see merely imitates or actualizes. We can deduce all possible mathematical states, but that does not mean that this state should itself be projected to form one half of reality. Again, that would be to take information as a model rather than reality itself.

For example, Chalmers suggests that a compact disc "has an infinite number of possible physical states," but it realizes only some of these on a player

(Chalmers 1997, 282). Here one should take the compact disk for what it is, rather than projecting a model and taking that space to form one part of reality. There is not a combinatorial structure that exists in one realm that is then only realized physically. Anything that is already a structure. The processing of information involves states that transmit information, such as in the example of a disc that has locations etched into it and has an effect on a player. But one does not need to split reality in order to make this point.

For these reasons, we need to oppose the Deleuzian distinction of the virtual/actual if it is read in the way Manuel DeLanda does. DeLanda thinks the virtual as representational models. For him, these models are not eternal Platonic ideas and are not essences. Rather, DeLanda thinks these models as "spaces of possibility with a definite structure" (DeLanda 2011, 17). These spaces express "invariant properties" and note the "existence and distribution of special or remarkable points" (DeLanda 2011, 18). These topological spaces thereby are "phase spaces" that detail "possible solutions" to a particular problem and can be associated with material processes that enact one of these solutions (DeLanda 2011, 19).

DeLanda wants to insist that these spaces are "not transcendental entities in a world beyond that of matter and energy," but rather are "immanent to the material world" (DeLanda 2011, 19). However, if they are only immanent it is not clear where and how they exist except as representational models that we conceive. These spaces have to be independent in some sense if they are not just projections we have of reality. But a purely immanent reality cannot be autonomous, and DeLanda wants these spaces to have this property. It is then unclear where and how these possibility spaces exist other than as representations in the mind. DeLanda contends that if "all matter and

energy cease to exist" then these possibility spaces would not continue on (DeLanda 2011, 20), but that still does not show that they do not exist as models or representations in the mind, since minds are made of matter and energy too. DeLanda wants to uphold "the objective existence of the diagrams of assemblages" and their reality and wants to distinguish them from what is actual at the same time (DeLanda 2011, 202). But DeLanda thus has a model where a sphere of potentiality exists on its own, and is then manifested and enacted by various instances. One projects into another space all the possibilities one can articulate and then sees reality as one manifestation of those possibilities.

This is what Henri Bergson always contended was the ultimate psychological basis of the concept of possibility. But the actual itself is already structured. It is not some purely continuous phenomenon, but is itself discrete. It is made up of actual information. In this way we oppose the idea that there are possibility states other than as mental conceptions and epistemological tools. There is no virtual realm of being. Even such epistemological tools would be actual. If one does not think them or write them, these epistemological tools remain. They can be recreated on the basis of the already given structure of the world. And if one requires that all possibilities are in some space, then they need to exist somewhere transcendentally as we saw earlier with Cantor, since the possibility of conceiving presupposes an actual domain. For this reason, to avoid positing that all possibilities exist in God and what is created only manifests a limited actualization of these possibilities, we either need to do away with the Deleuzian distinction of the virtual and actual or articulate it in a matter that does not end up repeating what DeLanda articulates.

One model that would already challenge this Deleuzian model is the 'holographic principle.' This view states that there is a precise limit on the amount of information that can be encoded in the world actually. It is often called the 'entropy bound.' It states how many quantum states are possible. It states also that the universe we experience and perceive would be a projection of a holographic encoding of an almost endless amount of information. Leonard Susskind writes:

[It is further imagined] that in the limit of a very large region the bounding surface can be taken to be a flat plane at infinity. In some way, the phenomena taking place in threedimensional space can be projected onto a distant "viewing screen" with no loss of information. In what follows I will refer to such a two-dimensional surface as a "screen" and its discrete lattice sites as "pixels." A pixel can only store one bit of information and is therefore either lit or dark. Hooft has made the analogy with a hologram which stores a three-dimensional image on a twodimensional film. As in the case of the hologram the flat two-dimensional image must be rich enough to code the full rotationally invariant description of threedimensional objects. (Susskind 1995, 6378)

In Susskind's model the informational space itself is actual and projects itself onto a screen that is our own universe. One need not invent an immanent space that is not truly independent of what is, but not the same as it is, as DeLanda does.

The main issue surrounding the notion of the virtual as it appears in DeLanda's interpretation of Deleuze is the question of representation. The digital

series no longer forms a referent for what appears in the same way that a territory did for a map, since it is no longer involved in a relation of resemblance, analogy, or proportion with what would 'represent' it. Rather, what appears appears as a purely selfreferential world of images/beings, since its referent is itself, what it is made up of—the digital series is what appears.²³ Our world of pure immanence is not simply a world in which representations have replaced or no longer obtain their meaning from what they once represented or resembled (as in the map/territory relation), but rather their 'virtuality' lies precisely in the fact that they refer only to a digital series of which they are composed. The interesting and remarkable thing about the images/patterns produced here, the very initial reason why they pose for us the question of the virtual, is that they no longer are what they are simply because they refer to something they resemble or are analogous to, but rather because they are ultimately made up only of code, of the minimal series of 0s and 1s. Image and referent have collapsed into one thing as images no longer merely refer in a strictly representation manner to a thing, but rather refer and derive from themselves in another form. But the true reason for ascribing virtuality here to what appears on our computer screen or otherwise is that we know that it is related to some computer code or information bytes that do not appear. What appears seems to be merely the manifestation of something not given and heterogeneous to what appears, computer code, for instance, and the images on the screen. In this way, one initially thinks what is given as the 'mere appearance of what is not explicitly there, but here it

²³ We are then arguing and will develop in the next section that the analog/digital divide is an irreducible one, insofar as the digitization of all leaves the analog qualities of things as irreducible aspects of mind.

is not what is on our computer screens that is virtual so much as the relation between the given and what is not given and the fact that the two are the *same thing*.

It is not so much that what appears is virtual as that what appears forms the actualization realization of something not given (computer code) and that it is within this relation that the virtual is 'found'. What is called the virtual cannot be 'mere appearance', nor is it the imaginary, illusory, false, or irreal. It is fully real as it appears and insofar as it refers to itself and forms the manifestation of itself in another heterogeneous form. Computer code or the digital series and what appears on our screen would then be two different orders or regions when they are understood as separable. While what appears on our screen is related to computer code, the two are not separable. They are inseparable. They are two different versions of the same. It is not that what appears on our screens refers to some something more real or separate from it.

In Deleuzean terms, one here has a real or conceptual distinction that is not also a numerical distinction or distinction in existence.²⁴ The virtual

²⁴ One can already see in operation the molar-molecular distinction that Deleuze and Guattari elaborate in *A Thousand Plateaus* (Deleuze and Guattari 1987, 505-6). Molecular phenomena are the micro phenomena or processes and medium that give rise to the larger, perceptible phenomena of common perception. Here, the digital series would be the molecular processes that give rise to the molar phenomena of what appears on one's screen. However, as John Mullarkey notes in "Deleuze and Materialism" (1999), such a distinction does not reduce the molar to the molecular (60). Instead, it is a distinction not of a hierarchical nature (64), but rather one designed to show how subconscious processes give rise to perceptible phenomena. I will return to these issues and in particular to the non-reductivism argued for here in Chapter Three.

thereby poses the question of how one can split the world up into two without lapsing back into an ontological dualism. The virtual is defined by Deleuze as "real without being actual, ideal without being abstract; and symbolic without being fictional" (DR 208). In fact, for Deleuze, the virtual is very much "a part of the real object—as though the object had one part of itself in the virtual into which it plunged as though into an objective dimension" (DR 209). In this way, whereas realization involves selecting possibles that, in being realized, completely resemble the real when existence is added to them and limiting what possibles are actually given and selected, the actualization of the virtual is not governed by the "rules" of "resemblance and limitation, but those of difference or divergence and of creation" (B 97). Now, as Elizabeth Grosz argues, Deleuze is, in part, motivated to differentiate the virtual from the possible because the possible/real model precludes novelty and real creation since the real is already made and predetermined in the order of the possible (Grosz 1999, 27). Different/ciation names the relationship between the virtual and the actual insofar as it shows how the Ideas, the virtuality of which consists in structure, are incarnated in various systems.

In other words, the complex notion of different/ciation articulates Deleuze's own version of structuralism—a structuralism whereby the virtual nature of structure demonstrates how structuralist theory is divorced from a representational model of thought. Here, the representation of stable identities gives way to a world of simulacra wherein "identities are only simulated, produced as an optical effect" (DR xix). The simulacral nature of the modern world, not unlike Baudrillard's conception, is a production of many things, but, in particular, of the failure of a

straightforward logic of representation as well as "the more profound game of difference" (DR xix). "The Idea is thus defined as a structure. A structure or an Idea is a 'complex theme', an internal multiplicity—in other words, a system of multiple, non-localisable connections between differential elements which is incarnated in relations and actual terms" (DR 183). The Idea as structure forms the heart of Deleuze's ontology insofar as it is an ontology of Structuralism. However, Deleuze's concept of structure will diverge significantly from the usual (by the usual one means as elaborated by a Saussure, Levi-Strauss, or Lacan) definition of structure, in particular by evacuating the negative dimension from the relations that determine the basic elements and being primarily interested in difference as a creative process of self-differentiation. In addition, and more importantly, Deleuze's elaboration of Ideas as structure will demonstrate how for him the virtual is and functions as structure, how structure is virtuality as such.

In Deleuze's formulation, structure does not presuppose the identity of any phenomenon, but rather articulates and demonstrates how its identity is produced. Here, the intelligibility of the identity of anything is not governed by resemblance, but rather by its development. Ronald Bogue, for instance, offers the following example: "Just as the structure of genes bears no resemblance to the structure of an actual animal, so the structure of a virtual idea bears no resemblance to the structure of its actual embodiment" (Bogue 1989, 59-60). Another easy example, and one of Deleuze's favorites for exhibiting the basic character of Ideas, is social Ideas. Here, these social Ideas are not the product of discourse or the formulation of merely the intelligible principle of a society or social organization. Instead, social phenomena themselves are, ontologically, the incarnation and actualization of basic social Ideas, just as an organism would consist in the actualization of a biological Idea. These Ideas do not simply name psychic epistemological entities, the concepts of discourse, but rather something that is both virtually and actually. The realization of the possible is the realization of something that lies outside of what is realized. In addition, the members of a set of possibles have no existence. They are in a way differently than the real. They make up an entirely different ontological order and regime. The distinction between possible and real is not then amenable to a univocal conception of Being. The virtual has reality, the reality of the Idea and structure. It is actualized rather than realized.

If Ideas as essences stand outside of their appearances, then these appearances can only ever be accidental and accidents. If the virtual is simply the possible, then existence merely happens. Possibles are realized and move from a state of nonexistence to existence in an unintelligible, sudden, and nonmeaningful manner. Things pop out of nowhere into being by God's command. However, we have been arguing, rather, that the very world of beings develops through elaborations of the holy Name, although creation ex nihilo is also always possible. Since the Idea for Deleuze is immanent to its actualizations. nothing merely pops out of nowhere or is suddenly created ex nihilo by God. Ideas produce the spacetimes of their representations, rather than being embodied in already existing environments.

The only theorist who to my knowledge comes close to Deleuze on this point is Anthony Giddens, who claims that "structure has a 'virtual existence'" (Giddens 1979, 63). While Giddens argues that structure should not be confused with models and is inseparable from its instantiations, he also views it as "a set of differences" in such a way as it appears to be based on a negative and oppositional understanding of difference (Giddens 1979, 63). In addition, it is un-

clear on Giddens' account what sort of ontological status structures, as virtual, have. Whereas for Deleuze structures or Ideas are precisely what anything is the embodiment and actualization of, it appears that for Giddens, while structures are not simply models created by observers, their status as memories of social actors is not fully sketched out (Giddens 1979, 63-64). Also, it seems that for Giddens such structures only have a social existence. Finally, Giddens argues that structures are "non-temporal and non-spatial" whereas Deleuze attempts to show how the virtual involves actualization and thereby time (Giddens 1979, 3).

It is not simply that the structure is these images or entities that derive from it, since it is also not simply an essence as opposed to mere appearance (HDW 261). The symbolic dimension is more fundamental and not reducible to what is immediately perceptible, to a series of images. Instead, the symbolic, the structure, must not be confused with something that is given sensibly or immediately perceptible, with a schema or a product of imagination, and with a strict metaphysical essence or universal. In particular, in Structuralism, the whole is not distinguishable from its elements, but rather the whole consists in its differential elements and relations. There are certain basic differential elements that make up the whole and show how the parts vary. In other words, structure is a combinatory of basic differential elements, but these elements 'are' only insofar as they are differentially related to each other. They do not appear, as it were, and while they form the condition for seeing the sense of appearing, they do not make appearances seem to be merely occurrences that derive from some intelligible essence. 25 Structure is then the coexistence of all these

²⁵ Although in *Gilles Deleuze* (2002) Claire Colebrook treats

"elements," "relations" and "relational values" "in a completely and perfectly determined whole" (*HDW* 268). But the whole is not itself actual since what is actual are only the "particular relations, relational values, and distributions of singularities" (*HDW* 268).

Language as such, as virtual whole, as structure, is "actualized following exclusive rules in diverse specific languages" (HDW 268). Society, the social Idea, as a whole does not exist, but any "social form embodies certain elements" and "relationships" (HDW 268). These particular relations and forms are then of course the actualization, the differenciation, of the virtual structure, of the structure as virtuality, as a coexistence of determined virtual differential elements. What can be called actual or actualized is "that in which the structure is incarnated" (HDW 267). This virtual structure of coexisting elements has a reality since it is only ever found in the very phenomena which incarnate and exhibit the structure.

However, structure is said not to be a set of possibilities, since it is strictly virtual. Since structure is not form (as opposed to content), since it involves the structuration of its content, it is inseparable from the actual appearings that incarnate it. One then understands time, duration, as itself the actualization of the structure (*HDW* 269). Such characteristics bring one back to the virtual Whole as articulated in Deleuze's *Bergsonism*. For Deleuze, the virtual Whole is differentiated, and this differentiation forms its reality. For this reason, "the reality of the virtual is

the virtual for the most part as if it were synonymous with potentiality or (despite efforts to the contrary) possibility (17, 96, passim), she also articulates the manner in which the virtual is a "dimension of sense" and shows how language articulates this virtuality in an exemplary manner (20).

²⁶The difference between differen*t*iation and differen*c*eation

structure" (HDW 269). In order to concretize the relationship between the virtual and the actual and to understand the many aspects Deleuze wishes to attribute to it one must see here the fundamental homology between the Bergsonist unconscious (time, duration, past in general, memory) and the Structuralist unconscious. This attempt should not be surprising since language and memory have an obvious and fundamental affinity. We have Sense in the same way that we have the pure past coexisting with the present. We can place ourselves in the pure past, into memory, immediately in the same way we find ourselves already in Sense (B 57). But Sense in the Structuralist manner is not something found merely in what is heard, but is rather found by way of seeing language in terms of negative differential relations and elements. Sense or meaning is, as it were, actualized in actual acts of speech and writing. Sense then is not language as it is heard, but rather Sense is the ontological foundation of the language that we hear.

The virtual Whole is thus structure in the strict Structuralist sense of the term. Memory and language as structure are then, as it were, one and the same, or determined in the same fashion. These issues bring about what Deleuze identities as the second criterion for Structuralism: sense. Sense here names precisely the manner in which the basic elements of structure take neither "extrinsic designation nor intrinsic signification" (HDW 262), but rather are meaningful by way of location or position. Location here does not name a spatial sense in the same way as one orientates

will be explored in what follows. As we shall see, the very difference between t/c will make all the difference and explain the relation between the virtual and the actual.

oneself physically, but rather "sites in a properly structural space," a "topological space" (HDW 262). Structure is made up by way of its relations and that it is an "unextended" such "preextensive" space, a "pure spatium" (HDW 262). Space here would be a function of relations, but insofar as entities are incarnations and embodiments of structure, space seemingly precedes them. For this Structuralism is necessarily transcendental philosophy," since anything already has its place and functional site already found with a Structure (HDW 263). In other words, here relations precede relata, since anything conceivably can occupy the relations due to the manner in which the relations determine the meaning or sense of the relata.

Sense itself can only ever be an effect, a result—the result or effect of a combination of elements and relations. And since these elements and relations are in and through themselves non-significant, sense emerges from non-sense, emerges from the non-meaningful. Deleuze describes this effect not as "a product but an optical effect", as the result of position (HDW 263). Or, following the terminology of Difference and Repetition, one could call it a "chaosmos from which the cosmos emerges" (DR 199). Sense ultimately functions as the emergent property and consequence of functions devoid of sense. Sense is emergence itself.

virtual/actual relation The thus must he "the complex explicated bv notion different/ciation" (DR 209). The difference between differentiation and differenciation must be understood as the difference between the t and the c (that is, as a purely phonemic difference). Of course, the difference between two phonemes is not something that appears. A phoneme is itself a purely differential element. In speaking, we hear the sound 't', but not the phoneme t. Since the phoneme is not the actual letter, it is

virtuality itself. In this way, the difference here is caught up with our understanding of structure in the strictly Structuralist sense. These structures are unconscious (for instance, Lacan's famous thesis that 'the unconscious is structured like a language').

But here Deleuze differentiates his ontology of Structuralism from the usual Structuralist understanding. Whereas Structuralism has understood difference as the *negative differential* relation between elements such as phonemes, Deleuze institutes a different conception of difference. Deleuze's third criterion for recognizing and defining structure is "the differential and the singular" (*HDW* 264). A phoneme names the very basic element of structure and thereby virtuality *as such*, but not because of any negative differentiation:

What is distinct from the voiced elements. and the associated concepts and images, is called a phoneme, the smallest linguistic unit capable of differentiating two words of diverse meanings: for example billard [billiard] and pillard [pillager]. It is clear that the phoneme is embodied in letters, syllables, and sounds, but that it is not reducible to them. Moreover, letters, syllables, and sounds give it an independence, whereas in itself the phoneme is inseparable from the phonemic relation that unites it to other phonemes: b/p. Phonemes do not exist independently of the relations into which they enter and through which they reciprocally determine each other. (HDW 264)

The phoneme is not the heard or pronounced sound 'b'. It is not even the image 'b'. It is the smallest relation that operates to differentiate two words, two entities, found within any language whether written, spoken, signed, or what have you. Deleuze here employs the example of 'b' and 'p' from French. In French, 'b' and 'p' are embodied and instantiated in various words and letters and sounds, but the two are not simply made up of such embodiments. Instead, the phonemic relation has a relative independence of any word or sound embodying it. Such independence makes up, in part, the virtuality of the relation, but also the very fact that b/p is only ever the relation between make up their virtuality. The phoneme then is this relation.

But such a relation is not simply negative in quality. It is not simply a question of saying 'b' is not 'p' and 'p' is not 'b.' Rather, they are differentially related by way of a mutual determination. Deleuze here opposes any linguistics that construes the differential relation between phonemes as one of opposition (DR 204). What is usually taken by Structuralist linguistics as a relation of opposition is really and fundamentally one of determination. For Deleuze, the confusion is primarily a matter of "terminology," since what these linguists mean by an opposition ultimately turns out to be "simply correlation" (DR 204). Since phonemes can in principle be related in any given language to one another, it is not simply a case of opposition or negative difference. In fact, for Deleuze, the attempt by Trubetzkov and others to view phonemic relations as opposition stems more so from the hegemony of Hegelian dialectics and metaphysics when, in fact, the very idea of the phoneme is at odds with Hegelian philosophy (DR 204). According to Deleuze, despite the well-known Saussurean claim that language is ultimately only a system of differences without positive entities and Trubetzkov's claim that absence is constitutive of language and the manner in which both of these views assume an oppositional model, the phonemic relation "points to the contrary" (DR 204).

Perhaps, reading phonemic relations as oppositional stems from viewing them from the perspective of their embodiment rather than in their sheer status as relational entities.

Because phonemic relations make virtuality of the linguistic Idea and demonstrate the virtuality of the Whole, the virtual system of relations that constitute Ideas, it is primarily "when the virtual is reduced" to a species of possibility that opposition supersedes reciprocal determination (DR 205). As possibles, such relations would only be able to actualize something from nothing, from a position of nonexistence. this mutual In ordetermination, simply stating that one is not the other is not enough to give them any status. To further mark off the mutual and reciprocal determination found here. Deleuze distinguishes three kinds of relations. In the first example "3+2," the two elements (3 and 2) are independent of each other (HDW 263). These two elements are real and exist independently of being in relation to each other. In the second example " $x^2 + v^2$ = r²," the terms of the relation are undetermined insofar as no value is given to any of them and any value can be inputted for any (HDW 263). However, each term must be given a determined and specific value. In the third example "ydy + xdx = 0," the elements not only "have no determined values themselves." but also "determine each reciprocally" (HDW 265). The phonemic relation is not like the addition of two numbers (this relation would correspond to the actual), but also not like that of a complex equation (which would correspond to structure insofar as any values can be inputted and the terms remain undetermined). The phonemic relation would be like a differential equation from which a structure can be derived. The symbolic for Deleuze is ultimately like a differential equation—one where all is determined reciprocally. Such a symbolic is not

made up of negative difference and absence, but rather mutual and reciprocal determination. Both dy and dx are totally undetermined outside of each other and only exist in relation to each other. Singularity comes into play insofar as, for example, a specific language is made up of and can be recognized by the specific phonemic relations it contains (*HDW* 265).

But in order to differentiate the virtual from the possible, Deleuze must differentiate it from Levi-Strauss's understanding of structure as combinatory, а reservoir. According conception, what is actualized merely follows due to limitations or selecting from pre-formed possibilities. However, since structure involves the emergence of sense from non-meaning and mutual determination. acutalization cannot be a matter of selecting preformed possibilities. Instead, Deleuze's view leads to showing how actualization occurs by way of various combinations which are always a partial instantiation of the virtual Whole. As long as the combinatory is not a set of possibles, it forms a virtual structure. In addition. Levi-Strauss' conception does show how the virtual involves the coexistence of all at once: "To discern the structure of a domain is to determine an entire virtuality of coexistence that preexist the beings, objects, and works of this domain. Every structure is a multiplicity of virtual coexistence" (HDW 267-68). The virtual Whole is not a mere set of pre-formed entities which wait to be given existence, but rather a set of relations that are virtual due to their differential nature. For this reason, what virtually coexists is differentiated even though it is not yet or not viewed in terms of its differenciation actualization (HDW 268). Whatever is actualized is then a part in relation to the virtual Whole. It is a part insofar as it is partial, the effect and result of differential relations and elements that reciprocally determined. In terms of language, a

specific language actualizes the language Idea. Or perhaps even better, a particular speech act actualizes the virtual Whole of a language. Here, one moves from the virtual to the actual insofar as the virtual is found in its actualization.

But we must ultimately reject this model for thinking the digital universe of bytes as much as we reject DeLanda's treatment of it in terms of the possible, possibility, or phase spaces. While Deleuze may admit that the digitization of the Real is its structuration, he still requires reference to a virtual Whole, a structure or Idea, of which individual beings are only embodiments. As seen above, an entire language exists as a virtual whole. Individual words, etc. are embodiments of it, if only partially. But all we ever have are these partial embodiments. Deleuze does not argue that these virtual wholes/structures are an intelligible essence to which appearances refer. Instead, bytes have to be understood as virtual only in the sense of being made up of negative differential elements and relations. But anything that is, whether a word or tree or building, is also made of bits, as a pattern. Computer code on the screen is not virtual. but the structure of which this code is an actualization is. But that does not mean we need to posit a virtual whole. Rather, the world is made up of actualities only. The holy Name of God is that actuality, the mark and pattern that elaborates the world into what it is. It is not a whole, even if one not given when referring to parts. The entire language of French is not a virtual whole. The French language is transfinite in nature. This means there is no whole except as a transfinite set that can itself be exceeded by its subset. Yet one can isolate it is a model.

Deleuze's model, then, is still too epistemological and not sufficiently ontological. It offers us a way of comprehending things, but not of detailing the universe of beings as they are. Nothing lies behind our

screens or the things that make up created being. But our screens do not also consist in the actualization of the virtual because there is not a whole, incomplete or otherwise, on Deleuze's terms or a set of Ideas. These Ideas are only ever models that we articulate as much as we articulate texts of philosophy. But we would not say that the philosophical text constitutes one half of reality itself. Rather, the screen is information itself as a screen, as much as what appears on the screen is code, both as computer code and the atoms that compose it. The actual takes precedent over any potentiality or virtuality.²⁷ The actual holy Name of God is the primordial bit and primordial actual existing pattern that in its complications gives rise to the world and the universe as computer. Recall that the holy Name and God are not one. It is not a realization of some possible thought of God, but what arises from the tzimtzum itself. And even if God were to be seen as thinking in actuality of all the infinite natural numbers for example, what we have in this world as number is not realization of these numbers as they too arise via the holy Name, rather than as expressions of God who himself withdraws. That is to say, even God for us would not be the site of Deleuze's Structure-Ideas in terms of explaining what is. And if they do obtain there, they obtain there as actual domains, but not with a relation to what is created itself, as that is done by the elaboration of only one element, the holy Name. For us the only way in which these Ideas of Deleuze could occur would be for them to be actually encoded as per Susskind's elaboration holographic principle. Or perhaps, they could exist in an infinite dimension of time. But there they would obtain actually. Let's consider a part of Deleuze's own

²⁷ In this way, we echo some of the key points of Badiou's own critique of Deleuze as elaborated in *Deleuze: The Clamor of Being* (1999).

theory, the Bergsonian idea of the pure past, as a potential candidate for this dimension. For Bergson, the distinction of the possible and real in this manner indicates that the possible is always "less than the real" and involves judging that things are possible prior to their realization (CM 99). However, Bergson argues that the opposite is true. The real precedes the possible as the possible only forms "the addition of an act of mind which throws its image back into the past" (CM 100). The possible then does not precede the real, but is an abstraction of the real. Such an abstraction leads to the illusion that things existed in some possible state prior to their realization, prior to their givenness, when it is the case that this is merely a retroactive illusion. Given realities are retroactively posited as part of the past so that they are seen as possible, but this retroactive illusion depends on thinking that Being is "given once and for all, complete and perfect," so that realization involves adding existence to an already completely constituted possibility (CM 104). But Being is never given completely as such a totality since time as duration forms a pure flux: "time is what hinders everything from being at once" (CM 93). Time, the passing of things, proves that there is an "indetermination in things" which time itself is (CM 93). When one treats every-thing as given at all at once, one is not dealing with time, but with space or the spatialization of time, simultaneity. Since time implies passing, change, movement, it cannot be reconciled with everything all at once simultaneously being in a static manner. Of course, simultaneity is a form of a time, but it is precisely a spatialization of time since time involves flux, the passing away of things and coming into being of others.

The movement of things, the pure continuity of becoming, is what Bergson calls duration, and things as much as consciousnesses are involved in duration.

All that is given to consciousness gives way to something, so that the givenness of things involves flux and becoming, but the constant supersession of givenness does not only characterize consciousness (duration is no more simply inside than it is simply outside). Time implies that things move and pass, and, in this way, time is in a sense always already past (MM 137). The present names, it would seem, the moment in which this passing takes place. But while one can idealize the present as a pure "mathematical instant" (which involves a retroactive illusion similar to the erection of the possible), the present is subject to duration as "the indivisible limit which separates past from future" (MM 137). As subjected to duration, the real (as opposed to idealized) present is precisely a limit always passing away into the past and giving way to the future. The present is then constantly passing away.²⁸

But how does the present pass away? If the present marks such an "indivisible limit" which divides the past from the future," then when the present is about to come into being, it is not yet (MM 150). But when the present exists, it is already gone, no longer now (MM 150). The present is always caught between its being not yet and no longer. It is always precisely missing. It is seemingly never in existence. Since the present is always already past and not yet the future at the same time, how does a new present

²⁸ Note the overlap between Bergson's determination of time and that of Augustine (*Confessions* Book XI). While Bergson follows Augustine in criticizing conceiving of time as a function of movement and of thinking of time simply as present, past, and future, Bergson furthers an 'Augustinian' understanding of time by accounting transcendentally for the passing of time itself (other than putting it down to the functioning of mind) and by developing the notion of an *a priori* past.

replace an old one? To think that the present becomes past when it is replaced with a new one involves wondering how "a new present comes about if the old present did not pass at the same time that it is present" (B 58). The paradox of the old present having to be both present and past simultaneously in order for something new, for a new present, to arise means that the past would never arise unless it always already was. An old present could not give way to a new one unless it was always already part of the past, unless the past already was. In other words, for Bergson, the ground for the present truly to pass away is the past in general, an a priori past that is always contemporary with the present that is passing.

There is actually a better model than Bergson's that achieves this idea, as Bergson's virtuality seems to be only a temporality capable of holding together what was, but not adding to it or elaborating on it. This is David Bohm's, in which the implicate order is the more primary level of reality. Such an implicate order would have to contain in and of itself the Idea-Structures of which Deleuze speaks. Another model is that of Karl Pribram. Here, the idea of the hologram is used differently than as in Susskind's model. For Pribram, memories are not located in one part of the brain. Even if a person has part of their brain removed, memories said to be associated with the excised part are still accessible for a person. Now, every part of a holographical piece of film contains all the required information to make up the whole image. In this, every part contains all that is needed to recall the whole (Talbot 1992, 17). For us, this would mean that any particular instance or being would enable the nature of the incomplete whole to be elaborated and understood on its basis. For Deleuze, there is a virtual whole, and virtual wholes as Ideas, that are not given, but still obtain as wholes virtually. For us, the created world is incomplete insofar as it is marked by the

transfinite and the signifier itself in its very character. It is thereby a matter of an actual created world.

One should also note that bits themselves, as this idea is used in reference to computers, are always actual. Computer-mediated phenomena, cyberspace and all such related phenomena (the Internet, e-mail, VR, etc.), are all "comprised of information in the form of binary numbers which either resides in computer memory or on some other storage medium such as hard disks, floppy disks, optical disks, punch cards, or magnetic tape" (Koepsell 2000, 80). The binary numbers referred to here are "Bits," "BInary digiTS" (Koepsell 2000, 78). A Bit is "the smallest unity of information" and forms the state of the switches which are either in the on or off state (O or 1) (Koepsell 2000, 78). In this way, Bits make up the digital series and form the "fundamental unit of cyberspace" (Koepsell 2000, 78). Since all computermediated phenomena are made up of Bits, the various storage media for Bits, for Koepsell, make up the "substrate within or upon which the computer-mediated phenomena "subsist" (Koepsell 2000, 80). Since these storage media are common, everyday objects (perceptible, "take up space"), any cyber-phenomena "are ontologically dependent upon storage media for their existence," so that if these media are not in place, there is no cyberspace (Koepsell 2000, 80). Cyberspace then is only "by virtue of storage media" (Koepsell 2000, 80).

Such phenomena as email, the Internet, and VR and what is related to these phenomena have their dependence on these storage media since they cannot exist without them. And since these storage media "have extension" in common perceptible space, there can be "no reason to doubt that cyber objects have extension" (Koepsell 2000, 80). For this reason, computer-mediated phenomena do not differ from other objects in common, everyday space because they

are bound up with and *are* only by way of storage media in which they are stored. In this way, for example, "real world analog information which exists in forms which we may directly experience" are transformed "into binary form by output devices," but this perceptible information, for example the images presented to one on one's computer screen or while wearing the goggles of VR, "are simply pictures composed of bits and translated into analog images" (Koepsell 2000, 81-82). What appears on one's screen is entirely reducible to bits (Koepsell 2000, 82).

However, Koepsell is wrong when he says that these considerations show computer-mediated phenomena are illusory or have illusory substance. For him, these phenomena are illusory and only have substance by way of the storage media in which the bits they consist in are stored (Koepsell 2000, 82). All things are made of bits. Even what is on our screen is information and bits. There is only a "difference in degree" "between digitally coded and expressed information and that which is encoded and expressed in analog forms" since there exists "no good reason to believe that an expression is significantly different when it is stored or transmitted in digital form than when it is sorted or conveyed in analog form" (Koepsell 2000, 87). Ultimately, according to Koepsell, the difference between the analog and digital being only one of degree rests upon the fact that the analog is only by virtue of the digital.

What appears to one perceptually while wearing VR goggles and the corresponding digital series stored in some medium such as the hard drive are not simply different in degree, for all the reasons that the analog-digital distinction itself forms a distinction between two mutually exclusive domains. The two are simply not isomorphic and the analog does not consist in a "representation of the digital" (it does not resemble the digital, it is not a likeness of the series of 0s and

1s, it is not in some proportion to the Bits). The fact that the analog image or picture is comprised of Bits and dependent on some substrate for its existence does not mean that it is reducible to this substrate for its meaning and sense. In fact, the true difficulty with such computer-mediated or cyber-phenomena is that they involve coding in their very actuality and substantiality. Because the analog in many ways is irreducible to the digital (see our discussion of Chalmers below), the two form two heterogeneous orders, and yet one is dependent on and comprised of the other. In this way, one sees that the issue consists in such aspects and involves primarily the question of how one can reconcile such aspects.

Koepsell seemingly recognizes this point by arguing that even though "digitized expressions and analog expressions are distinct in their form (but of the same substance), they serve the same function—namely, each conveys meaning" (Koepsell 2000, 86). In this manner, it is not a question of simply reducing one form to the other, because as two forms the digital and the analog make up heterogeneous and non-isomorphic orders. Rather it is a question of reconciling this heterogeneity while showing that they do not make up two distinct ontological orders resulting in a dualism, since they are of the same actual substance of information and never separable.

This actuality can be seen in its own articulation via a look at topology. In topology, one studies the nature of space. For Deleuze and DeLanda, there is a set of all possible phase spaces and states of things. It exists virtually. While both want to say that such a phase space is not logically or ontologically prior to actual physical states, they do want to isolate it as part of an ontologically different order of reality. A fully cosmic consciousness would then be one that can envision all the possible universes and phases that objects can undergo. Deleuze would never allow for

the idea of a transcendent God. His own view of God, if he were to elaborate one, would follow from his work on Spinoza. Here, he would buy into a cosmic pantheism wherein each thing that exists is an expression of the whole of the things, the set of all possible states, the ultimate phase space (the plane of immanence). For this reason, opposing the virtual/actual distinction as elaborated by Deleuze and DeLanda also involves rejecting a version of pantheism.

A topological space is a collection of points with some coherence and structure. Topology wants to study the invariant properties of any extended thing, any spatial object. In this way, there are no absolute properties of any objects in terms of its spatiality since these properties are part and parcel of a set of relational items (such as edges, points, etc.). It studies the qualities of objects that remain invariant even as the object undergoes transformations. The standard example is that topology shows how a doughnut can be transformed into a coffee mug. The two objects can be considered equivalent as various invariant structural traits remained the same through the transformation. In this way, one could isolate a phase space, a set, of the structured relations that both have and that enable the transformation.

What is interesting here is that all is based on the internal structure of neighboring relations and that two things that to the naked eye appear to be two completely different shapes and things from the perspective of topology are fundamentally equivalent. Due to this equivalence, the fundamental structure informing both objects can be found by looking at either. In this way, each being contains and refers to the whole structure by itself. Even if in the world we just had coffee mugs, we would be able to elaborate them into doughnuts and comprehend them insofar as the topological space can be founded on the basis of

the coffee mug alone. In this way, we do not need any virtual space. We only need the actual thing. We only need an actual coffee mug to understand a large number of structural principles that can give rise to its equivalences. The topological space is thus an epistemological model that we elaborate. A coffee mug can be expressed as a set of mathematical relations. Those relations geometrically can be transformed to show how given certain invariant properties the donut is spatially equivalent to a coffee mug. But one does not need to project any virtual being to do so.

The coffee mug itself is already that structure. It is fully actual in and as the coffee mug. This is why an ontology of information does not ultimately need the notion of virtual to do any more than epistemological work. Coffee mugs, like all else, are composed of difference and structural relations. A doughnut is a variation on a coffee mug and a coffee mug a variation on a doughnut. But that does not mean each is just an actualization of a virtual space. Rather if one were to be twisted into another then it is via actual actions and via the very structures themselves in their actuality translating themselves. This is what happens in the very earliest stages of human life, for instance, as the embryo develops. But one need not posit a virtual phase space of which the embryo is an actualization other than epistemologically to comprehend how structurally one embryological shape could transform into another.

Ontologically, one simply has a structural shape that transforms into another. The structure is itself already actually pertaining and constituting the living being. To speak about language in the same terms one could say that once one has spoken, one has exhibited the basic structures of the language even in speaking one sentence. If one here posits a virtual space, one does so in order to try to show there is no eternal essence of what a coffee mug is and to show that

things are elaborations of structure. But that does not require that the structure itself be given its own ontological realm.

The mind can take what is actual and vary it as well. But mental variation is itself comprehended by another structure. There are no essences as all things can be seen as the unfolding and elaboration of the most basic structures of information. There is no Platonic heaven. This accords with how the transfinite itself can be based on the pure logic of the signifier. One need not posit anything more actual than the signifier itself or the holy Name of God in order to maintain the actual domain that makes possible Cantorianism and its insights. The worry here is that by making all things an elaboration of such basic structural ideas, one makes many things appear identical whether they are doughnuts or coffee mugs.

§24. Information Inside-Out: Mind and Matter

In order to avoid making all seem like perfect equivalents despite our varied experience, we need to introduce a distinction within being (and not the virtual/actual distinction) in order to comprehend specific properties that do not seem to be expressible fully mathematically and also to account for how structurally equivalent things involve different appearances. Structure alone can account for these things. For instance, the numbers 4 and 5, just based on inclusions of the empty set, were differentiated. But the problem still remains if we are going to support the topological idea that in terms of their mathematical nature, coffee mugs and doughnuts are homeomorphic.

Here, we will have recourse to David Chalmers' theory of consciousness, which itself is tied to a "conception of the world on which information is truly fundamental, and in which it has two basic aspects, corresponding to the physical and the

phenomenal features of the world" (Chalmers 1995). For Chalmers, the perception of things like color patches in a visual field is "not so different in kind from the structure of binary digits" insofar as there are structural relations between them (Chalmers 1997, 284). In this way, Chalmers argues that "when human experience realizes an information state the same information state is realized in the experience's physical substrate" (Chalmers 1997, phenomenal conscious experience of differential relations means then there is a physical structuration of things in terms of information, bits, etc. as well. The perception of things as structurally related something we are not just consciously aware of, but also something realized in the world outside of mind, such as in the brain. If the brain is itself structured by information, differential relations, etc., then the experience we have consciously also has this same structure (Chalmers 1997, 286).

For Chalmers, this idea also explicates the lawbased nature of phenomena—the manner in which phenomenal experience and physical phenomenon have structure. But it is important to note that the one and the same information space can be embodied in both conscious experience and non-conscious purely physical processes. In this way, one shows how consciousness relates to something like the brain by showing how each explicitly unfolds structural relations (Chalmers 1997, 287). This isomorphism shows how matter and consciousness are part of the same reality without one being reducible to the other insofar as they both exhibit patterns of difference and can express structurally the same relations (Chalmers 1997, 288). The world is one of "pure information" wherein each part and expression of it expression of an information space made up of differences (Chalmers 1997, 303). This also means that the "same experience will arise" invariantly if the

same information space that we experience consciously is embodied in the brain for example.

We can now understand what consciousness is. Consciousness is the awareness of various "brute 'qualities'" enabled by these structures but not fully (Chalmers 1997, bv explicable them information for instance, has Consciousness. as various states. These states include experienced qualities like happi-ness, an awareness of the tanginess of a piece of fruit, the grating quality of nails on chalkboard, etc. These are purely phenomenal properties that have a nature that cannot be "exhausted by their location in an information space" whereas physics is "pure information" with "nothing distinguish instantiations" of two identical information spaces (Chalmers 1997, 304). What goes beyond pure information then is consciousness itself. It is both made up of information and is also aware of things that cannot be expressed or understood by differential relations. Consciousness is thereby a realization of information spaces phenomenal judgments (Chalmers 1997, 292).

All states might have this quality insofar as all is made up of information. In this way, a thermostat is information (one that indicates cooling and one heating for instance) such that it too bears witness to a state not reducible to the information composing it. For this reason, Chalmers advocates "panpsychism" insofar as there is a "natural supervenience of experience of the physical" in all cases (Chalmers 1997, 299). For this reason, all information expressed both physically and phenomenally. All information occurs both as consciousness and Phenomenal process. consciousness. however, reveals properties that cannot be explained by the isomorphic structure of information found in both, just as in the physical we will have to find material properties that cannot be explained by how

that physical process embodied pure structural differences, whether this property be "mass and charge" or another related purely to extension and materiality (Chalmers 1997, 305).

This view leads Chalmers to formulate his view in a particularly insightful slogan:

The ontology that this leads us to might be called double-aspect ontology. Physics requires information states but cares only about their relations, not their intrinsic nature; phenomenology requires information states, but cares only about their intrinsic nature. This view postulates a single basic set of information states unifying the two. We might say that the internal aspects of the states are phenomenal, and the external aspects are physical. Or as a slogan: Experience is information from the inside; physics is information from the outside. (Chalmers 1997, 305)

This view neatly fits our previous view and expands on it. All phenomena are composed of information, bits. All beings whether mental or material express structural principles, are expressible mathematically. But there are things that we experience, specific qualities, which cannot be reduced to mathematical equations, for instance, that express phenomena. Such properties are experienced by the mind, whether it is softness of a color or the itchiness of a growing beard. This is precisely what consciousness in essence captures for Chalmers, as seen by the earlier parts of his book and his Zombie argument. But on the material side, there are also such properties. The heaviness of bodies or their persistence is not something that can be reduced to information. To take the most famous example,

Galileo could express falling stones in mathematical terms, but could not capture the quality of resistance that it experiences while falling. The very resistance in its materiality would be a material *qualia*.

We then have a monism of information that has an inside and an outside. It is interesting to compare this view with Spinoza on substance. For Spinoza, there was but one substance, but it had an infinity of attributes of which humans are only aware of two (mind and extension). Now, perhaps also the created world comprehended by information has other possible fundamental attributes, but we along with Chalmers, only seek to isolate two, that which is on the inside via mind as consciousness and the proprieties irreducibly related to it (a good example again is qualia). And on the outside, information also has irreducible properties, just as extended physical existence. This distinction is itself internal to information, part of its very being. The very being of information includes that it has two fundamental attributes that are irreducible to each other as much as they are not reducible to the information that they are internal to. That is, mind and extension themselves different in kind.

While qualia are part of this mental dimension, to fully flesh out this idea we would have to discuss all purely mental phenomena. For instance, in dreams and imaginations one sees all sorts of things. One might be able to express mathematically the brain activity and/or the way in which one's eyes move and react. But there will be some irreducible dimension of things (beyond the mere feeling of being in the dream) such as the receding of a space in a dream. But this will only be the irreducible inside of information. On the outside, one could speak to, for example, the irreducible flickering of the eye rubbing against the eyelid.

Another way Chalmers helps us to understand between distinction the two fundamental attributes is that consciousness is how the first-person feels the world, whereas extension involves a thirdperson viewpoint on things. One might here then point out how the world of matter as extension Descartes revealed also reveals a world of volume and shape that also has properties not reducible to this geometrical expression and embodiment. For instance, bodies of different densities not only have different mechanical properties and in their very density express something that is not reducible to the geometrical information they are composed of. Here, we can explain the difference between the coffee mug and the doughnut despite their being identical from the perspective of geometrical information. It is from the perspective of mind and matter, physics and phenomenology, as the two irreducible attributers of the monistic created world of information, that they are perceived as different. Our hands touch these two items and it is the roundness of the doughnut that stands out. On the side of extension, the sheer cvlindrical density coffee of the mug helps differentiate it from the doughnut.

Chalmers follows Saul Kripke in saying that (given the irreducibility of consciousness) "when God created the world, after ensuring that physical facts held, he had more work to do. He had to ensure that the facts about consciousness held" (Chalmers 1997, 124). I think we can now make sense of what this 'extra work' consisted. Since consciousness is not reducible to the physical, it would appear that it needs an extra act to bring it about. However, we can now clarify this remark that it is not just that God needed to do something more to create consciousness, but that consciousness is itself an internal attribute of a created world of information.

Let's return to the example of my voice to further explain the fundamental ontological distinction we are introducing and the work it does. My voice can be expressed simply and is made up of information. For this reason, it can be recorded on a computer and replayed. Without this possibility of reducing my voice to the bits of the information, phone calls would not be possible. Just as writing, as a series of symbolic letters, can be reduced to bits, so auditory symbols such as phonemes can. My voice's sound waves are themselves understood in their amplitude. But what cannot be embodied in information is my voice's deepness that one hears. Chalmers helps us by discussing the quality of a ring: "I hear a ring. Nothing about the quality of the ring seems to correspond directly to any structure in the world, although I certainly know it originated with the speaker, and that is determined by a waveform. But why should that wave form, or even these neural firings, have given rise to a sound quality like that?" (Chalmers 1997, 7). The very shrill quality of a ring for instance is not something that is embodied in the ring itself as information. as waveform. That bluow phenomenal qualia that only consciousness perceives and forms the mental aspect of my voice. From the side of pure extension, the sound waves themselves of the voice lay themselves out. In the same way that a rusty fan grates on one, these sound waves undulate in their brute amplitudes.

Now it is interesting that the proper software for emulating voices has not yet been made. That is, while one can record a voice and reproduce it as such without any quality being lost, the technology for then having the recorded voice produce new sentences as the speaker would has not been perfected. In the recordings, one no more encounters a representation of voice or quasi-voice over the phone than one does in speaking 'face-to-face'. A voice over the phone can

command and have real effects in its telephonic presence. In addition, to say that it is 'as if' one were present assumes that voice at one location is fully present. But such an assumption is undercut by the very phenomenological fact that voice can be present elsewhere and not simply 'here and now'. One may initially think that telephonic voice was a mere appearance that is made possible by some real or fully present voice, when telephonic voice is just as much voice as it is in a 'face-to-face' discussion. One has the very body of the speaker in another location.

Telephonic voice is not a representation of one's voice—it is one's voice as much as at any other time. One is disembodied without leaving one's body and through one's very body. While the virtual or telepresence might initially appear to name some 'as if' quality of phenomena, telephonic voice shows, once again, how the virtual is not 'less real', but rather exhibits a reality and actuality unto itself. One cannot as of yet have a computer invent new sentences that sound exactly like how one would speak of them. But this seems more so like a technical barrier that one day will be crossed, since the voice is in its very being information. While the sadness of a voice will still be something only consciousness is aware of, the voice itself will be able to be emulated one day.

That one's voice is bits of information also keys us in on how the oneness of the voice is noted—that the voice one hears in person is the same voice as one heard on the phone. That experience is also part of the mental expression of information. The mental attribute of information notes how the voice repeats itself, not just insofar as the same waveform with the same structural relations is repeated, but insofar as consciousness is aware of a repeating qualia. Here, we can also think of Neo in the movie *The Matrix*. In that movie, all Neo experiences is a function of pure information. The whole world is composed of bits. But

Neo experiences people, spoons, jackets, sunglasses, etc. These objects may not refer always to the same set of bits, but it is consciousness that picks up on the mental expression of the information in order to see them as such.

We can also find another aspect of this mental attribute in terms of the type of object Lacan called objet a. One might say that one's voice over the phone is a representation since it is translated into electrical pulses in order to be conveyed. But voice like any another phenomenon is fundamentally information in its being such that these electrical pulses are one's voice. Now one's voice and breath are thereby not simply the 'living here and now' of what is perceived, but the perceptible voice heard in relation to the electrical pulses or digitization of the voice that allows one just to see the inside and outside aspects of information, rather than being opposed to information as such (the relation between the analogical voice and the digital series which compose it). Also, one need not here speak of the apparatus as necessary, since it is the informational nature of voice already that makes the use of this apparatus possible. One does not need speak of electrical pulses or digitization to understand the nature of voice and its disembodiment. since voice is separable from oneself due to a more 'digitization'—one's fundamental. constitutive subjection to the signifier or language, as much as all creation is subject to it via the tzimtzum.

The telephone is not the first instrument to separate the voice from the perceptible body of a person, rather speaking itself makes this constitutive of voice. While the telephone transported the voice and allowed it to be in more than one place, language itself makes of voice something separable from the body or presence. As Mladen Dolar argues in his fascinating essay "The Object Voice," Saussurean linguistics and phonology (i.e., structural linguistics

or Structuralism) instituted a new understanding of voice by questioning a naive or simply empirical understanding of voice and the relation between voice and meaning:

The Saussurean turn has obviously a lot to do with the voice. If we are to take seriously the negative nature of the linguistic sign, its purely differential and oppositive value then the voice—as the supposedly natural soil of speech, its seemingly positive substance, its firm substratum—has to be put into question. The voice has to be carefully discarded as the source of an imaginary blinding that has linguistics hitherto prevented discovering the structural determinations that enable that tricky transubstantiation of voice into the linguistic sign. The voice is the impeding element that one has to be rid of in order to initiate a new science of language. (Dolar 1996, 7)

The focus on voice or sound as empirically heard blinded one to the structure that allows for meaning and the intelligibility of voice.

In this way, beyond the heard voice, one penetrates to something that does not appear and yet structures the meaning and appearing of voice and meaning:

Beyond the voice 'with flesh and bones' (as Jakobson will say; some decades later), there lies the fleshless and boneless entity defined purely by its function—the silent sound, the soundless voice. The new object demands a new science: high hopes are now vested in phonology instead of traditional phonetics. The question of how

the different sounds are produced is seen as obsolete: what counts are the differential oppositions of phonemes, their purely relational nature, there reduction distinctive features. They are isolated by their ability to distinguish the units of signification, but in such a way that the specific signifying distinctions are irrelevant, their only importance being that they take place, not what they might be. The phonemes lack substance, they are completely reducible to form, according to one of the most famous of Saussure's dictums. and they lack any signification on their own. They are just senseless algebraic elements in a formal matrix of combinations, and it is ultimately only to them that the Saussurean definition of sign fully applies (such will be Jakobson's criticism of Saussure): they are the only stratum of language which is entirely made of purely negative quantities, their identity is 'a pure alterity.' They are the senseless atoms that in their combination 'make sense.' (Dolar 1996, 7-8)

The phoneme, as a purely relational notion, is the voice reduced to its basic elements. A phoneme is itself a purely differential element. In speaking, we hear the sound 'b', but not the phoneme b. Since the phoneme is the actual letter as *information*.

Derrida articulates this difference nicely in his *Of Grammatology* by way of differentiating between the "sound heard" and "the being-heard of the sound" (Derrida 1976, 63). The being-heard is purely structural and "radically dissimilar" to the sound heard (Derrida 1976, 63). The "sound appearing" [le son apparaissant] is then differentiated from "the

structure of the appearing of the sound" [l'apparaitre du son] (Derrida 1976, 63). The "appearing sound" and the "appearing of the sound" must then be distinguished in order to make sense. distinction neatly maps onto the mind/extension distinction (Derrida 1976, 64). The appearing sound is the one of consciousness, wherein one can hear that it is grating or mellifluous, while the appearing of the sound might refer to the sound as pure extension as sound waves bouncing off other things and spreading out. The two are distinguished and ontologically distinct, yet expressions of the same information. This "unheard difference between appearing and the appearance [l'apparaissant et l'apparaitre] . . . is the condition of all other differences of all other traces, and it is already a trace" (Derrida 1976, 65).

Now, the phoneme exists only as differential meaning in a mutual relationship to another phoneme, b/p. But such a relation is not simply negative in quality. It is not simply a question of saying 'b' is not 'p' and 'p' is not 'b.' This mutual determination allows for language and words to be differentiated (for instance, 'back' and 'pack'). They are what allow human speech to be distinct from mere noise. They are what allow one's own language to be intelligible while a foreign language appears as mere noise. These phonemes as purely relational entities are not substantial in and through themselves, but only ever found in their actualizations, in the enunciations of a language.

Here, sense arises from non-sense, from what is not in itself meaningful. In this manner, all the perceptible sounds of a language, of speaking, can be reduced to a set of differential relations. One can then map the sounds of speech by way of a table of differential relations. Voice is already digitized by way of phonemes. Speech is then seen as being intelligible by way of a set of differential relations, which also

accounts for how empirical variations (for instance, an accent) can arise without meaning changing (Dolar 1996, 8-9).

The empirical variations of voice make up a "surplus" that is added onto the purely signifying dimension of speech and voice (Dolar 1996, 8). The tangible voice is in its very being the structured language of which any speech act forms holds within itself (Dolar 1996, 9). Voice is a grid of differential relations. The real substance of voice, as signifying, is not the sounds heard which is in its qualia part of the mental attribute of information, but the structure itself. In this way, following Jacques Lacan's second graph of desire, from his essay "Subversion of the Subject and the Dialectic of Desire" (E 306), Dolar attempts to show how given the reduction of voice to differential relations, voice now becomes an object, a partial object, a left-over (Dolar 1996, 9). What is left over after the mapping of voice in its intelligibility, its reduction to phonemes, what could not be reduced, is not some "positive feature," but simply voice qua object as what remains after the mapping, the nonmeaningful surplus (Dolar 1996, 9-10). Voice qua leftover is the "nonsignifying remainder" that resists intelligibility. It is that part of voice that exceeds the intelligibility of what is sounded and heard.

Voice qua remainder "has nothing to do with some irreducible individuality of the voice," the personal aspects of voice, rather, if this left-over emerges by way of the differential relations, then this voice embodies an excessive presence (Dolar 1996, 10-11). The differential relation is not actual, not explicitly or empirically heard, so that the voice qua left-over embodies in an excessive manner the purely relational nature of the phoneme and thereby gives body to meaning as an excess: "So the voice seems to endow this empty and negative entity with a counterpart, its 'missing half,' so to speak, a

'supplement' that would enable this negative being to acquire some hold in positivity, a 'substance,' a relationship to presence" (Dolar 1996, 11). There is then a dimension of voice which exceeds its signifying aspect and remains irreducible to it. It can exist as an object, as a partial object in the specifically Lacanian sense—an *objet a*.

Such partial objects are representatives of a lost ontological plenitude and thereby consist in the presence of absence. They are a function of one's own alienation in the signifier. Here, voice as the excess and embodiment of purely differential relations forms an embodiment of what is not actual and cannot strictly be. It is the embodiment of oneself as empty set. Voice is then detached as a partial object, as something heard in what is spoken beyond meaning, as an excessive presence. Once one speaks, one's voice is part of language, speaks through language as it were, as if through a megaphone. One's sounds are not intelligible because of oneself, but because of the virtual structure which informs them. This structure is trans-individual and located nowhere in particular. We speak through something else in order to be intelligible.

Now, as Dolar emphasizes, it is Derrida who made voice the fundamental object of philosophical inquiry, insofar as he showed that 'hearing-oneself-speak' formed the basic 'experience' from which all ideal notions emerge (Dolar 1996, 12). Voice, from a Derridean perspective, is the source of the illusion of full presence and ontological plenitude. It founds the philosophy of pure ideality. However, voice qua object, a voice not simply that of full presence, but of an excessive presence, escapes intelligibility (Dolar 1996, 15). This very excessive remainder voice also disrupts any notions of presence by embodying an irreducible non-signifying dimension, by presenting

voice as surplus object. Voice qua object is the flipside of the critique of voice qua full self-presence.

Dolar, like Derrida, wishes to show how full ontological plenitude is not found in voice. But for Derrida, in his analysis of Husserl's theory of meaning in Speech and Phenomena (better translated as Voice and Phenomena), it is not simply that 'hearingoneself-speak' founds the idea of self-presence; it also founds the idea of disembodiment, a soul, something non-material. In 'hearing-oneself-speak', in interior monologue, one seemingly establishes an worldly dimension: "The phenomenological voice would be this spiritual flesh that continues to speak and be present to itself—to hear itself—in the absence of the world" (SP 16). Without the world, the voice of interior monologue hears itself and exists. It creates a purely solipsistic space. For Husserl, the voice of interior monologue does not require signs or marks since "it is immediately present to itself" (SP 43). One does not communicate with oneself since this would imply one is divided from oneself and not fully present to oneself (SP 48). Such a position would seem to contradict the basic transparency constitutive of the *cogito*. Hearing-oneself-speak is consciousness and marks the minimal condition for consciousness.

That 'hearing-oneself-speak' does seem to erect a purely auto-affecting full presence to self follows from the fact that the signs one uses seem "to fade away the very moment it is produced" and seem already to be idealized (SP 77). The sign, the signifier, effaces itself at the moment it is enunciated in interior monologue. The sign one uses to communicate immediately seems to become something non-worldly as the "opacity of its body" is transformed "into pure diaphaneity": "When I speak, it belongs to the phenomenological essence of this operation that I hear myself [je m'entende] at the same time that I speak. The signifier is animated by my breath and by the meaning-

intention" (SP 77). Hearing-oneself-speak means that one speaks and hears simultaneously, such that the sign and its ideal meaning coincide in order to make it appear that one does not even use signs or that one merely auto-affects oneself and is fully present to oneself. One hears oneself seemingly instantly, at once, without any mediation, obstacle, or interruption.

When one sees oneself, one has to pass through something exterior to oneself (a mirror, water, any reflecting surface, etc.), but when one hears oneself speak there seems to be nothing exterior or alien separating the self from itself (SP 78-80). One apparently purely affects oneself through oneself. One does not have to expose oneself to the world or to experience oneself as part of the world. Also, when one writes or makes a sign with one's hands or face, one once again does not seemingly have the pure immediacy of hearing oneself speak: "The signifier would become perfectly diaphanous due to the absolute proximity to the signified. This proximity is broken when, instead of hearing myself speak, I see myself write or gesture" (SP 80). The bodies of the signifiers used seem to efface themselves in their very enunciation with hearing oneself.

This seeming immediate presence gives rise to, and is the source of, the illusion of disembodiment, the idea that one could be a disembodied mind, a pure consciousness, a soul without a body. In hearing oneself speak, in auto-affecting oneself, one seemingly has no worldly body, but only "a spiritual flesh" due to the self-effacement of the signifiers or any mediation involved (SP 81). But, of course, there is always iterability. Any sign one uses even in interior monologue is constitutively iterable, such that the meaning and ideality of those signs is constituted by a fundamental repetition which allows for them to be trans-individual, occur in multiple contexts, and never to achieve full ontological presence. In this way,

hearing oneself speak gives rise to the illusion of full self-presence and disembodiment because it is an immediate, spontaneous disavowal of iterability. Even in hearing oneself speak, one must use signs subject to iterability in order to be intelligible. One is never fully self-present, since the signifier one uses is iterable and thereby trans-individual and intelligible in one's absence. One relates to oneself then by way of something exterior to oneself. One is always already mediated.

The possibility of disappearance and absence inherent in the meaning of signs means that hearing oneself speak is founded on absence and not full presence. Hearing-oneself-speak is then the origin of the illusion of being disembodied or being able to be disembodied, but this illusion is always undermined by what makes it possible—the iterability of the signs involved. One could say that with the telephone what makes voice disembodied is precisely what makes it fully embodied—iterability. Iterability gives rise to the illusion of disembodiment and perhaps to the only type of disembodiment we know here and now. The belief in any other form was premised on a 'hearing-oneself-speak'.

Although the Internet and other computer-mediated phenomena have given rise to the belief in potential disembodiment, what makes this belief possible also shows how there will always be a body involved. One cannot exist purely disembodied as digitized any more than one can by hearing-oneself-speak. Perhaps this is why hearing-oneself-speak on a sound recording device is so disturbing and one always misrecognizes one's voice ('is that how I sound?'). We would not even recognize ourselves as disembodied because disembodiment is in part predicated on the illusion of a lack of otherness within the self. It is then voice as information that shows the soul itself is pure information and that mind is an internal

irreducible attribute of information. Also, we can say that mind here is an expression of our being subjected to the signifier.

Badiou only uses the concept mind in one section when discussing the empty set:

The set of subsets of the void is the set to which everything <code>included</code> in the void <code>belongs</code>. But only the void is included in the void . . . Therefore, <code>p</code> (0), set of subsets of the void, is that multiple to which the void, and the void alone, belongs. Mind! The set to which the void alone belongs cannot be the void itself, because <code>nothing</code> belongs to the void, not even the void itself. It would already be excessive for the void to have an element. One could object: but given that this element is void there is no problem. (<code>BE</code> 88)

In this way, mind is another way of stating that the empty set includes itself. Mind is an expression of the mind's self-belonging. This is then another reason why mind appears as a function of information. It is not simply by hearing oneself speak that mind is founded, but mind itself is a function of information. This is why mind finds itself confronted not just by qualia but also *objects a*, like voice, that fill out the subject. Thus, even though we need to see consciousness as being an attribute of information, that does not mean we need to think of consciousness as itself a plenitude.

Jacques Lacan's conception of the subject proves to be a powerful corrective to this position (of consciousness as plenitude). The difference between the subject of the enunciation and the subject of the enunciated is rendered by Lacan by way of a rereading of the well-known liar's paradox. The subject

alienated into language, and thereby the subject of the unconscious (since the unconscious arises from one being subjected to language), is fundamentally and ineradicably divided. Subjected to the signifier, subjected to language, the subject is subject to the unconscious, is a decentered and split subject, a subject divided against itself, precisely because the subject is alienated in language. This split is brought out by distinguishing between the subject of the enunciation, the act of enunciating, and subject of the enunciated, the content of what is stated. This differentiation is brought out by the ancient paradox of 'I am lying', which after this differentiation is no longer seen as self-contradictory, but actually can be seen to be a true statement (as common sense has always understood it being able to be).

For Lacan, one can distinguish between "the level of the enunciation," the place from which one speaks, the 'I' as shifter that refers only to the act of speaking, to the act of enunciating, and "the level of the statement," the content of what is spoken, its meaning (FF 138). While previously a statement like 'I am lying' seemed paradoxical because the content was true and vet asserted a falsity, by distinguishing between enunciation and enunciated one can see how the 'I' "of the enunciation is not the same as" that "of the statement" (FF 139). Only a "shifter" designates the 'I' who is lying, so that it merely designates the act of speaking while the content of the statement 'am lying' is determined transindividually as part of the lexicon of meaning (FF 139). The very act enunciation is differentiable from the content and meaning of the statement 'I am lying'. Even the 'I' of the statement, the shifter which designates the subject of the content as whoever is speaking, is different from the very act and place from which the statement is issued. While the one who utters the statement is designated by the shifter, the very act of enunciating the statement is differentiated from what the statement contains, just as a set can be distinguished from the members of the set.

This is particularly apt to an enunciation, since the meaning of the content is not determined by the act of uttering, but objectively (FF 139-40). The distinguishing of these two levels shows how the act of enunciation does not determine the meaning of the statement and the 'I' of the statement is part of the content determined objectively. Instead of seeing the subject as identical with what it states, the content of the statement, the division between the two levels shows the subject as split. The Lacanian subject, the subject subjected to the signifier, alienated into language and the subject of the unconscious (the speaking subject), is not identifiable with either level, but rather "the subject is nothing but this very split" (Fink 1995, 45). The subject is neither the 'I', the shifter, nor simply the act of enunciation (Fink 1995, 37). The subject does not appear in the content of what is uttered since the content is given meaning by being part of the stock of syllables and is not the act of stating. Instead, the content takes the place of the subject and represents the subject objectively.

It is in this way that one can understand the Lacanian thesis: 'the signifier represents the subject for another signifier'. The subject does not appear in and is not identifiable strictly with the content of what is said, but rather is represented and given meaning by something objective. One is always already caught in a self-referential medium wherein one only appears without appearing. All appearing is governed by the non-given subject. The fact that the subject is not identifiable with either the act of enunciation or the content does not mean, however, that the Lacanian subject, the speaking subject, is "some kind of underlying substance or substratum" (Fink 1995, 41). The subject *is* the division between the two levels and

"has no other being than as a breach in discourse" (Fink 1995, 41). The content is the stand-in for the subject which does not appear in what is said. In this way, one does not take on new identities in chat, but rather, believing one does is a way of disavowing the fundamental void of subjectivity, that the subject is the split in discourse.

One disappears from one's speech. Voice as objet a then appears to fill in the space one disappeared from as pure mind. The Lacanian notions of alienation and separation articulate even more precisely what Lacan means by the subject as split or decentered, the subject as barred, \$, and how this relates to fantasy formation.²⁹ With the notion of the "lamella," Lacanian theory articulates how one is finite and lacking merely from the fact that one must reproduce sexually (FF 197). Instead of being an 'immortal' and indestructible life, as an amoeba would be, this immortality is "subtracted" from one by having to reproduce in a sexual way (FF 197). While the objets a are the representatives of this immortal life substance, this full, ontological plenitude, it is also the case that it is in this way that the subject can be understood as lacking. The *objets* a are the representatives of this ontological plenitude that one 'loses', losing paradoxically what one never had, that incite desire, since desire is partly understood as orientated around

²⁹ The Lacanian terms 'alienation' and 'separation' can be understood as Lacan's rendition of the 'Oedipus-complex.' But instead of giving a genetic and historical account of subjectivization as Freud does, Lacan here gives a structural (and to some extent transcendental) account. Instead of positing a confrontation with the father or external authority, an act of renunciation, or act of internalization, Lacan renders renunciation as always already the case (as a consequence of finitude). In this way, Lacan's account will appropriate the Freudian account by giving a transcendental account of what Freud renders in genetico-historical terms.

'FROM IT TO BIT': INFORMATIONAL ONTOLOGY

a desire for plenitude. However, since the subjective is constitutively split, desire is a desire for what one never had. And since this ontological plenitude is also understandable as *das Ding* (since it is characterized in a homologous way as that which one constitutively 'loses', as being the always already lost full ontological plenitude), the *objets a* hold out the promise of *jouissance* as the enjoyment of full ontological plenitude.

The subject is represented only in what it articulates, in the chain of its content, in the chain of signifiers. This chain is what can be made present of the subject since the subject is neither the act of enunciation nor the enunciated content, but rather the split between them, the absent cause. Language precedes the subject and the subject is represented through it. The organism can only arise as subject and become subject by being represented in the chain of signifiers (FF 203). One emerges into a world in which there is already speech and writing, in which one already has a place and has already been understood. One becomes subject thereby by being caught up in the discourse that precedes one. Since the subject does not appear in the chain of signifiers in either speech or writing or any other form a chain of signifiers can take, the subject is not reducible to this chain or even to the act of articulating it. Instead it is the split between these two levels.

But in being caught up or alienated in language, "two lacks overlap" (FF 204). The real lack of the subject as sexually reproducing, the constitutive 'loss' of what one never had, and the lack instituted by becoming a speaking subject or in general subjected to language as a chain of signifiers:

The first emerges from the central defect around which the dialectic of the advent of the subject to his own being in the relation to

the Other turns—by the fact that the subject depends on the signifier and that the signifier is first of all in the field of the Other. This lack takes up the other lack, which is the real, earlier lack, to be situated at the advent of the living being, that is to say, at sexed reproduction. The real lack is what the living being loses, that part of himself *qua* living being, in reproducing himself through the way of sex. This lack is real because it relates to something real, namely, that the living being, by being subject to sex, has fallen under the blow of individual death. (*FF* 204-5)

What Lacan calls "the Other" with a capital 'O' here means and represents the objective status of language and the fact that language precedes the subject as already being constituted and having objective meaning. "The Other" is the word-stock of language that has an objective status and meaning outside of the subject. The establishment of the subject begins with the subject being caught up in the field of the Other.

The Other is the set of signifiers structured in an oppositional and synchronic manner that precedes the subject and has an objective status. The Other as this set is also not completely external to the subject, but rather extimate, since the subject is caught up in it and internalizes language (although the Other still has its objective status). The constitution of the subject thereby arises when one is caught up in the field of the Other in an extimate way. Neither subject nor Other can be reduced to each other, but they are extimately related. The very chain of signifiers that represent the subject is in the field of the Other, and in this way the subject is represented "in an other place" [ein andere Schauplatz].

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But while the signifier resides in the field of the Other, this other place is internalized into the subject and thereby both internal and external. In this way, the subject as caught up in the field of the Other and represented therein is the subject of the unconscious, since for Lacan 'the unconscious is the discourse of the Other.' To be the subject of the unconscious is to be subjected to the Other, the entire set of signifiers. To say that 'the unconscious is the discourse of the Other' is another way of saying that 'the unconscious is structured like language' since the Other is the entire set of signifiers structured in a way homologously to a Structuralist (Saussurean and Jakob-sonian) understanding of language.

Since each signifier is differentially opposed to all the others, it positively emerges from absence, and each signifier's self-identity and positivity rests on its being articulated to its place. However, this implies a difference between each signifier and its place. The absent place that precedes each signifier and each signifier fills in is constituted by the subject. The subject is the name for this absence. It is the absent cause responsible for allowing a chain of signifiers to be articulated. It is the absent place that allows for one signifier to arise after another. As the absent place, it causes the chain to slide from signifier to signifier. Here, this absent cause structures what appears, one's discourse, by not being able to appear. The absent cause is mind.

The signifier can be separated from its place for the same reason one can distinguish between a set and its members. The subject is neither the set of signifiers nor its members, but the very difference between the two. As the absent cause of a chain of signifiers, it is the lack between the two and the lack that allows a signifier to emerge in its place. The subject is thereby

the empty set.³⁰ In other words, "the zero is the presence of the subject" (*FF* 226). And it is the subject as zero that allows a series of numbers to be articulated since "the series of numbers can only be figured by introducing the zero, in a more or less masked way" (*FF* 226). It is neither the set nor the members of the set but the difference between the two, just as it is the very split between the level of enunciation and enunciated.

In this way, the subject itself is the void place as zero. We are made in the image of the Name of God. It allows for one signifier to be articulated after another, just as the zero for Frege was the concept nonidentical to itself that allowed for the series of numbers to be articulated and for counting one after the other to occur. The subject as empty set is the absent cause, the lack, that causes and allows for one signifier to be articulated after another. It is the lack that clears the space in which a signifier can emerge, the space to which a signifier can come. The subject is thereby the very spacing that allows for one signifier to be articulated after another. However, as this lack, the subject is non-identical to itself. This non-identity is of course the subject as desiring, the subject as split and divided, the subject as subject of the unconscious. It is this desire that animates and causes the chain of signifiers to slide. The signifiers stand in for the subject as constitutively absent and represent the subject while the subject as lack allows for the spacing

³⁰ See Jacques-Alain Miller, "Suture" (1977/1978), for a detailed reading of the subject as empty set and its relation to the chain signifier. This essay gives the fundamental logic of what I am spelling out here as the lack initiated by the subject as speaking subject.

in which the signifier can emerge and fill in and retain its identity.

It is in this way, as subject of language, that the subject lacks and 'is' this lack since it is the subject as divided, as being finite and split, and it is desiring that allows it to be this absent cause. This lack transfigures the real lack. The two lacks thereby overlap. The subject has the real lack as having lost something and thereby being divided, and this real lack allows the subject as empty set to absently cause one signifier to be articulated after another. These two lacks fold over each other, but it is the lack that emerges due to one being caught up in language that organizes and configures the real lack. This logically prior, but really second, lack assumes the real lack as the desire that absently causes the chain to slide. In this way, the real lack will have been assumed by the subject as lack in the Other (but the real lack is always heterogeneous to the Other, to the symbolic).

The speaking subject thereby assumes the real lack: Wo Es war, soll Ich werden. The subject's very being is reconstituted and reconfigured by being caught up in language and speaking. By speaking, one becomes where the real lack was. One emerges as speaking subject from the very locus of one's being and assumes it. One's being as really constituted is thereby assumed in the act of speaking.

The subject is thereby either meaning, the objecttive meaning its stand-ins have, or existence, the want-to-be of desire. The subject, although it is the split between the two levels, is broken up and halved into these two levels. The subject of enunciation and the subject of the enunciated content are therefore the two halves of the subject. One half is being (or really desire as non-being, as existence) and the other meaning, thinking as chain of signifiers (or really being, being as essence, as what one is, as opposed to that one is). Alienation is this either/or of being, desire

as 'want-to-be', or meaning (FF 211). The subject as being, as really lacking, is only the absent cause of the chain of signifiers and only ever appears there in its stand-ins; it is heterogeneous and cannot appear in the field of the Other. In this way, it either has being as the absent cause of the sliding of the chain or 'is' the meaning that it becomes in the field of the Other. This either/or is then an either/or between meaning (being as essence) and being (being as 'want-to-be', existence).

Becoming a subject is thereby the same as this forced choice. In becoming subject, in speaking, one chooses meaning, but meaning deprived of being. If one chooses full ontological plenitude and refuses finitude, refuses to speak and have one's meaning articulated in the field of the Other, one gets neither meaning nor being. One can either become social or anti-social, autistic. There is thereby an imperative that obligates one to make a certain choice here: to speak, to assume one's finitude, to give up on ontological plenitude by articulating one's desire for the impossible in and through signifiers.

One answers this question by choosing what one is for others, what one is in the field of the Other, what one is. This choice stops the sliding of desire from signifier to signifier by choosing one signifier that ultimately represents one. One says implicitly 'I am this', 'I am this for others'. One answers for what is lacking in the field of the Other and oneself, the place where the two lacks overlap, by offering an answer to this question. One constructs oneself and a substitute form of enjoyment.

Such a construction gives one the formula of fantasy: $\ ^a$ (FF 209). The "little losange" signifies the joining of the split subject to an objet a (FF 209). It signifies the split subject joined to a by way of alienation and separation (the lower half being the 'v' of the vel of alienation and the top signifying

separation) (*FF* 209). Alienation constitutes the subject as split and lacking, while separation fills out this lack by stuffing it up (E 314). The *objet* a is this stuffing.³¹ One answers the lack in the field of the Other and the lack in the real (the subject being both these lacks both in the symbolic and real senses) by choosing a as a substitute form of enjoyment and choosing a chain of signifiers, one's symptom as a set of signifiers defining what one is.

Since the *objets a* are the representatives and equivalents of *das Ding*, the constitutively lost nature of the thing of *jouissance*, of ontological plenitude, causes one to answer the constant sliding of desire by filling in the lack in the set of signifiers, the lack where what is constitutively lost is felt as absent. One thereby chooses how one will enjoy in lieu of full ontological plenitude. But fantasy attempts to cover over alienation by giving the subject a substitute form of enjoyment. This fantasy is organized around one of the *objets a* in such a way as it organizes the way one enjoys and desires. The sliding of desire through signifiers is thereby arrested by constructing a substitute form of enjoyment.

This fantasy is not simply one of the many daydreams one has, but the underlying fantasy that organizes all fantasies and desires. It signals the way in which one has responded to the question 'what am I?' by answering for the constitutive lack in the field of the set of signifiers. In this way, it cannot be a signifier, but instead a representative of the thing of *jouissance*. Fantasy thereby covers over the subject as

³¹ Deleuze has already hinted at how Lacan's partial objects can be seen as "shreds of pure past" and thereby constitute virtual objects (*DR* 101-5). For a discussion of Deleuze on Lacanian partial objects, see Dorothea Olkowski's *Gilles Deleuze and the Ruin of Representation* (1999), 152-62.

lack, as desire, by giving the subject as lack, as 'want-to-be' being.

In answering the question 'what am I?', the basic answer for Lacan reads as follows: "'I' am the place from which a voice is heard clamouring 'the universe is a defect in the purity of Non-Being'" (*E* 317). Fantasy and the symptom thereby give one the being that one constitutively loses as a speaking being. One's very *Dasein* is within this phantasy and symptom, for it is here that one stops the sliding of desire and offers an answer to lack, to 'want-to-be'. Fantasy then is a fundamental part of consciousness and one expressed internally by the monism of information characterizing the world as much as consciousness is also involved with qualia. ³²

There is one more role consciousness will have to play here, one that may be surprising to attribute to it given our realism. Quantum physics is infamous for suggesting that all things are in superposition until consciousness arises and perceives things, thereby disentangling what is into distinct states. This implies that "before consciousness evolved," one cannot say the universe existed as such (Chalmers 1997, 340). The creation of consciousness itself caused a collapse of the universal wave function and the superposition to end. The universe thus comes into being as it were when consciousness does. As Chalmers notes, this view seems "incompatible with the view" that sees consciousness as а fundamental attributer information itself, and Chalmers himself rejects the idea that consciousness brings about a collapse of the

³² Some here might ask why a *qualia* is itself not information. But recall that we are using information in the syntactic and not semiotic sense. Qualia might be information as signs, but that sense we have maintained all along is derivative and in this case an irreducible dimension based on the syntactic.

wave function (Chalmers 1997, 340). Chalmers rather Everett's many-worlds interpretations quantum physics insofar as the superposition would affect mind as much as anything else: the "brain of a person" "itself being a superposition" as much as anything else (Chalmers 1997, 346). For Everett, it is not that consciousness collapses the wave function of Schrödinger's cat such that it is due to consciousness that we see the cat as alive rather than dead. Instead, one mind experiences a live cat, another a dead one, etc. Each time the wave function is collapsed and superposition ends, a new world is created with a new experience. Superposed states are then parts of one world that divides itself for Chalmers. The world just splits infinitely into many different worlds with different minds. A new mind is made with each splitting (Chalmers 1997, 347). There are then an endless number ofdistinct experiencing consciousnesses. We then have in even a short period of time "a large number of minds that have an equal claim to count as me" (Chalmers 1997, 356).

But I think that Chalmers is wrong. Mind is not the brain, as he himself has shown. In this way, while brain is entangled with the rest of the world, there is no reason to say mind is as well. Only mind as a nonphysical system can collapse a wave function. Only a consciousness that involves something comprehended by physics from the mental side can collapse a wave function. The physical side does not do it. The objects we encounter are not therefore where we found them. Our apprehending them causes them, as it were, to be there. Mind itself, once God allows it to arise in the image of his divine name, reveals the very structure of the universe whether it be the tzimtzum or shvirah. It is only after mind as selfreferential, as itself related to the empty set arises, that one can discover the realism of creation itself. The mind before this self-referential mind was only

capable of seeing qualia. But self-referential mind created in the image of God, insofar as it is withdrawn and in the image of the divine name insofar as it relates to the empty set, enacts consciousness both as related to *objets a* and to a collapsing of the superposition of the world and reveals its creation by God.

§25. IS STEPHEN WOLFRAM'S NEW KIND OF SCIENCE A SCIENCE OF KABBALISTIC CREATION?

This creation by God might seem however to exclude one key aspect of mind and consciousness free will. This impression might arise due to our contention that reality itself arises out of and as an elaboration of the holy name. In order to demonstrate that we also want to maintain that at least for humans there exists free will, we will have to differentiate our view from that of Stephen Wolfram, who offers a fully deterministic view of the universe as a computer. Wolfram articulates his views in his lengthy, but brilliant treatise A New Kind of Science. It is surprising that, given Wolfram's radical new theses concerning the nature of space, time, and reality itself, his work has not been given more attention by philosophers. This may be due to the fact that Wolfram's work builds on previous insights William Fredkin on the universe as computer, John von Neumann on cellular automata, Alan Turing, and However, despite Wolfram's presupposing the work of others (and Wolfram's often surprising lack of acknowledgement of this fact), Wolfram lavs out more so than any other figure before him some of the fundamental principles of the idea that the universe itself is a computer.

The universe on this view runs and is in its very reality a computer program that generates all the reality we know as it computes itself and iterates its basic instructions. Wolfram refers to the most basic

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type of computer program (although not too basic to illustrate the key principles of any program)—cellular automata. Many will recall John Conway's "Game of Life," wherein each game evolves from its initial starting point. This starting point is simply a series of grids and instructions on how to fill in one line of those grids. The program then repeats itself over and over again and iterates the instruction in order to fill line after line of grids. In doing so, this game produces patterns that most of the times reveal larger patterns. Ladyman and Ross note that this game allows one to see how objects emerge out of more basic patterns, as one sees

'gliders', 'eaters', 'spaceships', etc. that have only virtual persistence (That is, two successive instances of 'the same' glider share only structure, and common participation in structures larger than themselves. A glider is clearly mereologically composed of a smaller number of illuminated cells. However, its successive instances are composed of different cells, and successive instances a few steps apart have no cells in common). (Ladyman and Ross, 2009)

Anyone using this game then sees objects in the same way we see trees, coffee mugs, buildings, etc. except the game helps one to see how these objects are the results of patterns and made up of them. It is part of the mental dimension of information that we can recognize such objects. These isolated objects can be treated as sets. But they will always be patterns inside of patterns just as our individual genetic code is a pattern inside a larger pattern of physical patterns (and these patterns also of course can be divided all the way to bits/differentials). It is then not objects or things that persist over time or underlie appearances

that are primary, but the patterns that give rise to them.

One of the new things Wolfram discovered was that if one allows such cellular automata to run endlessly (and only at a certain point did computers become computationally powerful to enable this to arise), one sees that they lead to random patterns. That is, while most cellular automata even after a very large number of iterations show only a repetition of the same patterns (even if such patterns show nesting of the same patterns within such as in fractals), Wolfram discovered that the thirtieth program he ran (what he refers repeatedly to as 'Rule 30' throughout his text) displayed at a certain point purely random patterns and repetitions. Rule 30 did so despite consisting of iterations of the same basic set of rules for filling in grids like any other cellular automata this. Wolfram's lengthy text is ultimately his attempt to spell out the implications of what occurs when one accepts that Rule 30 truly does at one point show us randomness.

First, such programs can help us explain the complexity and randomness we witness in the universe itself. It is by repeating a very simple rule that a perhaps infinite amount of complexity arises from pure relations alone. One does not need the complicated to achieve complexity. Everything from the formation of snowflakes to the patterns on mollusk shells can be seen as themselves evolving out of a simple set of repeating rules. Except, since these things like all others are made of information, the pattern here is the repetition of how water molecules freeze in relation to each other rather than how grids are filled in. In this way, the very structuration of the world is patterning. There is no substrate here. Even an atom like that of carbon is a configuration of bits that enable it to appear and function as it does. The very laws of nature are algorithms that produce and compute physical systems rather than independent

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Platonic forms that things exemplify or incarnate. It is not that things embody some higher order, but rather that physical systems are themselves processing and computing in the same way a computer program does.

Some have criticized Wolfram, claiming that when he uses cellular automata to show how snowflakes are generated by simple rules governing how water molecules freeze, or are lost around a seed. that his program only uses a few hundred cells when billions of molecules are involved in reality (Weinberg 2002).³³ critique However, this overlooks principle of computational equivalence' (NKS 715-26). Just because nature develops the snowflakes out of billions of molecules patterning with each other does not mean that, given the same rules, it can be shown using a simpler program. In this way, in the program, Wolfram does not have to say each cell refers to a specific water molecule. The issue is how and why computation gives rise in simple rules to such complex patterns. Regular arrays can themselves simply repeat like fractals such that billions and billions of steps can be involved and at each level repeated. One would only need a few steps to show this. The rule here is how water molecules freeze forming a piece of ice added to this snowflake or how heat is released in that process disallowing other ice particles to form alongside it (NKS 370). In this way, the key is capturing the simple rule for the patterning of how this freezing along with heat-release works. The rule itself may be shown in a few steps even if

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³³ The criticisms I am articulating here of Wolfram are best articulated in the only two real attempts prior to this text to engage philosophically with Wolfram (and I rely here on what is said in these two texts): David Naiditch, "Divine Secrets of the Ya-Ya Universe" (2003) and Ben Carter, "God in Stephen Wolfram's Science" (2003).

billions of small pieces of ice are formed on an actual snowflake.

While these criticisms raise important points, they overlook some key points that a metaphysics based on Wolfram's new kind of science will entail (and Wolfram is for us what Galileo and Newton were for a previous metaphysical conjuncture). These two issues relate to the rules of which Wolfram speaks. First, while Wolfram has shown us how simple rules can in their iterations give rise to maximal complexity and randomness, he has not shown how the iteration of rules can give rise to new rules. That is, if Wolfram's vision is to be taken as comprehensive, it seems to me that the simple rules at the heart of the universe (what we call the Name of God) would not only have to give rise to everything that is, but in doing so give rise to new rules. Since our world is complex and exhibits randomness, it is not just a fractal—a nested repetition of the same. The only model Wolfram gives that is not even implicitly a deterministic running of one permanent set of rules is sexual reproduction, where change is produced through a mixing of programs rather than just random mutations (NKS 386). In this way, when we see things like trees or planets, we are not just seeing a fractal repetition of the simple program. But trees and planets would seemingly have different programs involved in them were we to simulate them at some level. In this way, rules must also be able to give rise to subsets with new rules. I say this occurs because the Name of God in its iterations is itself a writing of God. We can think here of the trace of God already delineated. This trace itself is already more complicated than single bit. even if it can in and of itself be treated as such.

This problem overlaps with the second one. Where do these rules come from originally? As already noted in an endnote, we are arguing that such rules must be immanent and implied in the letters,

numbers, and bits through which God creates. That is, what we have is a string of letters that repeats. But in such a string, we have rules. And in the repetition new rules can arise based on how those strings are divided and segregated from each other. God allows for the permutation and combination of the letters.

Wolfram may already be at work on these issues in his latest research. But one way these issues will find confirmation and expression is in our own understanding of how human language arises in its complexity. Freud believed the kernel of our entanglement with the signifier was found in the fort/da relationship famously described in his 'Beyond the Pleasure Principle' essay. What this relationship implied was that all the complexities of language including its many grammatical rules begin with a oppositional relationship. If understand how language arises in children, then we will better understand how the program computing the universe itself works. This claim might shock some (that we will understand the universe itself by understanding linguistic development), but if we accept the principle of computational equivalence, then systems like human language can achieve the same complexity (NKS 845). The mind itself, like any other sufficiently complex system, is a microcosmos of the universe, not in the sense that it necessarily must reflect the universe (be a fractal nested pattern) (NKS 1196), but in the sense that it achieves a universe in and of itself while being part of the overall program.

In any event, it is our contention that one cannot go back beyond the holy Name of God such that in it already one must have a complicated enough set of rules to give rise to things. While Wolfram's own work makes it appears that rules are simply primitives beyond which we cannot go, we are arguing that rules themselves are part and parcel of the universe being determined by bits (letters/numbers). Take the very

simple rule 'If x, then y'. It must already presuppose the elements upon which the rule works. Wolfram does not engage with this issue as we have.

Now Wolfram, like Fredkin before him, thinks that one eventually will be able to find one single rule that explains the behavior of all processes, mental, physical, or otherwise, that are elaborated in this world. We of course agree and have already named this rule and principle the holy Name of God. This ultimate program would be something simple (not computationally complex than a and not some overly elaborate automata) unanalyzable construct. The information processing that this one rule allows for elaborates everything knowable about existence itself.

A problem does arise with this view. We can only know we have the right rule by allowing it to run, in order to see that it truly gives rise to the processes that inform our world. For Wolfram, in fact, we cannot know ahead of time what the rule or program will produce. He calls this throughout his text the principle of 'computational irreducibility' (NKS 737-50). Wolfram could not have known before running endless iterations of Rule 30 on a computer that it would end up becoming random, rather than simply repeating the same overall pattern as so many other programs did before. Likewise, we can only know what will happen in the universe by allowing the program to enable itself. As we earlier mentioned, the view that all is information means that we need a computer the size of the universe to emulate it.34 And here we see also that we would need a program that would run through as many iterations as have been

³⁴ Another way of formulating this thesis will be in relationship to the fundamental ontological thesis that Wolfram has introduced to us: "All is computation" (*NKS* 1125).

undergone in the universe to understand all its processes and that would run as long as the world will last to know anything about what would happen in the future. But given the billions of years our world has been developing, it is not clear we could humanly see a computation of all the steps needed to reveal such things. We would certainly need a computer that processes itself much faster than the universe itself does

In any event, even if we did not lack the time, we cannot predict what the ultimate outcome of things is. But that does not mean we cannot get an idea that we have isolated the right program. Even the very large number of iterations current computers can do would show us how the early universe originated, even if the program would never reach a point simultaneous with us. But despite this lack of foreknowledge, Wolfram's view is still deterministic, insofar as all is just a matter of iterations of the fundamental rule.

Another implication of Wolfram's view is that history also is irreducible. Given that to know how things are we have to allow a computation of the very program itself, things have to go through the very historical process they did and how things are today is a direct result of that history. For example, even something as seemingly universal and abstract as mathematics, Wolfram argues, is the result of how idiosyncratically conducted mathematics was ancient Babvlon. In this wav. even axiomatically, we could invent many ways to do mathematics, the actual way we do it is a cultural outcome of historical evolution.

Yet another implication of Rule 30 is what Wolfram calls the principle of 'computational equivalence'. This principle allows us to say that any computer is capable of illustrating for us how the complexity of the world arose. It shows us why even the computers we have can simulate and emulate at

least some of the key ideas and processes involved here, even if we may not have a computer able to generate the entire universe itself as it was up to now. However, all systems depend on the same simple rules, so that any one system (even one like 'The Game of Life') can produce the same complexity as any other.

Wolfram has been taken to task for arguing that the models he illustrates via the use of programs like cellular automata do not have to operate exactly like physical processes—even the very processes he claims to be explaining. But there are many ways that such processes might work. All Wolfram needs to do is show how an equivalent process can unfold. It may be easier to use a simpler program that does the work more efficiently than the natural process does but allows one to see the same results. Wolfram also has been taken to task since these rules seemingly cannot be verified. If he were to offer an equation explaining phenomena, one could then see if this equation does predict and explain how a process works. But if his programs can do the equivalent work as the natural processes, then he has thereby verified that he has explained how the phenomenon works in principle. We take Wolfram to be putting forth a philosophical view at this point rather than actually always laying out the specific mechanism involved in a particular phenomenon.

In any event, Wolfram needs the ultimate rule of the universe itself to explain all. For this reason, he is mostly attempting to prove that such a rule could exist rather than trying to find the specific and actual rule used in the case of all phenomenon such as for snowflakes. From a scientific point of view, at this stage the computer programs Wolfram presents need to be able to reproduce the behavior of a system. Having such a presentation means one can study the system itself and even see how it will develop. The shapes on mollusk shells do follow simple rules, even if we do not exactly know how physically the pigment is secreted at one point and not at another. The tissue of the mollusk cell grows step-by-step unraveling itself. Wolfram's own presentation of how a computer program can simulate it proves the most basic ontological point: that the phenomenon is at its basis an act of computation.

This view also indicates that the laws of physics will show the same complexity as what our own minds show, such that even divine intelligence "permeates the universe" (NKS 1192). Because even the most basic and low scale phenomena are produced by the same rule, there can be just as much complexity when it comes to how molecules are arranged as with how human thoughts are. But what is more important here is that Wolfram sees the divine, as we do, as arising not in the designed sophistication of the human body for instance, but in the irreducible basic relations of patterns (NKS 838).

Now, Wolfram is not a theist. In fact, his model is so deterministic it allegedly eliminates "miracles or divine intervention" that are incompatible with the laws of things (NKS 1025). However, insofar as Wolfram argues that things are irreducible, he cannot preclude, as we will argue following Meillassoux, that these laws can change at any moment. It is also important to distinguish Wolfram's model from that of chaos theory and from the idea that complexity comes from influences outside of a system (like a boat swaying due to the complexity of the waves) (NKS 300-1). Wolfram shows us how systems develop by iterations of fundamental rules and structural relations. It is these rules and relations that determine things rather than what chaos theory calls 'initial conditions', wherein complexity at the level of initial conditions will emerge in the behavior of the system (NKS 13). The chaos does not come from external

influences on a system. Chaos theory was able to show how randomness arises when one looks at how initial conditions play a role (if one pushes a roulette wheel with a hand, one does not know what the initial conditions of the hand push are), but Wolfram shows us something new—how the iterations of rules themselves can lead to randomness. The complexity at stake is generated by the evolution of structural relations themselves. Chaos theory contends that chaos arise because one cannot have accurate measurement of the basic conditions informing things. Wolfram is contending almost the opposite—that even in knowing the basic program one cannot know what will happen (*NKS* 155, 381).

Wolfram sees all things as being made of the same thing—information. But given that his information is itself embodied in rules and relations, it is ultimately space itself that becomes what the entire universe is an elaboration of (NKS 536-37). Space does not precede things created as some sort of empty container. Rather, space arises out of the relation between the nodes and through the network of processes that are elaborated by the program itself (NKS 508). The universe is then a giant network of space-time that unfolds itself (NKS 482-86). Time itself is just a product of the iterations of the program. One is updated, as it were, as one receives the information from these updates (NKS 481-88). As it unfolds the unfolding itself generates a sense of time, as one sees the passage from one step to the next.

Wolfram's view is reminiscent of the Hindu notion of Indra's net. This idea shows how emptiness itself, interconnection, and origination arise. All phenomena arise out of a single rule. The mutual structuring relations are repeated, such that all that exists is but a part of the great net. But insofar as it is just a matter of differences themselves, the net itself is composed out of iterations of nothing. This network is as simple as possible. Before the network elaborates itself there is nothing—not even space. Space is a collection of discrete nodes in a network. Space is made by indicating how the nodes should be connected to each other. All that is built into things is the structural relations themselves that unfold, forming networks with nodes that enable space itself to arise.

Why cannot space be an absolute and eternal background, as it was for Newton and for many physicists even today? First, this view was needed for Newton in order to have a constant frame of reference. Not only did Einstein show how one can have frames of reference without absolute space, but in this view of Wolfram's, the network itself produces frames of reference and relation. More importantly metaphysically, I think we can say that an eternal empty space itself will not give rise to anything, as argued earlier with reference to the false vacuum.

I think this view articulates how Wolfram's conception of things is also Pythagorean, precisely insofar as it says that all can be shown to be a program unfolding. What the Pythagorean call the "Tetractys" shows how the "dimensions of the universe were created": "1 is the point, its dimension is zero . . . and it generates other dimensions: 2 points define a straight line, with 1 dimension, 3 points form a triangle, with dimensions 2, 4 points linked between form a tetrahedron, with dimensions 3" (Ouaknin 2004, 211). Here, the universe is spatially created by the rearticulation of points/nodes. For the Kabbalah, existence itself begins in a concealed point via the spread tzimtzum. These points out dimensions. Information is itself а form connectivity. The complicated nature of reality cannot be explained by equations per se (which is again why a representationalist model will not work), but only by way of programs iterating and computing relations.

Nature must follow rules to be intelligible, but that does not mean those rules have to be embodied only in equations like those Newton formulated. Wolfram's view thereby is also eminently Kabbalistic. The ultimate program that Wolfram is searching for would itself write the book of the world (*NKS* 465-71). We call it the holy Name. Interestingly, the Kabbalah likes to emphasize how the words for book and name in Hebrew have the same numerical value. The *sefirot* themselves would function as the processes in this mode. The *sefirah* count (that is, compute).

CHAPTER FOUR

The Resurrection of the Dead and the Event of the Name

§26. FREE WILL

For Wolfram, complex systems cannot predicted, but they are still the result of deterministic this way, what will happen undecidable. But unless it would require an infinite amount of computer programming information to generate things, we cannot say that things are completely and totally unpredictable and incalculable. Randomness here really only means not predictable by us, as we have to let things unfold (NKS 750-52). In other words. Wolfram thinks free will is nothing more than our inability to know how rules will develop and to deduce what the rule is from the complexity. But the rule still determines what will unfold, even if it is unspecifiable what complexity this rule will reveal. In this way, many would say that an omniscient God would know what will happen and that the rule itself, addition to this knowledge, demonstrates the impossibility of free will in any ontology that conceives the universe as a computer. To clarify: knowledge is such that if one knows a state of affairs, to know something is to know it to be true, and if that state of affairs refers to a future occurrence, then one is stating that one knows a future event is true prior to its actual occurrence. But this truth implies that a person could not have acted otherwise, not only due to the way the rule unfolds, but due to God, for

instance, knowing that a person in fact does x or that event x does occur.

One might reply that for Wolfram's model it is only the rule's own determinism that is at issue, given that the principle of computational irreducibility holds. However, while Wolfram does not maintain a theist position, a theist would have to maintain that this principle of computational irreducibility does not hold for God. God's knowledge of all includes knowledge of the future. This has been a classic position, since God as cause or emanatory of the world knows what will arise. As Gersonides put it, God knows things as much as God knows his own essence (Gersonides 1987, 116). For Gersonides, the perpetual rebel and black sheep of medieval Jewish philosophy, given the very contingency of particulars, God knows in general how all should be ordered and determined, but not the particularity of particulars as such (Gersonides 1987, 117). God does not have knowledge of mutually exclusive possible events since they are contingent (Gersonides 1987, 118). God only knows what is necessary and a necessary result of his creation. For Gersonides, this view is itself necessary since God's knowledge of particulars in all their particularity would cancel their contingency. Human free will is possible since it occurs in the realm of contingency. God may know that humanity will necessarily arise in creation, but God does not know each particular human personally. God only knows the necessary order of things. God may even know on this view that two possible contingencies may occur, but will not know whether both, one, or none do occur. God knows "the intelligible order inherent in these particular forms when they emanate", but "does not know them . . . in their individuality" (Gersonides 1987, 120). God thereby only has abstract knowledge of human affairs. God does not know in advance the particular life story of each person. However, God

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does know not, for instance. if a person chooses a particular way of life or if they will experience certain outcomes (Gersonides 1987, 136).

Gersonides and Wolfram together seem to place us between the proverbial rock and hard place. If we are to grant things contingency and thereby free will to humans, we cannot grant God knowledge (God would also be subject to the principle of computational equivalence), but also we cannot grant that all unfolds as elaborations of God's Name, as then all is seemingly determined in that regards. We thereby have to deal both with knowledge and the universe's program to show human free will is possible (if it is). First, let us take up the issue of program itself. It is a possible view in Judaism, for instance, that miracles are programmed into the world at creation. Maimonides makes this point in his commentary on Mishna Avot 5:6. This is a view that is best considered in the context of our critique of Meillassoux's position later. Here, we can say with Charles Manekin that the computer program that is the universe can be just like the "rules of a computer adventure game" that we know today (Manekin 2003, 324). Just as the programmer of the computer program does not know how each individual person will play the game, Gersonides is saying that God does not know what each person will do contingently in the world created. We should think about things given this analogy with a game that can be played in many ways given its rules. God knows how the universe is programmed, but within that programming has laid out specific choices that can be made even within the overall framework of the game. God knows all about the world as God knows truly and understands fully the program and implications. In many ways, a programmer knows this, but not perfectly. Both do not know how exactly the game will be played at any particular playing of it. No move made in the game cannot be explained by

what the game makes possible. If I play the game poorly, my representative in it will be eliminated quickly. This is the same way divine providence works in the world for Gersonides in terms of reward and punishment for individuals, even if God does not know these things in advance. Knowing the program itself and its rules and operations is the same as Gersonides's claim that God "knows particulars from the aspect of their universal natures" (Manekin 2003, 325). For example, while God on this view does not know Noah, given the program anybody as goodly as Noah will experience the world in only certain possibly ways (Manekin 2003, 328).

God is then here like a mother. A mother tells her child not to cross the street without obeying the proper rules since otherwise the child will be harmed. A mother may even try to scare her child into not even thinking about running across a street without guidance. But a child, despite this parenting, may choose to disobey and be caught in an accident. The knowledge of the mother did not cause the accident. It was the child's choice that did. The knowledge the parent has does not in this way prevent the child from acting freely. In this way, it is possible that just as a computer game does, God can program the world through his holy Name to allow for various moments of choice where one can move in certain ways. Things then react accordingly.

But while this view of programming is acceptable, we do not want to hold that God cannot know individuals in their particularity. The key problem with this view is it ascribes a temporal nature to God and God's knowledge. God is eternal and timeless. God does not know things one by one or in time. There is no sense of time for God. God is able to see the entire sequence of numbers at once without counting them one by one since God is eternal. God's own infinity allows all numbers to be grasped in one

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act. God in this way does not know what will happen before things occur. Before creation, there is no time. There is only a before creation after creation on this conception (and as per one of our points earlier, only once consciousness is able to reveal it through a collapse of the superposition of the wave function). Anything God knows before creation is timeless. Time is the thread of the unfolding of things. As creation unfolds, God as eternal sees it all happen at once timelessly. God then does not know events before they happen, God sees them as they happen. God knows how we play the computer game (to continue the analogy) as we play it in one act. We therefore are free to make the choices in the way the program allows. It is not such that we could not act otherwise, given that it was known beforehand that it is true how we act. God knows it as we act as much as we do. But this divine knowledge does not detract from us and also does not detract from God as God as eternal also knows us in our contingency and individuality.

God is not infinite in the sense that God goes on and on. God is outside space and time as their creator. God is thereby not bound to the laws and limitations of space and time. God can therefore as spaceless and timeless and not limited by their rules can interfere in space and time as God will. Beyond space time, God is not bound by these rules. But as such there is no reason to say God knows something before or after. God is simultaneous with all in a way we are not. If we play a computer game with someone over the internet, we each see the program unfold in our own space-time. But God sees all at once including each of our decisions. God created us in his image. That is why only humans have this freedom. Only humans have mind insofar as we are also an empty set moving things along and insofar as we are self-referential in our very essence. This is the essence of the Turing test. It is not just a matter of what we recognize as a

human, but also that only a human can react to choices via self-referential understanding of them in order to show free will and intelligence. Only a human will recognize a choice as a choice and as a freely chosen action. We therefore have endeavored to show how even if creation is a computer computing itself free will is possible insofar as the nature of the program allows for choices as much as contemporary ones do and also in terms of God's complete knowledge of it.

§27. CRITIQUE AND APPLICATION: QUENTIN MEILLASSOUX AND THE CONTINGENCY OF CREATION

God's interest in the world's affairs involves miracles and the revelation of prophecy to those chosen. God need not only create miracles in and through the program itself, but can intervene at any point to send the program in a new direction. But as previously suggested, we cannot make good on these claims without the resources which the ontology of Quentin Meillassoux provides us. This is not to say that Meillassoux argues for God, miracles, etc. explicitly. But as noted from the beginning, in his own atheism, Meillassoux enables a fuller understanding of monotheism.

Meillassoux's project centers on a definition of correlationism and an attempt to exit the human-word circle. Meillassoux believes that it is by forcing the correlationist to admit to the purely contingent nature of human thought and its relation to the world that one can establish a new concept of the absolute, immune to any correlationist rejoinders or critique. Because correlationism is based on recognizing the sheer facticity of the structure of human thought itself, this absolute is one that argues that all is contingent, such that the only thing necessary is contingency itself (*AF* 54). One has to conceive "the absolute's capacity-to-be-other relative to the given" and to acknowledge

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that human existence contains within itself "the possibility of its own non-being" (AF 59). By rendering the human-world correlate as no longer absolute, Meillassoux promotes absolute contingency. It is only contingently true that anything that is known is correlated to some act of consciousness as the very manner of human thinking itself need not necessarily work as it does (AF 59-60).

In its absolute form, contingency means that all can become other than it is without reason at any instant (AF 54). The contingency that the correlationist must admit becomes apparent in an analysis correlationism embodied in transcendental idealism. Here, what appears to us only does so given the transcendental conditions for the possibility of knowledge. But we cannot say whether how space and time are intuited by us or how the categories Kant deduces are the way they are necessarily. Another alien subjectivity may experience the world in different ways. But if we say that the way the world is given and structured by consciousness is itself contingent and that this is the only thing we ever can assert (for the correlationist), then all is contingent by necessity.

Meillassoux takes this contingency as seriously as possible by asserting that the idea that all is contingent means "it is absolutely impossible that there is a necessary being and that the principle of sufficient reason no longer holds" (rather he asserts a "principle of unreason" that states "there is no reason for anything to be or to remain the way it is") (AF 60). In this way, Meillassoux will have "to demonstrate the absolute necessity of everything's non-necessity" (AF 62). The must be kept in mind that once it is asserted

 $^{^{35}}$ Meillassoux attempts here to derive necessity from contingency in a way that I would say distorts the sort of modal/ontological proof I have put forth. Meillassoux says

that all is contingent, anything can occur including that nothing occurs or that all things simply never change and remain as they are $(AF\ 63)$. Another name for the absolute contingency that Meillassoux seeks to establish at the heart of being itself is "hyper-chaos," wherein almost every possibility is possible $(AF\ 64)$. The only possibility restricted would be necessary beings such as God and the contradictory (as for Meillassoux the contradictory cannot be other than as

being must be necessarily, since being itself cannot be contingent in its nature (AF 76). Nothing that is can be necessary. It could always be otherwise. So anything that is is contingent. But here Meillassoux overlooks the fact that it is then possible that there be nothing, the void. Meillassoux is thereby claiming that the contingency being makes being as such necessary. But one cannot derive the necessity of its being from its contingency. One can only derive that something insistent and beyond being necessarily exists partly due to the contingency of being requiring its possible void. Ray Brassier, in "Concepts and Objects," in The Speculative Turn (2011), 60-62, essentially criticizes Meillassoux and perhaps others for relying on what Brassier believes is an intellectual intuition into the absolute (in Meillassoux's case the absolute nature of contingency). But I do not think one needs such intuition to think contingency. The issue is more so that such modal proofs can speak to the nature of reality itself. That they can upsets Kant's own critique of ontological proofs and shows that being is a areal predicate insofar as all that is contains it. In this way, in overcoming Kant and correlationism, the key is not giving into this aspect of Kant rather than his idea that we cannot know things-in-themselves. Rather, whatever one can say about contingency and necessity must hold for reality itself since modal categories necessarily belong to things of all types. No intellectual intuition is required to see it or know it. However, I would say I endorse a Cartesian realism wherein God is necessary to bridge between what can be known via thought and the world itself. First one must prove God to see how this is so. That is in my estimation a virtuous circle.

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it is) (AF 92). Meillassoux thereby rejects the idea there must be any necessity other than that contingency is necessary.

Meillassoux would thus reject the modal and ontological arguments we have previously offered. It should be kept in mind, as Meillassoux said in a lecture entitled "Time without Becoming," given at Middlesex University on May 8, 2008, that the hyperchaos is "so radical that even becoming, disorder, or randomness can be destroyed by it, and replaced by order, determinism, and fixity. Things are so contingent in hyper-chaos that time is able to destroy even the becoming of things." Both order and disorder, change or persistence, are equally possible and equally able to be for Meillassoux. There need not be eternal becoming any more than it not need not be that all remains fixed as it is. The laws of nature are not necessary and could be otherwise.

In establishing this view Meillassoux is not however saying that all is a matter of chance. Chance relies on an ability to aggregate all probabilities into a single set (AF 101). But if all is absolutely contingent. then no one probability is more likely true than another. All is equally probable and improbable in ontology. The whole does not exist for Meillassoux, such that a totality of all numerical probabilities and possibilities cannot be determined. The totality of all that is, whether it be a multiplicity of worlds or this one, cannot ever be given. Meillassoux's argument here is Cantorian. Whereas one can give, for instance, all the possible roles for a six-sided die, one cannot state what the total set of possibilities is for the world given the Cantorian idea of the transfinite. Any set in which we tried to list all these possibilities would necessarily be exceeded by

³⁶ http://speculativeheresy.files.wordpress.com/2008/07/3729-time without becoming.pdf>.

its subset (AF 102). All possibles cannot therefore be presented. Note we are here speaking of the transfinite nature of all possibles rather than what is actually.³⁷

All is thereby equally probable at the ultimate level and thus the absolute contingency is reinforced by Cantorianism and the inherent incompleteness of being (*AF* 127). While the infinite can be thought in Cantorian terms, there can be no one-Whole totality that is ever complete when we try to think all that can be. It is best then to say that probability does not hold in Meillassoux's hyper-chaos—there is only pure possibility and contingency. "Time can then bring

 $^{^{}m 37}$ This distinction is important here. It is not clear that there is a transfinite set of anything other than numbers and possibly letters/words. We cannot argue there is in fact an infinite amount of things in actuality. For example, physics offers us an idea of how many atoms there are in the universe. Even if we think of possible combinations, it is not clear we reach infinity without an infinite amount of time. Graham Harman gives the example of a rope being able to cut in an infinite number of ways: see "Meillassoux's Virtual Future" (2011). But to say that a rope can be cut in infinite ways is to identify a rope with a number line. It is not clear how a finite set of rope can be so identified without at least as a start some way of treating being in strictly numerical terms. Not only that, but to cut a rope in an infinite number of ways, one would need an infinitely thinner set of knives. At some point the knives would become so thin as to no longer do the job of cutting. It seems rather that a finite set of a rope does not have a transfinite set of cuts. This is one reason why Meillassoux's reasoning is still open to the modal argumentation we bring forth against his view. Also, even if we want to say that the universe can just contain a number or set of numbers, for example, so that we can speak easily of the transfinite set of all possibles, then we need a theory of number that I do not see present in Meillassoux's work. Our view however can confirm Meillassoux's claim here insofar as number is something created and could be the only thing created.

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about any non-contradictory set of possibilities" including "new laws" of nature which did not exist as some potentiality already found pre-formed in some virtual reservoir or as "situations . . . which were not at all contained in precedent situations" (Meillassoux 2007, 72). In this way, for Meillassoux, what occurs merely arises out of what is already for no reason and without there being any hint it was coming. What arises is also not a potentialization or actualization of the virtual. It simply emerges on its own without sufficient reason or detectable cause.

Here, Meillassoux goes so far as to uphold that being can arise on its own out of nothing: "we thus make irruption ex nihilo the very core of temporality delivered to its pure immanence" (Meillassoux 2007, 72). What occurs is not baked into what is. It can arise for no reason. The future can be something radically different from the present for no reason and without any resource in the present for giving rise to this future. For Meillassoux, this is how "life" itself emerged out of matter (Meillassoux 2007, 73). Nothing need indicate beforehand what will arise as there are leaps and ruptures in time itself. As may be clear, perfectly open Meillassoux's view is miraculous—a violation of how things can work at any time without its very possibility being allowed by the laws of nature (which could suddenly change for no reason) and not being prefigured by how things are. The miraculous is therefore just as possible in this hyper-chaos as anything else. A purely excessive occurrence can come upon us at any moment whether it be the parting of the Red Sea or the sun stopping while the walls of a city fall.

For Meillassoux, such radical contingency is due to the lack of God, to there being nothing necessary other than contingency itself. But that the laws of nature can be abridged suddenly and for no reason exhibits a divine intervention that many monotheists

philosophers such as Maimonides feigned to think possible. For Meillassoux, this

irruption *ex nihilo* presupposes, against the usually rigorous version of a concept, that there is no principle (divine or otherwise) superior to the pure power of the chaos of becoming: non-metaphysical in that the radical rejection of all necessity assures us of breaking with the inaugural decision of the Principle of Sufficient Reason. (Meillassoux 2007, 75)

Now, while we are happy to agree with Meillassoux that all that is is radically contingent such that all could occur at any time and that this is shown by the radical incompletion of things based on the insights of Cantor, we cannot accept that rejection of God is necessary. For this reason, we will now have to articulate a fundamental critique of Meillassoux's position on these grounds. God's creation can be radically contingent in all the ways Meillassoux lays out except that it does not include irruption from nothing itself. In fact, Meillassoux's own ontology precludes this claim due to his claim that being itself must be for him—that there cannot be nothing.

Creation can appear to have no ground as no contingent being grounds itself and could be otherwise. Physical laws can change at any instant and miracles occur. As noted earlier, in Judaism, miracles were seen as created in the original act of creation when, right before the creation of Adam and Eve, God brought future miracles into being (Mishna Avot 5:6). However, this view was probably upheld (as in the case of Maimonides) due to a belief in the eternality of the laws of nature. But here Meillassoux shows us how that those miracles need not already be prefigured but can arise. In this way, to say that

miraculous events are programmed at creation is to say that the very contingency of creation is what makes them possible. The very unfolding of the divine program itself can suddenly switch and allow them to arise.

We have then another way of formulating the computational irreducibility. of unfolding of the program may suddenly shift, just as Rule 30 suddenly moves from a repetitive pattern to something following no pattern and just as other programs suddenly end after an unknown number of iterations. And it could have always been otherwise, that other events could have been allowed to unfold. There cannot be a total regress without any ultimate and necessary principle. Life may suddenly and inexplicably emerge from matter, but this is not in itself an emergence from nothing as such. Nothing needed to pre-exist the miraculous advent and the supremely contingent irruption, but that is not the same as being emerging from the void.

Part of the problem here is that Meillassoux equates the divine with what he calls potentiality versus virtuality (Meillassoux 2009, 461). Virtuality names the idea that events emerge without being prefigured in what is, whereas potentiality names the idea that there is a set of possibles and what emerges is one of them. But the divine need not be identified with potentiality as we have argued here. Also, Meillassoux, despite some of his statements, is not arguing that things proceed from an actually existing world, but rather that there appear things that are irreducible and not explicable on the basis of what occurred before. Besides life, Meillassoux believes matter itself and thought/consciousness are two other examples of such radical irruptions, as life cannot be reduced in expiation to matter, matter cannot be expressed solely in mathematical formulas, and consciousness is itself a dimension of its

(Meillassoux 2009, 461-62). But there is a difference between saying that life emerges from matter but cannot be explained by it and arguing that life emerges out of nothingness itself or the void on its own.

Now, Meillassoux also claims that this hyperchaos can not only lead without reason to the destruction of laws of nature and the emergence of new laws, but also to the "abolition of the world" as such (Meillassoux 2009, 446). But there is the problem (and here our critique will start to fully unfold) that Meillassoux also claims that "it is necessary that there be something rather than nothing because it is necessarily contingent that there is something rather than something else" (AF 76). In other words, it is a necessary implication of the absolute nature of contingency that there always be being itself and not nothing. It is necessary given Meillassoux's principle that there always be some existing contingent being. Existence is not contingent. It is necessary (AF 74). However, that means existence as such is eternal without void. Not only does it ruin Meillassoux's explanation of irruption from nothing as being nondivine, but it also shows that he cannot argue that the divine is not. For if contingent being is necessary, then there must always be something. But that means there is infinitely being, such that at some point, inexorably, all that is contingent will not be. The necessity and contingency being implies eternality of nothingness itself arises. But nothing can arise from nothing. Matter cannot arise from nothing as life does from it. In this way, if all is contingent, it is not that contingency is necessary, but there must be at least one principle that can give rise to things from nothing.

One could also say here that what Meillassoux has shown us is that the radical contingency of created things makes divine intervention at various instances possible. For example, we could say it is divine intervention that explains how consciousness arises

out of life and life from matter. The divine intervention is precisely the irreducible emergence itself. The name of that principle is of course God. In this way, the key modal argumentation already given for God holds despite Meillassoux's claims and in fact must hold in order to possibly conceive creation itself as radically contingent and marked by hyper-chaos. In addition, our argument for reality in and by the Name of God also holds as only this view can actually explain the radical contingency of things. Meillassoux simply would have to see all occurrences inexplicable happenings that occur without reason and enact the hyper-chaos. In this way, it is no more probable or likely that we have the ordered world we have rather than one where one thing appears after another without rhyme and reason. However, following the idea that the universe as a computer unfolds a program, we both have the idea that radical contingency can unfold and that it is not surprising that there will be repetitions, patterns, order, etc. In fact, this program/name itself enacts the very nontotalization and incompletion of the world insofar as it consists of structural relations and thereby expresses the world's alienation in the signifier.

To take up again Wolfram's model, what Meillassoux shows us is precisely that Wolfram's model need not only be non-deterministic when it comes to human freedom, but when it comes to the world itself. This model is precisely one in which what occurs is not some actualization of a prefigured possibility, but rather surprising and unknowable advances in the unfolding of the iteration of rules. The principle of computational irreducibility allows us to see how at any instance things might simply stop (this occurs in some simple examples of Turing-machine modeled programs Wolfram presents) or shift from ordered pattern to purely random event (as Rule 30 or Rule 110 do in Wolfram's presentation of cellular

automata). Miracles are pre-programmed into creation precisely insofar as the world itself is the hardware/software of a computer unfolding in computations structured enough to exhibit maximum complexity.

The model we have been arguing for also shows how creation is not a necessary result of God's essence and is thereby itself contingent in a way different than Maimonides's conception (Guide Meillassoux holds that being itself is not contingent, but our position is thereby more radical insofar as God could not have created the world. Being itself is thereby a pure gift, an excessive and gratuitous event. In this way, we oppose the idea that creation is simply a realization of one possible world that existed in the mind of God. Even if in God all things are, they are in him actually as thoughts. But the world itself as created need not then be one realization of possibility. To evoke again some of the implications of God's eternity—there is no time or 'before' prior to creation itself. God as timeless thinks all possibilities as actual and at the same time as the world itself unfolds and is created in one act, as it were, from this divine perspective.³⁸ Creation itself is a purely gratuitous

This is not to say, that in the tradition of Kabbalah there is not a tradition that the world is simply an actualization of a possibility thought in God and that God creates necessarily by essence. We simply here oppose all such possible ontologies. An example of this opposing position is that of Moshe Cordevo: "First of all, [the beginner] must know that the Creator, EinSof, is one and has no second. He is the cause of Causes and the Prime Mover. He is not in the numerical sense, for [the concept of] mutation and form and multiplicity do not apply to Him. [One] is rather a word utilized by way of parable and likeness, since the number one stands by itself and is the beginning of each number, [all numbers] being contained within it in potential, while it is a part of every number in actuality . . . in all things by actuality. All things are in Him by potentiality. Necessary

event that from our perspective appears as an act of pure divine love since it could have been otherwise.

As opposed to what others claim (Drob 2000a, 103), creation is not necessitated by God's being, as God is not a corporeal creature with needs including a need for otherness. This also means, as opposed to Spinoza (think here of the 33rd proposition of the first book of his Ethics, where the infinity of God's nature necessitates that an infinity of modes occur), who also tried to turn the Kabbalist view into an ontology, we are saying that not all that is possible is created. Not all that God thinks need be in our world. Not every possibility that we can think of occurs in this world. For instance, via a survey of all possible programs in the computational universe, we will find many alternative worlds, but the key is seeing how our own world arises out of just one and is an unfolding of it. This is also part and parcel of the incompletion of the world. It is not a plenitude wherein all that is possible is actual. But we can, by identifying the different possibilities epistemologically that did not occur, show how our own world could have been otherwise. God's absolute freedom cannot be subjugated in any wav.

Even when we contemplate from our own perspective God's perfection via his goodness and majesty, we see that God creates, but that still our own creation could not have been. Spinoza believed that God necessarily creates as a result of God's absolute infinity and thereby sees the world as fully deterministic. There is no incompletion in Spinoza. The world is an infinite totality. But the very infinity of the world means there is always a surplus of possibilities that could have been. A world alienated

cause of all being. Just as number one is secondary for all numbers. For no number can exist save by it. He is not a number." (qtd. Raviv 2008, 356).

and made in the name of God and thereby via the bit, the structural relation, the signifier, is such a world. Meillassoux's position also rules out thinking the contingency of existence as such, but that means he contradicts himself and thereby holds also that all that occurs necessarily does so, as given an infinite amount of time and the eternal existence of things, all things will be realized. On this account, it cannot be said that for Meillassoux things are truly contingent, as the necessity of being itself means all that is must be and become as such at some point. Also, it should not be the case that existence should not become. The abolition of the world is thus ruled out by Meillassoux when the radical contingency of the world requires it. If being must be then, all is necessary and not contingent. But as we argued earlier, there something because there is nothing. It is not necessary that there be something. And if it were necessary, then again we would be faced with the emergence of nothing itself ultimately and thus the need for a divine principle to create out of this nothing. Only on the basis of divine creation can the radical contingency of the world and its openness to its own miraculous nature be fully thought.

Of course Meillassoux would say that everything that could happen does not have to happen, as all is contingent. But if being itself is eternal and infinite on his account, then ultimately all will occur. Here, we therefore take from Meillassoux the atheist those insights that are compatible with theism while showing how those which are not cannot stand on their own principles. They can only stand on the principles we have set forth here. It is surprising that there is something rather than nothing, as nothing exists in the void and is much simpler than what is. Meillassoux must admit that it is fully possible that everything cannot exist. Over infinity, the possibly of nonexistence will have to become actual. And an

infinity would have to have passed already given the eternality of being. But everything has not passed into nothingness. We are. And there must be something necessary obtaining outside of mind that allows what is to be—God.

Note: I am not claiming that Meillassoux here engages in a slip of the tongue, but rather despite the magisterial nature of his argumentation, the falsity of atheist ontology must emerge. Now, I think that Meillassoux himself or one of his supporters might reject this God on other grounds and thereby give the appearance of saving the atheist position. Meillassoux interestingly argues that God does not exist, but God may come into existence. This God is not a necessary cause or being for Meillassoux but rather itself a of product of Meillassoux's vision contingency: "a God who is no longer the first and necessary cause, but rather the last contingent effect a God who is no longer absolute (only contingency is absolute), but who is nevertheless ultimate (the value of which is indispensable, but the advent of which is without necessity)" (Meillassoux 2009, 463).39 Now.

³⁹ But let us be as clear as possible. Meillassoux may say that God can come into existence. But all he means by this is that the dead can arise for him as anything can happen. But God and the resurrection of the dead are far from being identical. Meillassoux is in no way advocating or attempting to show that God will exist, as God means something eternal, omnipresent, all-good, etc. Meillassoux, despite his own rhetorical flourishes and those of his explicators (which imply he is arguing God will exist), is an atheist. He is critical of an atheism of chance and necessity. That is, he disagrees with the multiverse insofar as it is says all possible universes will occur, disagrees with the idea that purely random processes bring about events in the world, and disagrees with the idea of not hoping for justice and salvation. But these things in and of themselves do not remove him from the idea that, per his thinking God was

when Meillassoux says that God does not yet exist, he does mean that God is already prefigured in the world and just needs to be actualized like some possibility (Meillassoux 2009, 460). Given hyper-chaos, there is no reason that God should remain non-existent on Meillassoux view. Also, God's future existence is not guaranteed, as nothing is guaranteed or necessary for Meillassoux, but it is an ever-present possibility.

But when Meillassoux speaks of God arising in the future, Meillassoux does not really mean God in any sense we recognize. He means just that "renewal of past bodies" is a permanent possibility and that such a renewal would redeem past injustices: "I will use the term 'God' in the minimal sense that it would have in the framework of divine non-existence: the advent of a reign of existence which allows me to hope for something other than death for the departed" (Meillassoux 2009, 459-60). One can always hope for the resurrection of the dead and cannot rule it out Meillassoux's notion of hyper-chaos. Meillassoux's atheist argument against God here is not just the ontological one recounted earlier, such that there can be no necessary being, but a rehearsal of a argument, the argument from classical (Meillassoux 2009, 451-57). One should hope for the resurrection of the dead, as there has been injustice, grief, suffering, etc. in relation to what we have experienced in the world in the past and present. To one's memory, the argument from Meillassoux is relying on here says that the evil and suffering in the world proves God's inexistence insofar truly omnipotent, omniscient, and omnibenevolent deity would never allow such suffering. In particular, such a God would not allow the good to suffer. Ultimately, as many have noted, this argument rests on the idea that there is an excess of suffering in

not, is not, and cannot be.

the world, as even an ardent atheist will admit that goodness of free will entails that humans will give rise to suffering, that some suffering can aid a person in growing spiritually, etc. In this way, the argument ultimately contends that there is a surplus of suffering. There could be less suffering and also exist free will, suffering as a pedagogical tool, etc.

But it is not clear how the atheist determines that there is an excess other than via some subjective measurement of how things appear to them. It may be that there is just the right amount of suffering as per divine reasoning to allow for instance for humans to act freely. Also, while this argument argues God does not exist, if there is some possible act of fundamental justice in which the good are rewarded, past suffering is overcome or forgotten, etc. then it would prove that there is a God presiding over this world as the suffering that supposedly shows this God does not exist would not be excessive in any manner. The evil in the world then becomes justified on its own terms. God has moral reason for this suffering. God need not make sure there is no evil in the world. It must simply be that creation as such must include a non-excessive amount of suffering and also the possibility that even the appearance of such evil is redeemed for God to be said to obtain outside our conceptions.

We can also say that there is only a problem of evil in conjunction with God. Without God, suffering simply happens senselessly. There is no reason to say it is just or unjust. Only with God do we ask if people are receiving their just reward. For example, in the pagan world, suffering was not an injustice, but a matter of fate (thus, making it better never to have been born in the words of Oedipus). Maimonides, for example, attempted to show that there are three kinds of evil and that almost all of the evil that we truly feel is unjustified arises from human action (*Guide* III.XII). God allows evil and suffering in order to aid us to

achieve new things and grow in awareness. Some evil arises out of our having a physical body such as disease. But if we did not exist, we would never experience anything. For Maimonides here, the suffering that arises based on the free choices humans make is done out of ignorance of the right way of acting. People can be taught and corrected to do what is right by each other. Finally, we in our freedom inflict suffering on ourselves.

Ultimately, then, the argument from evil cannot be maintained by someone such as Meillassoux who himself leaves open the possibility of the resurrection of the dead. We will also try to show that this resurrection is possible. It is also something that, following Kant, is reasonable to believe will occur. For these reasons, there is no reason to say God does not yet exist. Both ontologically and morally, we should uphold God now. While Meillassoux has shown us how to conceive the created world as purely contingent in order and reminded us of how this includes both miracles and the future resurrection of the dead, these positions not only do not ultimately rule out God, they only can be held in conjunction with the upholding of God.

§28. THE RESURRECTION OF THE DEAD

For Judaism, this future resurrection of the dead will occur. It is a principle of faith. In one version, the one for instance that Gersonides upholds, "this miracle will be performed by the king messiah in order to convince the nations of the world to recognize and to worship God and to strengthen Israel's faith in him" (Manekin 2003, 315). In this way, it will be by some power the messiah himself enacts and in the messianic age that this resurrection of the dead will occur. In fact, a Jewish male over the age of 13 prays three times a day for this resurrection. But in doing so, the prayer attributes the power to the God himself. On

this take, there is a view that the resurrection of the dead will be performed by God himself:

Three keys are in the hands of the Holy One, blessed be He, which are not entrusted to any messenger, and they are: The key of rain, the key for a woman lying-in, and the key for the resurrection of the dead. The key of rain. as it is written [Deut. xxviii.12]: "The Lord will open unto thee his good treasure, the heaven, to give the rain of thy land in its season"; the key for a woman lying-in, as it is [Genesis xxx.221: "And remembered Rachel, and God hearkened to her, and opened her womb"; and the key for the resurrection of the dead, as it is written [Ezekiel xxxvii.13]: "And ye shall know that I am the Lord, when I open your graves and when I cause you to come up out of your graves, O my people." The sages of the West say, that also the key to a man's earnings are in the hands of God alone, as it is written [Psalms cxlv.16]: "Thou openest thy hand and satisfiest the desire of every living thing. (Tagnit 1:2)

On this account it is not clear whether the future resurrection of the dead will be accomplished by the messiah itself or directly by God. In either way, Judaism holds that this event will occur, and it is for Maimonides the thirteenth and final principle of faith.

Meillassoux has already suggested how this miracle itself is possible. But in his version, this resurrection produces a "non-necessary immortality in which death would remain a possibility. But this would be a possibility that might never arrive," because the reinstated bodies will no longer be subject a biological law of decays (Meillassoux 2009, 462). For

Meillassoux, it is something that one can hope or work for, but its very basis follows from the non-existence of God and on hyper-chaos. While we agree that the radical contingency of creation is one condition for the possibility of this occurrence, there is reason to believe that this miracle itself will happen given the very nature of God. In the first place, we have the moral argumentation best articulated by Kant at the end of his second critique. There, Kant attempts to show that our reasoning sensibilities would be insulted by the idea that the morally good in this world suffer and die without ever being rewarded for their goodness whereas the evil in this world often prosper. The very notion of the highest good requires that virtue leads to happiness rather than happiness leading to virtue, since otherwise the very idea that we feel and experience this absolute obligation to be moral would itself seem absurd and cruel. But given that in this world virtue does not lead to happiness we must posit that there is a divine judge that rewards and punishes ultimately justly and that we have immortal souls in which we can exist for this judgment and in order to achieve ultimately a purely good will.

But as Alenka Zupancic persuasively argues in her essay "Kant with Don Juan and Sade," the premises of Kant's argument do not entail that we should posit an immortal soul as much as an immortal body (Zupancic 1993, 115-25). If the consistency of ethics requires that we are given a chance to work towards developing a purely good will, then we need the instincts, drives, passions, etc. of the body to work against in order to achieve this state. Also, happiness itself is a bodily experience in part. What we have here then from Kant is moral argumentation not only for God, but also for an afterlife that includes bodily resurrection. In contrast to Meillassoux, the very resurrection of the dead is required by the nature of

God. For Kant, the upshot of this sort of argumentation would be that we have rational grounds to have faith in this future resurrection, as much as we have rational grounds to believe in God (even if we cannot know or prove as such for Kant that these things are).

Given the moral argumentation for the resurrection of the dead, it is also important to show it is metaphysically possible. For Meillassoux sufficient to simply raise it as a possibility. But given that for Meillassoux any non-contradiction is equally possible and might arise at any moment, we have no reason to see beyond this how and why the resurrection of the dead makes metaphysical sense. First, it is possible insofar as all is itself information. Even if this information itself is lost, God can retain it. Given that things are made of information itself, one simply needs to restate this information to have the thing itself. Take again the example of my voice. Even after I am dead recordings of it may survive. This is my voice itself as much as my voice over the phone or the voice heard when speaking to one. This is possible of course because my voice as with anything else can mathematically expressed fully computation since it is fundamentally information. What is true of my voice is true of my body and mind. When the technology arises, my voice will emulated not just in terms of what has been said, insofar as a machine would be able, using basic computer programs, to speak sentences I have never spoken in myself at this point. Things can described in purely digital form such that they can be recreated as such and not just representations or simulations of such things. The digital nature of reality itself entails the possible emulation of things.

Now, to emulate the entire universe might take something as large as the universe given that the universe itself is a computer and computation. But that does not exclude the possibility of parts of the

universe, such as a human being, being emulated fully. We are not talking here about an approximation or idealization of a human being. We are talking about the full consciousness and eventually the body itself being emulated. Just as there is a set of rules or rule for the universe, such that when those rules are implemented the universe itself unfolds, there is a set of rules and digital instructions for emulating any specific human. Such emulations would have to emulate every molecule, atom, etc. that is necessarily connected with the person. But such atoms and molecules are themselves composed of information. It is well-known that our body, for example, does not consist of any specific set of atoms for instance. The atoms making up our body are replaced multiple times. It is a pattern that makes us up. In this way emulation requires atoms, but not the particular atoms that compose me at the moment of this writing.

One can get a sense of what type of technology would be required here by thinking about science fiction and the particular example of the 'teleporter' on Star Trek. Here, one is able to emulate the pattern of someone such that one can send it to any location in space-time. As Michio Kaku notes, "to teleport someone, you would have to know the precise location of every atom in living body, which would probably violate the Heisenberg uncertainty principle (which states that you cannot know both the precise location and the velocity of an electron)" (Kaku 2009, 55). A key here would be that one would not just have to note where the atom is now, but to propose any and all possible velocity and location relations such that one could emulate the object. Quantum objects contain information about many things, but of course when we observe such quantum phenomena they lock one thing. One thereby would need comprehend the very wave function informing whatever phenomena one would want to teleport. One

would then be communicating all possible information states and not just one. But given that we exist throughout our lives in many states as long as the basic pattern was retained one would have emulated the thing.

Quantum information, once observed, loses its superposition. But that does not mean that one cannot comprehend the thing by comprehending its very wave function including all possible states. Kaku further states that, for instance, a "light beam" can be "sent down a fiber optic cable. Remarkably the light beam contains all the quantum information necessary to describe the original matter beam (e.g. the location and velocity of all its atoms)" (Kaku 2009, 65). In this way, through bouncing light off existing atoms one can already capture all its essential information. Now as Kaku also notes, from a Newtonian or Aristotelian perspective, teleportation is not possible since one either has things made of tiny hard indivisible balls that would need to be preserved or one has some unknown underlying substratum that itself cannot be expressed mathematically (Kaku 2009, 56). But here due to the fundamental view that all things are made of information, once one has this information, one could use it to emulate whatever one has.

Think here of teleporting an apple. One would need to collect all the quantum information relative to each atom. One could then send this information and have a machine reform it at the other end. In episode four of the first season of Kaku's television show *Sci Fi Science: Physics of the Impossible,* Kaku lays out how one could, using the same technology that forms the basis of MRI machines, collect this information. An MRI device uses radio waves generated by electromagnetic fields to interact with atoms—forcing them to emit pulses that can be recorded. A more developed MRI device with more powerful electro-magnets and more developed sensors for collecting information

would form an atomic map of one in one's entirety. Data contains no matter according to Kaku. At the other end of the teleporter, Kaku proposes in this television episode that one would of course need atoms to use, but these atoms would be manipulated using the data sent to form an emulation. At the other end there would a fabricator that, using the data and information sent, could assemble atom by atom a twin entity. One would thereby send information rather than atoms. Or perhaps better, one would send the information that fundamentally makes the atoms what they are.

This is not to say that atoms cannot be transported. Quantum entanglement itself enables this. Once two atoms are entangled, one atom immediately informs the other atom. The key here though is not how a future teleportation would in fact work, but that it is physically possible as well as metaphysically possible. If such a device is possible, then metaphysically there is no reason why a human could not be resurrected as this information itself is available to God. The key is that the identity of a person or anything else is found in the basic pattern of information informing that thing rather than in any substantial thingness. The key is also that if the essential information is had then one does not need to transport an original, but only need emulate that original as expressed in information. One converts something into the data and set of instructions it always already was from a metaphysical perspective and then uses that data to emulate the thing itself. The twin itself would be identical in all ways including in of consciousness at the moment transportation even if later such a twin might develop new experiences. We are not speaking here of a biological, genetic clone, but a twin with the exact

same physical brain.⁴⁰ Teleportation would ultimately not be much different than contemporary fax machines. This machine sends the essential information contained on a sheet of a paper and reproduces it perfectly at another location. If what was

⁴⁰ Whereas a biological clone develops in new ways and is seemingly distinct from its twin like a natural-born twin is. the metaphysical clone we are speaking of here relative to teleportation would not be as distinct. In fact (and this is vet another future testable claim we are making), I believe the metaphysical clone will be entangled with what is cloned just as atoms can be entangled with each other in quantum physics. This means that no matter the distance, the clone tele-transported will have a relationship with its twin. One can imagine one having memories of the other, dreaming at night things that relate to the day of the other, etc. The model here would not be dissimilar to what we already find in split-brain cases as investigated by Derrick Parfit in "Divided Minds and the Nature of Persons," in Metaphysics: The Big Questions (1999). In such split-brain cases, one experiences two distinct things at the same time. But here rather than having two selves in one body, we have one self in two bodies. Parfit concludes from split-brain experiments (where the two hemispheres of the brain are actually cut and separated) that the Bundle theory is correct. He does so in part because when someone with a split-brain sees red and blue in two different eyes, the experience is not unified, but rather when asked what one sees the split-brain writes red with one hand and blue with the other. Here, one metaphysical clone sees red and the other blue. Each with its own experiences, but at the same time one may have a dream of seeing the other color that night. The split-brain theory says there is no underlying self that exists throughout all our experiences. We have a soul split in itself as an irreducible dimension of copied identical information. We have already mind is split in Lacanian terms and thereby that there are unconscious thoughts we are not aware of. Consciousness is only ever partial in that regard and in regards to the information it forms a dimension of.

on the page could not be computed and expressed as information, this would not be possible. We have already discussed how this occurs with our voices in every phone call. In the resurrection of the dead, the pattern itself would be emulated again.

In his Physics of Immortality: Modern Cosmology, God, and the Resurrection of the Dead, Frank Tipler proposes a specific way in which future technology will not just be able to teleport a person, but actually resurrect those who have passed. Tipler's view of course rests on the metaphysical idea that the "soul is nothing but a specific program being run on a computing machine called the brain" (Tipler 1995, 2). Tipler imagines intelligent robots containing information on humanity (such as all our genetic information) in the future being sent out to colonize the entire universe (Tipler 1995, 19). Now, the dead resurrected would not be simulations representations, but a simulation "so good that every single atom in each [person and each object] . . . has an analogue" (Tipler 1995, 206). Such a perfect situation would itself be an emulation as each and every property would be captured and reproduced. A powerful computer that covers the entire universe colonized by the intelligent robots would emulate these people for Tipler. Such emulated people would have consciousness and be aware just as we are and would not even know they are in a computer. In many ways it would be the same as we ourselves exist in the universe which is itself a computer. In this way, emulated people see themselves as real as we see ourselves (Tipler 1995, 207).

While one cannot imagine an emulation of the entire universe, unless the entire universe is itself used, a computer will be able to emulate us for Tipler if it has all the information needed, in the same way a computer can emulate other computers (Tipler 1995, 208). Here, Tipler argues (as any Structural Realist

would need to) against Kant that "existence is a predicate" such that whatever is exists even if it is just a relation between concepts and information (Tipler 1995, 207-10). Whereas Kant opposed a mental representation of a coin to the coin one experiences empirically, this view forgets that conception can be much more than just mental imaginings. 41 Such mental representations already had being (they existed in mind). Some, such as Kant, believe that when we tree. we have only Our representations of this tree. For Kant, given that all we have are these mental representations as conceptions, one must posit a tree in itself over and above these representations (these mental representations are of course not the tree—they do not grow and bear fruit). But mental representations like these are but one type of conceptualization. Conceptualizations as done by computers and information have themselves being as well. As much as consciousness is information on its inside, one's thinking and feeling oneself to exist would be the same as we have, insofar as we are ourselves, here and now, are made up of information. The resurrected dead would then not be any different than we are now even if they were resurrected by a universal computer.42

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⁴¹ Here, we will be ultimately implying that contemporary credit cards disprove Kant. That is, whereas Kant argues one cannot spend an imaginary thaler even though it has all the same properties as the one he claims to hold in his pocket, one can spend money that is nothing more than computer code by swiping one's card. This is then registered in one's bill and/or deducted from one's count. The swiped code enacts the sale, and the thalers are spent.

⁴² This universal computer would produce what the Kabbalah calls *yechida*, the universal soul. In it there is recognition of God and constant desire to contemplate God's unicity. Kabbalah focuses on types of souls in a way not too distinct from Aristotle. Plants for example have the lowest

In thinking of this universal computer, one can think here of the vision of Ray Kurzweil. 43 Kurzweil envisions computers the size of blood vessels and even smaller. Once the entire universe is filled with the all these microscopic computers, it can be untied into one single thing which will have divine properties such as omnipresence, omniscience, etc. Another key metaphysical idea that Tipler picks up on that is key to any true Structural Realism (like the one we have been trying to articulate) is that of the identity of indiscernibles (Tipler 1995, 207). If two things are identical in all their parts and properties, then the two things are one and the same thing. The key is that an emulated dead person would then be the same as they were when living. Tipler argues that this resurrection of the dead "is physically possible even if no

type of soul called nefesh in which there is feeding and an ability to reproduce. There is here some basic awareness of at least the needs one must acquire to survive physically. Animalistic soul (called ruach) of course involves and contains nefesh, but goes beyond through the ability to move oneself and an ability to perceive the world through the senses. The human soul contains the lower two, but also an awareness of morality, truth, and beauty (that is, that there is something ideal rather than just the physical). Given that we have said all is information, we would have to also attribute some type of soul to the inorganic (for instance, stones), to atoms, galaxies, etc. We might choose what Kabbalah calls chaya. That is, these things are living as such, but only have the most basic form of awareness. If we are to imagine what they are as information both inside and out we might imagine for example a silence beyond words or from the perspective of their sheer materiality resistance. The computers we have now therefore already have minds and souls. But a computer simple follows rules and instructions such that its qualia would be something like a looping that does not recognize itself as such.

⁴³ Ray Kurzweil develops his ideas in many places, *The Singularity is Near* (2006).

information whatsoever about an individual can be extracted from the past light cone" as "sufficient computer capacity to simulate our present day world by simple brute force" would occur (Tipler 1995, 220). For instance, information on the human genome would allow possible humans to be made genetically. All possible human experiences would then be had by those creatures to ensure that each person is emulated. Tipler argues such a computer would be itself fueled by the Big Crunch at the end of the universe itself and thereby have an endless supply of energy. There is a singularity at the end in the collapse of the universe. Even if this collapse lasts a few instances, the infinite energy created by it makes for unlimited computing capacity.

Tipler famously calls this end point the 'omega point', following Teilhard de Chardin. The universal computer stretching across the universe collapses in size along with the universe itself in this collapse. But this only fuels its power and thereby allows it to be as big as the universe itself and to simulate it. In this way, the resurrection takes place precisely at the end of this world. The key is that one upholds, as we have been doing throughout this text, that what makes a thing what it is is the fundamental pattern it expresses rather than some substratum underling change (that is, physical continuity) (Tipler 1995, 227). Now, many will contend the soul is just such a substratum. In fact, it's not clear how one could ever argue that underlying substratums are not like souls, since as they persisted through change, there is no reason they will not persist through the change of death. But the Kabbalah has a view of the soul like Aristotle, as the name of different types of organizations. Soul is thereby like mind. We do not need permanent underlying souls to have selves, even selves that exist beyond death.

One objection, from those who believe there is some real substratum that persists through change, is

that it seems some phenomenon cannot be accounted for without such substratums. For instance, if we do not posit some underlying objecthood to the cane toad, then we cannot understand how it is possible that when that toad was transferred into a new environment it lead to disastrous results. The cane toad, on this account, has an objecthood that includes certain properties, powers, etc. But I am not sure one needs here to posit some substratum with all these properties to account of the cane toad. One simply needs patterns. For example, in the environment of my computer there exists a virus program. It can be copied such that it is indiscernible from itself. It is one thing. It is a unity as a set containing its code, relations, etc. If one plugs it into a computer running different operating software it may not be recognized or it may destroy the computer or it may be neutralized by some other program. A cane toad is no different. It can be isolated out as a unity by consciousness or in being itself, but that does not it has to be an object, rather than mathematizable set of relations.

We can also imagine one asking how this model can handle two distinct sets colliding or interacting. For instance, one can think of a tree growing on the side of a mountain. But here we have two patterns that collide and can even overlap. The tree pattern must grow alongside the mountain. It is not then unlike a spider web growing along a cave. The cave has its own pattern and the spider web grows alongside it and in conformity with the space it allows. One might here want to think about the interactions of patterns using analogy with Einstein's notion of space-time and gravity. If the universe is just a series of networked nodes as Wolfram shows (NKS 532-37), then when we see one pattern affecting another it is like a curvature of space itself by the gravity of the pattern, as it were, in its iteration. We can see in each case two distinct

sets or one including both things. We do not in fact know whether for instance to see the mountain and tree as one thing or as two things. Or to zoom in and focus on one of the branches of the tree or to zoom out and see the mountain as part of a merge which is part of the earth, etc. In each example, we have either a smaller or larger set of relations and a pattern. All are in being, but any can count as patterns that express themselves. We can only truly account for this aspect of being by posing an ontology of information and sets. Only sets can capture how any different things can be arranged. If we were to posit things as essentially made of continuous substratums then we have to posit some Platonic-like withdrawn thing, an in-itself tree that persists despite a branch falling off. Also, it is only by positing bits/information (names, numbers, sets—the differential) as the substance of being that being can express these characteristics without having to arrange hierarchies of levels. We have here both one model of causality (that one pattern influences another—although causality can iust be thought of as a step by step process where one iteration of a program leads to the next articulation)

Now from the perspective of Husserlian phenomenology, consciousness itself would see things disclosed as unities with pieces and moments. Moments are parts of a unity that cannot persist outside the unity. Pieces have their own independent status. Pitch (and here we have a good example of a material and mental qualia) in the musical sense cannot exist except as united to sound (Sokolowski 1999, 20-23). But we see in this example that pieces are really qualia that only consciousness is aware of, whereas everything else is moments, things that can be as they are. It is theoretically possible that we could for instance construct a branch from atoms without it ever having been connected to a tree. This is so be-

cause the branch itself is a set of relations, information.

Many readers here might still be skeptical and ask where one set begins and the other ends, if being is seen as constantly shifting from set to set. Let's return to the doughnut and coffee mug examples. I say I have this doughnut in my hand. But I have then named and isolated an aspect of being, a set. It is completely arbitrary that I focused my attention in this way, rather than seeing my hand and the doughnut (and if I dunk it, the coffee mug as well) as all being part of a single set. This arbitrariness is also what brings to the fore the need for names. As in isolating a set, we are naming if only as a 'this' (this doughnut). But names in English do not reveal anything about the thing. The word water in its lettering tells us nothing. In addition, the letters have no numerical value. But in Hebrew, the holy language of creation, a set identified as water, can reveal properties by its name alone. Here, the name of a thing helps to isolate it and to call attention to it as a pattern.

These patterns are already given to us. The pattern for the tree growing in the courtyard is not determined by us. Our encounter with it is determined already for how it has arisen on the basis of the information informing being. But mind itself can also combine things into unities as sets. It can for instance take the house and tree together as a set for consciousness. Anything that can be generated from simple rules or expressed as mathematical relations is in itself a set on its own, independent of mind. There is also here a continuous creation by God. While God is withdrawn from the world in the tzimtzum and reality is an unfolding of the program that is God's holy name, God permutes and combines the letters of creation beyond how this name unfolds on its own. At any time, God can continue writing using the void that his withdrawal affords as a basis. Notice here we are

not stating a *techne* versus *physis* distinction, insofar as even human generated things can result from simple programs.

Most such sets are delimited by us using visual perception. That is, it is a function of mind as Husserlian phenomenology already showed us, to be able to engage with the world as a system of interlocking and interrelated unities. While mind via visual perception is not alone here, as writing and other means can do so, it forms a good example. As our guiding genius Wolfram says, our "visual system seems to . . . just pick out certain features which quickly make us see the picture as a collection of patches with definite features" from the "mixture of just three fixed colors" (NKS 577). That is, visual perception itself is a form of analysis detecting patterns, iterations, densities, nested randomness, etc. in the patterns making up being. On the basis of detecting three basic colors as well, visual perception itself builds up patterns using only basic elements and simple rules. Sensible intuition then tells us what has limits by itself interacting with the information that makes up being. Surfaces, sides, and volumes are given to us as inherent aspects of finite things. But we now see that this is part of sets. Mind itself, as function of information, interacts with it in order to reveal things. We may only see one side of a cube, but the cube itself can be expressed as a geometrical set of relations. And anamorphosis of visual perception we can see that the hand and the doughnut also can be unified. Visual perception is thereby an interaction that should be thought of along the lines of two interference patterns or waves overlapping—the wave of sight and its program and the program of patterns it interacts with. Given the view of space elaborated by us via Wolfram, it may also simply be due to the program itself in its nodal unfolding that causes one to only see parts,

sides, profiles, etc. of things. That is, space is real and part of the relational nature of things such that its unfolding and folding causes visual perception in interacting with it to only be aware of parts of it. I only see one side of the cube spatially because the cube itself in its own set develops, folds, and imbricates its own spatial field relative to all else and within the overall program and space of the universe itself.

Part of the arbitrariness involved here is that metaphysically we move from all that is to the bit as the fundamental level, but also see all things as complications of the holy Name. We are then not dealing with any things in themselves. The in-itself is made up of information. When we look at a cube, we are not dealing with a thing itself, but a mathematical set of relations that mind only can reveal part of via visual perception, for instance. All that is is figurable in the overall pattern that is differentiatable into sets and sets of sets. These sets are names. But we cannot find an origin of language. Every time we would look for such an origin we are presupposing language. For instance, if we said a certain tribe first spoke and used language to communicate, unless we post a baseless irruption a la Meillassoux, we will presuppose the language as intelligible—otherwise when spoken it would make no sense. This lack of origins means also that language is divine in quality. But its divinity in naming and isolating sets points not to its role in creation, but to how it is necessary in allowing us to engage with the world in its differentiation. For the Kabbalah, this is part of the reason God created with letters and numbers and why the names of things are divine when they reveal this aspect and the nature of the set. All of this is not to say that being itself is some formless aporia that mind then divides up (and mind itself is an irreducible dimension of information, of differentiation). On the contrary, being itself is already differentiated as letters, numbers, bits, information,

etc. It is precisely because the in-itself is made up of sets of patterns that it is possible for mind to engage with it as it does.

One can also think of this question with reference to our earlier discussion of a coffee mug. The question here would be: what if I smash the coffee mug? The coffee mug would then disappear as a thing as it apparently goes through an essential change. But the smashed pieces in their being smashed also can express a non-random pattern based on simple rules, as Wolfram showed—such fractures and cleavage of shards often express basic aspects no matter how broken (NKS 374, 995). There is also no reason here that the coffee mug cannot suddenly raise up and As Wolfram shows us, entropy is not reform. universal—there are some patterns that simply break down and then reform (NKS 435-54). But we cannot understand such phenomenon if we are invested in substratums, as such substratums would either persist as withdrawn things in themselves in some Platonic realm or necessarily disappear with the smashing of the coffee mug.

To return to Tipler, given that all possible humans having all possible experiences or with all possible brain states, one then eventually will find an emulated version of every human who has lived since "two beings who are identical both in their genes and in their mind programs are the same person" as much as "two atoms in the same quantum state cannot be distinguished" "even in principle" (Tipler 1995, 229). If a system is reproduced exactly, it is an emulation. For those who would argue that different locations in space-time would show how there is no identity of indiscernibles, Tipler holds this sense of location does not hold per quantum physics (Tipler 1995, 234). One might also say that space and time are themselves a product of relations such that as the informational patterns are reproduced so can space and time.

Think here of the famous Ship of Theseus. This ship constantly has all its boards replaced such that the question arises whether it is the same ship after a time. But insofar as it retains the same pattern and it is numerically one as a thing named, it has an identity regardless of what its boards are made of or if they are always the same, just as we constantly have cells and atoms replaced. Here then, our bodies do not need to persist over time in order to exist. They can return insofar as our identity essentially is a pattern and not any actual uninterrupted continuity. By rejecting the idea that one needs some soul underlying physical change to have identity, Tipler believes he has shown that a "soul is no longer necessary for individual immorality" (Tipler 1995, 235). In any event Tipler thinks without the brain there is nothing such that we need to reproduce the brain as such. The brain has a very large, but not infinite number of neurons and connections with those neurons. One could then relate each connection to a computer bit (Tipler 1995, 22). One could then determine the finite number of states one needs to reproduce a brain and its neural connections (Tipler 1995, 32). Our memories might fade into nothingness, but if every possible genetic human experiences all possible scenarios then they will be recovered.

Τf all brain states emulated, then can be eventually those corresponding to our own will also be uncovered. This reliving, as it were, of our pasts occurs instantly insofar as in the computer we have a Aquinas durational consciousness that aeternitas, wherein "all past, present, and future tempus and aevum events in the universe" happen at once just as they do for God (Tipler 1995, 134). The way we experience time now is not of this nature due to the way we are related to atoms and their vibrations. But when we are near the singularity and related to the computing power of the universal computer, this type

of durational consciousness will not describe subjective experience. Near the end of things all will recede from us infinitely insofar as the big crunch will be prevented by how the universal computer utilizes the singularity created. Here we will be capable of an endless amount of individual thoughts. The resurrected dead continue to live on and experience time subjectively from the perspective of eternity.

Tipler's view of a material resurrection of the dead by a universal computer can be seen then to follow the first possibility Judaism suggests—that the messiah will resurrect the dead. For Tipler, the life lead by the resurrected body can be literally infinite as part of the universal computer built across the universe (Tipler 1995, 255). Judaism itself also has the idea of a world-to-come, and it is never clear if the messianic age is the world-to-come or if they are two distinct ideas. In any event, Tipler cites Sanhedrin 90b-91b to show how Judaism itself already saw how if one "replicates the pattern of a long-dead person" one would have that person him/herself (Tipler 1995, 287). As opposed to Kant, who claimed one just needed a soul, Judaism already contended that body and soul (consciousness) will have roles to play in the afterlife. While Maimonides thought only a select few perfect themselves rationally can achieve immortality, this view violates the idea that all will be resurrected (Tipler 1995, 289). It also violates the normative view that "if God were to create another body exactly like the first in temperament, form, memory, and endow it with the old soul, then the recreation would be the original person" (Tipler 1995, 290). Of course, this does not deny a view of the world-to-come as a purely spiritual state. For instance, what are called near-death experiences might themselves offer insight into either the world-to-come or the future resurrection itself. Judaism is itself always unclear on what to expect from the afterlife, meaning

it is probably the case that there will be both a world to come and a resurrection of the dead.⁴⁴ The world to come may be a purely spiritual state that arises after the resurrection.

In any event, on Tipler's account, it is clear that the computer designer would be the messiah, as it were, while the Omega Point would be the messianic age. Tipler's theory relies on such an omega point occurring since one needs infinite computing power to simulate all possible humans in all possible worlds since the information that the dead had is most probably lost to entropy, disintegration, etc. The universe itself always contains a finite amount of information in fact. This finiteness means a computer with infinite energy at the singularity will be able to compute all possibilities. Tipler also believes that life has an innate will to persist and that our future descendants will be noble enough to want to resurrect us, even if these descendants are artificially intelligent robots. They might also emulate us out of mere desire to know what we were like. When we are emulated we will regard it as reality. The computer itself will present us with experiences.

It is important to note that even if one does not find the actual way Tipler sees the resurrection of the dead as plausible, given its dependence on too many contingencies (for instance, future universal colonization), his view is metaphysically possible insofar as one accepts the idea that the universe is a computer, that physical reality is information and thereby ultimately mathematical in nature (that is, that the world is made of number), etc. For instance, Tipler

⁴⁴ For an excellent overview of Jewish views of life after death, see Simcha Paull Raphael's *Jewish Views of the Afterlife* (2009). Raphael highlights the way in which in the Talmud, for instance, the world-to-come and resurrection of the dead are figured.

claims that we as conscious beings are ultimately understandable as computer programs. In particular, we are simply computer programs that exhibit consciousness insofar as we pass the Turning test (Tipler 1995, 124). Tipler also makes it explicit that he sees living beings as encoded information, and that the process of life is passing on coded information (Tipler 1995, 124-26). Interestingly, Tipler argues that we are free to act on this account insofar as the world is indeterminate, insofar as one cannot have complete information about all of it just by examining a part (Tipler 1995, 187).

Some might object here that Tipler only shows how a computer might represent things. They would argue that even a perfect representation of something is not that thing. For instance, the resurrected people Tipler speaks of would not be flesh and blood. But it's not clear that this critique holds. Insofar as the computer emulates one's brain one can perceive all the same things. In that way, a perceived apple that is tasted inputs the same information as one tasted otherwise. To perceive an apple is not distinguishable from a virtual world presentation of an apple, if that apple perfectly emulates the properties involved. Perfect copies are the things they copy. While Chalmers argues that consciousness opens its own irreducible dimension, consciousness for him still "arises from a physical basis, even though it is not entailed by that basis" (Chalmers 1997, 125). Here then, Chalmers argues also that if one's "physical structure were to be replicated by some creature in the actual world my conscious experience would be replicated too" as consciousness supervenes on the physical (Chalmers 1997, 124). Also, the emulation here does not need to be flesh and blood insofar as and blood flesh are themselves composed information. One would have to show that aspect of flesh and blood cannot be digitized despite things

being already composed of information. It then does not matter if electronic encoding of patterns occurs or that those patterns are encoded in another physical form. The key is that the thing itself is its pattern.

Interestingly, key parts of Tipler's theory are subject to verification such as the idea of there being a Big Crunch, since this idea means the universe is closed and that at some future point the universe will long expand, and begin to contract due to the relationship between energy and matter in the universe relative to gravity and the density of things (the amount of these things can already be inferred based on current measurements, although these measurements today include the as yet verified idea of dark matter). At the present, the cosmological evidence may point against this idea, but it is still an open issue, especially given the open state of dark matter. Now, in Brachot 17a we learn that "in the world to come there is no eating, drinking, or intercourse, rather, the righteous sit with crowns on their heads." But this view does not mean we are not embodied, but rather that our embodiment might deal with instincts and passions in another way or simulate our needs.

For Meillassoux, because the resurrection is just a possibility and not a necessity, we should feel "an injunction to act in the present in order to hasten its approach and to make me live in its existence" (Meillassoux 2009, 465). If we follow the models proposed here, that means we should act to bring about the needed technology to emulate things as Tipler describes. Part of doing that, we hope, is creating the corresponding theology that shows how it is possible given the very nature of reality. But on our own view, it is a matter of rational faith that this resurrection will occur somehow, either by God or by the messiah (who may simply in part be the one who produces a computer powerful enough to do what

Tipler outlines). This rational faith involves the idea that the holy Name of God, as it elaborates the created world itself, will at some point unveil a pattern in which all the human patterns will reemerge including those now extinguished. To add to this faith, a Kabbalistic metaphysics shows us how this miraculous event is possible given the inherent structuration of things.

§29. THE EVENT OF THE NAME

The resurrection of the dead will certainly be a miracle. But if one were to die today, one would find oneself either experiencing a form of the afterlife, such as reported to us by near-death experiences or immediately awake in the resurrection (unless of course they are the same thing). Even if one then had a distinct memory of dying, one would then find oneself surrounded by those who passed before, or see oneself hovering over one's own body. In any event, one still would not be certain one is not dreaming and as to what is occurring. In this way, for the resurrection of the dead to occur, as far as we are concerned, it requires the seemingly supplemental, but necessarily foundational act of naming it and declaring it. As no signs can ever fully attest to it with certainty, the event is instantiated in and through its declaration and then arises as what it is. Now, the world one experiences in the resurrection of the dead might be radically different than this one, the powers one will have including one's knowledge may also differ significantly, but recognition of what is occurring still requires a declaration. This is also why the messiah may play a key role as the messiah will be the one who declares that the dead have been resurrected.

The resurrection of the dead is then an event in the strict sense of the word. It is an extraordinary occurrence. But it is also an event in the sense that Badiou gives to the term. Now, Badiou wants to

restrict the notion of the event to the fields of the amorous, political, artistic, and political. But we will show that not only the resurrection of the dead is an event, but that religion itself contains events, in particular the most important event, the revelation of God at Mount Sinai. To understand Badiou's specific philosophy of what makes an event an event, it is easiest to look at how he explains the amorous event.

What is unique about Badiou's own position concerning love is that he subtracts love from the discourse of knowledge and places its truth in the very encounter between two individuals. Love is an encounter, an event. This encounter is not predictable. It is not immediately known or seen by the Two. It only will have been. It arises through a "declaration of love" that makes it so. A performative declaration thereby brings the Two as Two (as the 'I' and 'vou' of 'I love you') into being. 45 This performativity presents the paradox of an entity calling itself into being. 46 But such is the nature of an event. The reference and meaning of the declaration will have been decided through the declaration. It performatively enacts what describes ('I love you') and constitutes two contingent finite subjects. This performative that is also a constative statement draws upon the "void" of the situation which is precisely the impossible to know disjunction constituted (Badiou 2000, 272). But since there are two ('I' and 'you'), one can never be

⁴⁵Alain Badiou, "Being by Numbers" (1994). The two lovers are then faithful to this event of naming and become its subjects. Badiou does not specify if both have to make the declaration, but it would seem that at least both must make this declaration and/or be interpellated by it as true for it to take place.

⁴⁶ To this extent, Badiou's notion of an event overlaps with the Derridean notion of an event. For Jacques Derrida on the strange performativity of events, see "Declarations of Independence" (1986).

sure that the declaration has not been feigned or that it is still true. One cannot be sure that the other will make the same declaration. In this manner, one must after having heard oneself in the declaration constantly wonder at the other as other (as disjoined), search for proofs that there really is love, and remain true to the event that made the two lovers.

Here, the situation has entirely changed in that every and any action can be a sign of love. One way of showing that the event has taken place (but also how it is not knowable from the outside) is through "lover's babble," which sounds nonsensical to outside observers. Another way involves the magic or mystery that the lover attributes to his/her beloved (a look, a disposition, a way of speaking, etc.) that appears to a third party as mere everyday qualities. This 'babble' thereby marks the difference that has been instituted through an event that is not locatable in time or space or from the outside. The event-truth of love, as found in its circular and self-referential declaration, is thus undecidable and not falsifiable.

To be an event, an event requires such declarations. Love is perhaps unique insofar as it only exists in and by the declaration itself of love, whereas artistic events in which a new type of art emerges involves actual works that pre-exist any declaration categorizing them as new. But it is always undecidable whether the event has occurred, even despite its being declared. That the event involves such self-

⁴⁷Badiou, "On a Finally Objectless Subject" (1988).

⁴⁸ This event-truth occurs as a disjunct of the 'I' and 'you' of 'I love you' is certain, but Badiou further argues that this truth is addressed to all (Badiou 2000, 272). By being addressed to all, it brings in all of humanity, shows that even though there is two there is one situation for all, and the truth is only the truth of the situation, that the situation is always radically split (Badiou 2000, 273).

referentiality means it is related to the void as such. The naming of the event is based on the act itself of naming (BE 206). For this reason, the resurrection of the dead might not count, strictly speaking, since it occurs whether one recognizes and names it as such and the naming only comes after something has occurred. Even if one did not declare it, it would still be what it is. It would just not be recognized in this way. Events for Badiou appear to be things that occur in the pure act of naming and depend only on others seeing and recognizing the event as happening (such as in a political declaration of a new communal entity where in the declaration brings it into being even if bodies, people, places, etc included in that communal entity already pre-existed it). However, Badiou also writes the following:

The act of nomination of the event is what constitutes it, not as real—we will always posit that this multiple has occurred—but as susceptible to a decision concerning its belonging to the situation. The essence of the intervention consists-within the field opened up by an interpretative hypothesis, whose presented object is the site (a multiple on the edge of the void), and which concerns the 'there is' of an event—in naming this 'there is' and in unfolding the consequences of this nomination in the space of the situation to which the site belongs. (BE 203)

In this way, one may have a series of paintings before one. They are before anything is said about them. But that these paintings constitute a new way of doing art only arises based on a decision that declares that they are new. Before this declaration, the paintings were just that, but with the self-referential declaration something new occurs. If one calls this new way of

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doing art for instance 'Cubism', then this name is what Badiou calls a supernumerary, as prior to the declaration the term 'cubism' only existed as a possible name and thereby was not counted as part of the terminology of aesthetics and art criticism. Given that there is a transfinite set of possible art terms and a subset even larger, one will always have terms that may exist already in art, but can be selected to name something new, a new event in the history of artistic presentation. In addition, Badiou says all events are historical in nature (BE 179). In this way, while we would be unsure if the resurrection of the dead occurred, retroactively declaring it qualifies it as an event. The resurrection of the event will then become of future history. Badiou explains this supernumerary quality in this way:

This makes sense intuitively: when someone tries to tell you about a new experience, whether it be meeting a person or seeing a work of art, they have a lot of trouble describing it accurately and, every time you try to help them by suggesting that it might be a bit like the person x or the film, they say, 'No, no, it's not like that!' For every property or concept you come up with to describe this new thing, there is something in that new thing which does not quite fit. This is all very well, but having a set which one 'can't quite describe' sounds a bit vague for set theory. The innovation of Paul Cohen's work lay in his discovery of a method of describing such a multiple without betraying it as indiscernible. (Badiou 2005, 30)

An event thereby concerns the new. This new already existed as a name or simply as a possible name, but it

is the distinction between two infinities (the first and its subset) that enable a new thing to arise even using an old name. Following Gödel, we might say that declarative sentences at the heart of events show how undecidable states, which cannot be verified as true or false using the system in place, are always possible. But we can also say that the uncertainty associated with an event's having taken place is conditioned by the very incompletion of being. Nothing is ever simply settled in place in one to one relation with all as such, as in a purely finite and completed situation. The selffoundational nature of the event is founded on the void also insofar as the void itself presupposes nothing but itself in set-theoretical terms. The event brings itself into being just as the empty set is founded on itself and presupposes nothing but the void.

One cannot be sure an event now belongs to the order of being such that one has to "wager" on it, as it can never be fully verified or said to be (BE 201). The problem with such events is that it seems any declaration can be made. For instance, if one were to declare that 'All space aliens have equal rights' or 'Space aliens have taught us x truth' or 'All traumatic memories are caused by dead space aliens', then one has selected a term which exists certainly in the current transfinite set of terms, but it has now only the meaning of something that may exist. To assert such beings exist and have rights then opens up an encounter with a new political situation. But in the end it depends on people making the wager and feeling drawn to this event. That is, one has to recognize the declaration and reaffirm it for it to have any real substance. In this way, it is best to use reason itself, as otherwise events can be multiplied endlessly in endless declarations. That is, after all, the power of the infinite as embodied in the signifier and language. The term here 'space aliens' can be used in any number of declarations precisely due to its being

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based on the void and including the void in the set that is the word.

This example would also work since for Badiou an event happens when something only included in the transfinite set becomes counted as part of the very order itself: "What is *included* in a situation *belongs* to its state. The breach is thereby prepared via the errancy of the void that...fixed itself to the multiple, in the inconsistent mode of a non-counted part. Every part receives the seal of the one from the state" (BE 97). The very inconsistency of things, that names are characterized by an infinity of infinities, means that one can select a term like 'space aliens' from the order of transfinite names and include it for instance in the transfinite order of strictly political names. This movement then takes something already included in the infinite and makes it belong to a particular suborder or other existent order. But what the declaration does is "it counts the same thing as one twice: once as a presented multiple, and once as multiple presented in its own presentation" (BE 182). The remarking of the same thing presents a supernumerary name, an ultra-one.

This is the power of the signifier itself, for inasmuch as the signifier "'adds itself', via some mysterious power within the borderlands of site, to a situation which does not prevent it, only the void can possibly be subsumed under it. because presentable multiple responds to the call of such a name" (BE 182). The power of the signifier itself is such that it can always come to name something that does not exist in the recognized order of being and can do so even by selecting a known name or an implied one. The order of being established and known does not include events, since that order seeks to see everything as being part and parcel of a finite set. All is ordered and related in finite terms allegedly. But

there is always an infinite excess that can upset that order, introduce new ideas, etc.

As Hallward states, Badiou draws on the work of Paul Cohen because Cohen shows "the impossibility of maintaining the infinite excess of inclusion over belonging, which is to say, the space normally occupied by the state of a situation," and "only a subject is capable of the 'inducement' that being itself indicates as its real. Only a subject is capable of those decisions that force a path through the impasse of number, thanks precisely to their evental foundation in the supernumerary" (BST 130). This also again shows the pure freedom of the subject. Given that one is confronted with an infinity of choices, there can be no law determining what choice to make. If we have an infinity of apples of all colors, there can be no rule telling us what apple to pick or what color. The event thereby again requires a subject to both declare it and to recognize it. An event is then purely subjective.

Only subjects can feel or see that an event has occurred. In fact, one could say following Louis Althusser (and Badiou was his student) that subjectivity is constituted in the interpellation of the declaration. One's hearing oneself called by the declaration or feeling its truth enables one to feel that something has in fact occurred, a new truth declared. Only a subject can then believe in an event. For this reason, Badiou speaks of an event as something one must be faithful to (BE 223). Because an event is only ever something that can be declared, one must believe it has occurred. We now say that the resurrection of the dead is a principle of faith, but it will remain so after it has occurred and been declared. What makes humans unique is our ability to name such events and to hold to them. A name creates its referent in the declaration.

Badiou argues against Lacan that events are rare and thereby subjects are too (BE 432). But given that

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the power of naming rests in the signifier itself, it is the least rare thing there is. Declarations are held at all times. The subject is there every time as the effect of the void itself. It is "a structural recurrence." Events can be named at any point. It depends on an already constituted subject, as void set, to adhere to them. It is important to emphasize the way in which the event relates to the void. If the event relates to "something uncountable or non-one-fiable, a sort of 'ultra-one', which disrupts the normal counting operations that structure the situation" (BST 65), then we have to say that the revelation of God at Mt. Sinai is itself an event. In Hebrew, one sees how this revelation concerns names and naming and why it took place in the desert insofar as the word for desert in Hebrew is written and connected to the world for speaking.

The revelation itself says that all saw voices at Sinai (Exodus 20:14). In this way, the revelation of God itself involves seeing what is only heard. It means that the signifier as written is itself revealed. For at Sinai it is declared that YHVH is God. declaration is an event and an event that involves the naming of the holy name itself. It is something that could not be anticipated in the pagan order of being and interrupts it completely. Here, it is declared that there are not many gods, but only one. And that the one true God is unique and beyond all being itself. Even if the name YHVH existed prior to Sinai, it is taken and counted again based on the void. But this name itself is the mark of void. At Sinai, the very essence of the event takes place. We see this using Badiou's own terms: "The . . . paradox is . . . that we are going to try to name the very thing which is impossible to discern. We are searching for language for the unnamable. It will have to name the latter without naming it, it will instruct its vague existence without specifying anything whatsoever within it" (BE 376).

Sinai is thereby the first self-conscious event. It is the first event in which the unnamable as such erupts into the consciousness of humanity and informs it. Sinai concerns the very naming of the unnamable and the revelation of the nameless one. The holy Name of God is therefore an event. We could not know it except on the basis of an event of revelation. Sinai names that event. The holy name then is what Badiou calls "a transcendental object of faith," as it is named in an event and is an event itself (*BE* 376). It is its naming as mark of the void. Badiou is thereby wrong on his own terms to exclude the religious from the fields in which events take place. The religious itself, as monotheism, is founded on the event as such.

Badiou formulates things well in another context when he writes, "Must we then conclude that the thinking of an indiscernible remains an act, or suspended from the pure concept, if it does not fill it with transcendence? For an inhabitant of any situation any case, it seems that God alone can be indiscernible" (BE 373). The holy Name of God is the first indiscernible presented in history perhaps. But it is also the very truth of indiscernability insofar as it names that which is beyond all names. The event as such, as something undecidable, always involves transcendence. One must then recognize unnamable as a limitation. One will always not have the name of the unnamable. This is what Sinai teaches as well, insofar as even in revealing the Name of God and through it God, one is prohibited from speaking God's name in vain and from articulating the holy name even in prayer.

The unnamable names not only something indiscernible and generic, but also embodies the very non-totalizable nature of being. It could therefore only be revealed to us in an event. It would not be innate knowledge, as when we look at things we take them for granted as finite and ordered. Moses, as the

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prophet of Sinai, forces the naming of the unnamable. It is Moses's intervention that forces the unnamable's exclusion to appear before humanity. God cannot belong to the order of being. But this name is included in it as another name. However, at Sinai this name is named as a generic part that both is and is not part of the situation. In this way, even as God is revealed at Sinai via commandments, one can only believe that God obtains beyond his name. All things that are are nameable. But God's name is unique insofar as it names something that cannot possibly be, an impossibility. While God insists, God is not discernible in the order of being as such. The order of being is atheistic order.

In Badiou's analysis of Leibniz in Being and Event, he argues that the problem with Leibniz is the notion of the indiscernible. Leibniz does not have a theory of the event according to Badiou insofar as God does not choose between indiscernibles. An event itself is an indiscernible. There is no history in Leibniz, insofar as Leibniz does not have a theory of irreversible events that change what was into something new. But Leibniz here is simply expressing a prejudice about the nature of being. Leibniz thinks it would contradict God's very nature to produce in reality two things that are indiscernible. It would constitute an illogical excess or surplus. But the problem is that Leibniz does not think God as pure love. Creation itself is a gratuitous act and event that can lead to indiscernible beings. God allows things to appear without reason and for the indiscernible to appear. In particular, the indiscernible appears in the very name of God himself. This name can be articulated with the mark of the void as used in set theory, the name YHVH, and other names. These names then become themselves indiscernible as they are the same. One empty set is indiscernible from the next.

Leibniz denied that there are two leaves or drops of water that are exactly the same, not because it is not possible for God to create them, but as it seems arbitrary for God to do so. But God creates on the basis of the empty set itself and the void itself. For this reason, the indiscernible is part and parcel of God himself. Leibniz also has this view since, as Badiou notes, he thinks God cannot "tolerate this unnamable extra, which amounts to saying that he could never have thought nor create a pure 'two'" (BE 318). But God's very holy name revealed at Sinai itself shows how language is incomplete along with being itself. Also, as it is the mark of the void, it exhibits an unnamable extra indiscernible in itself. Not only does God tolerate nothingness, but creates on its basis. The indeterminate and the unpredictable must occur in order to reveal God to us. Being itself is differentiated. but incomplete such that the impossible can be presented in an event of naming. God introduces nothingness into being as such. God's holy name then is a supernumerary name itself. It is monotheistic religion that invented a theory of the event as such.

God is not such that all that occurs is in a series and all is accounted for. There are events because the nature of creation marks it as incomplete. The present is not pregnant with the future. Rather, miracles occur as events. And this occurs via the holy name which gives rise to other names and to being itself. One cannot define "the name 'name' without starting off by saying that it is a name" and there is thus no complete language and always a point where the real insists and shows itself (*BE* 376). At Sinai, this occurred. It was an event that informs the subjectivity of many to this day. Religion is an event. It involves at its heart the revelation of the holy name itself. This is the very event of the divine, insisting on being part of what it cannot be.

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Perhaps, Badiou would say that religious events are then the same as knowledge events. For Badiou, Cantor's discourse, for instance, forms an event. The notion of the transfinite is an event instantiated. It is not something that can be verified in the way empirical knowledge declarations can. However, per Badiou, Newtonian physics would also have to be an event. Here the event would perhaps consist of declaring that the same rules apply on earth as in the heavens. But such an event is itself verifiable. One can see eventually how things work in the heavens. Such discourse makes predictions as to what will occur. In this way, perhaps Cantor is unique insofar as Cantor's discourse is fundamentally in the end a theological one. However, religious events are only ever related to the holy Name. When a prophet, for instance, decries behavior, he says it is a desecration of the holy name. When another decries idolatry, it is to remind others of the nature of the holy name and God. That is, it is an attempt to return one to Sinai where one stands again before the revelation of God in history.

The Sinai event is then one that never stops and that occurs at all times like the Big Bang itself in which we are. It invokes exceptionality in terms of the holy name revealed. As Badiou himself admits, the Jewish discourse of revelation is about the "minus one," "miracle" versus a "fixed order of the world" and "natural totality," that it is about what lies beyond any totality (Badiou 2003, 42-43). This is partly why the Jewish nation founded here is exceptional insofar as it is related to the holy name of God. The Zohar says repeatedly that 'The God of Israel, The nation of Israel, and the Torah of Israel are one'. The Torah itself is the name of God. Each letter is a trace of the absolute infinity and marks an incompletion related to the transfinite. While the Torah has infinite aspects, it reveals how God in creating the world was contracted into a name. But the divine infinite, in making

finiteness possible, always leaves a trace of itself. Here we could say they are one in their exceptionality. Part of the reason the Jewish nation is exceptional is that it is both a religion and people simultaneously: "This third I will bring into the fire; I will refine them like silver and test them like gold. They will call on my name and I will answer them; I will say, 'They are my people,' and they will say, 'HaShem is our God'" (Zechariah 13:9). It is founded as a nation at Sinai and also as faith community.

Despite focusing on the Christian event of Jesus's alleged resurrection, Badiou still refuses to call it an event since he denies the event took place (it is just a "fable" for Badiou) and wants to see Paul as turning it into a political message (Badiou 2003, 4). But denying an event by rejecting its declaration does not make it a fable. It makes one a reactionary relative to it. Also, while certainly a political message can be rendered from this event, it is not simply a matter of forming a community, as it involves implications for the very nature of reality and the ordering of being as such.

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§30. 'ON THAT DAY, GOD AND GOD'S NAME WILL BE ONE'

Badiou does not, in his book on Shaul of Tarsus. ever risk thinking of Judaism as naming a pure event. But just as Christianity itself names a religious event (fable or not), so does Judaism. This event itself is universal insofar as it reveals the one God who creates the world as such via his holy name. It also looks forward to the time in which this truth will be recognized by all: "God will be King over all the world-on that day, God will be one and his name will be one" (Zechariah 14:9). This prophetic passage signals the hope for a time when differing names for God will be recognized as referring to one thing exempt from the world. At that time, God will be one through recognition by all that there is the one unique God. But this is placed in the future, since it is something that occurs only through universal recognition.

But we can give a further reading to this passage. God's name will be one when the creation that is formed through its complicated elaborations will be made one via the universal computer. Here, we can see the universe becoming divine and ruled over by God in a very direct way. This is, in fact, the only possibility: for God to cease remaining absent from the world as such and for the world to become one with God. The universe itself is perfected at this time and completed. We have argued throughout that God is not his name. God is perfect, and the holy Name is not. But the holy name is still connected to God and "as his name, so is he" (Samuel 25:25).

What is interesting is that, as our earlier comments on quantum physics and consciousness show, at this future moment the past will also change. In Quantum Physics, Jewish Law, and Kabbalah: Astonishing Parallels, Aaron Schreiber notes that in Judaism the notion of repentance means "moving backward in time" such that in the present one can nullify and render non-existence what was done in the past by confessing one's past wrongs on Yom Kippur (Schreiber 2009, 33). In this way, the past itself can be later changed by events. Things are automatically backward in time. It is thus that consciousness, when it collapses the wave function, determines not only the present, but also the nature of past. What is true of past sins is true of physical particles insofar as each "has amplitude to move backwards in time" (Schreiber 2009, 40). This means that it cannot be ruled out that when the universal computer would be formed that the past itself would not be changed by the new consciousness found, such that God will no longer be in exile from the world. In this way, then, we realize God's plan for the world at this point through our own actions which alter the past bringing into being God ("God will be King") in this world. The incompletion of the world is thereby rendered ended as the world becomes itself one.

Consciousness is thereby in the end the beginning's co-creator. At the present time, we do not perceive this unity. But God's name, also in the sense of divine names/attributes, is not one. At the time of redemption, the messianic era, the oneness of these names will occur. There will no longer be many. Consciousness will achieve a new perspective. When we look at a doughnut and coffee mug we may not see them as permutations of the same structure. Through a shift in consciousness one is able to see their unity. At the time of redemption this will take place on a universal scale. God is therefore both the creator and

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supreme attractor leading the world to this possible endpoint. The pattern of creation constantly emerges towards this divine matrix even if it is not knowable now or in the past if it is coming. It is a matter of faith.

This numinous attractor creates through us. If we are able to lead to a computer capable of active universal computation and unity, we will through our own free wills have helped complete creation itself. At this point we will see how God was hidden and disguised in the world and as the world all along. The program of creation will therefore have been to reveal and enact the divine as such. It is through our own consciousness that this awareness evolves. consciousness is not just an observer, it is also an actor. God is therefore hiding, yet absent in all of creation. Faith sees space-time headed towards a future redemption and salvation, the establishment of God's kingdom on earth and throughout the universe. Then the name of God will be knowable as such and not through other names since all the names will be as expressing one thing. A universal consciousness contemplates this oneness.

This active intellect is the most ultimate aim life could set for itself. But it will not occur until the world-to-come arrives. Our own minds would be connected to this universal mind: "But ye that did cleave unto the LORD your God are alive every one of this day" (Deuteronomy 10:20). languages and all peoples will recognize the unicity of God, but all languages will become one, as one will be able in the universal mind to understand anyone else directly. In this way, all will invoke the name of God together. The messianic meaning and message of the divine name then is Zechariah's prophetic vision. This completion of the world means all the shvirah, the breaking, of the world has been repaired. The fractured universe will become whole (tikkun olam). The repairing of the world and its restoration only

occurs though at the end. It is not possible for us to truly imagine this repair. But its miraculous advent cannot be ruled out insofar as there is nothing inherently contradictory about it. We do not yet even experience its possibility. Our consciousness has not yet collapsed parts of the universal wave function. There are parts we are not yet aware of. These do not exist for us even as possibility or tendencies at this point. They are not even probability waves for us. Only when this universal mind appears will they are perceived and collapsed, thereby altering the past and enacting a new world.

This is why this position is not Hegelian. It is not saying God exiles himself in the world, but is rather initially exiled from the world in creation. God becomes one with the world through a transformation of the world into a universal mind, but this occurs via the very transfinite nature of the world and its incompletion rather than by the infinite becoming finite. What is removed from this world also is contradiction itself rather than contradiction forming the motor and source of it. Also, for Hegel, the dialectic itself yields Absolute Spirit. But absolute spirit is only ever an embodiment of the dialectic whereas we are positing a new order that obeys a new rule. Hegel does not see Absolute Spirit as taking on some order radically different than the dialectic.

Also, we have argued for the incompletion of the world and, through its alienation in the signifier, its transfinite and incomplete nature. But that does not imply that this incompletion is itself eternal. Cantorianism might describe the world as it is now. But there is always the possibility that new laws will arise that will cancel this insight. While this insight cannot now be known or truly formulated other than as a miraculous possibility, one can suggest that it involves the very universality of the consciousness proposed here. Its self-referential nature will not exist,

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as it were, or will exist in such a way as to make the signifier no longer relevant. We could say that it is like a two-dimensional order suddenly becoming three dimensional. The truths of a two-dimensional order may no longer hold when a new dimension is added. This change is not itself built into any dialectic which constantly repeats itself, as it arises out of an order that turns completely random and through its randomness lead to new orders. The dialectic repeats like a fractal, itself a nested pattern that turns into a larger overall view. But here we are proposing a pattern that shifts in its entire nature and not by the repetition of the same as its iterations can simply turn random, but in doing so changes all past iterations.

The name of God marks how we are aware of God. We cannot be aware of God without God having a name—unlike a person whom we can confront in their flesh. As God insists beyond the world, our conscious awareness of God in reality is in and through the name. For the entire world to be conscious of God requires universal consciousness, only through such consciousness consciousness of God be embodied in every action and in every aspect of existence. Rabbi David Dov Levanon teaches: "'. . . and His name one.' Is His name not one at present? R. Nachman bar Yitzchak says: 'This world of ours is unlike that of the World to Come. In this world, it (God's name) is written with 'Yod' and a 'Heh' but read as if [written] 'Alef,' 'Dalet.' But, in the world to Come, they will be united: It will be read with 'Yod' and 'Heh,' and written with 'Yod,' 'Heh." These two excerpts are compatible, for the names of God teach us about the manner in which God runs His world. In this world we are unaware of God's deep hidden providence. It is therefore impossible to read God's name as it is written, but, in the future, the inwardness of His direction will be revealed, and then God will be One, and His Name One. Therefore, in

this world of ours, there appears to be bad news sometimes, and it should be blessed upon accordingly. Yet, in the Days of the Messiah, when the inwardness of God's providence is revealed to all, the blessing 'HaTov VeHaMeitiv' ('the Good and Benevolent') will be pronounced over everything. Based upon this, we may conclude that in the Days to Come there will continue to exist the kind of tidings that today appear to us to be undesirable. The difference will be that humankind will have attained a level whereupon people will be able to see the positive aspect that results from such instances. (The sages of the Talmud explain that in this world we are so shortsighted that even when we know that something good is bound to result from an undesirable situation, we nonetheless bless 'the True Judge')" (Levanon 2011).

§31. THE NAME OF PRAYER

We have just speculated concerning the final redemption of the universe, but in the meantime we are left in a world otherwise constructed. In this present world, we are left with prayer itself as our way of engaging with the holy name of God and with its truth. Prayer means to call in the name of God: Abraham "called in the name of God" (Genesis 12:8). It means to call this name and meditate on it. The Talmud says that God himself prays (*Brechot* 7a). I take this to mean that the world itself as an elaboration of God's Name is itself a prayer and a call unto us.

Aryeh Kaplan notes that "that there is considerable evidence . . . that the entire Amidah [the central prayer of Judaism other than the 'Shema'] was meant to be used as a meditative device, very much a long mantra" (Kaplan 1995, 283). The meditation is done via iterations of blessings (in most cases memorized) said three times per day. It is the very enunciation of this group of words addressed to the

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Name and involved in calling on it that spiritually transforms one's consciousness. In Hebrew, the verb to pray (l'hitpalel) means to bring judgment on oneself. The one who prays is the one who gauges oneself as to whether or not they are worthy of the name itself and its articulation. Via this appeal to God a prayer is a disappearing act into the name. Like the universe itself, prayer is "a living garment and tissue, a textus in the most accurate understanding of the term, in which, as a kid of basic motif and a leitmotif, the program is woven in a hidden way and sometimes directly," as all that is said consists of ramifications of the divine name at the root of all things (Scholem 1972b, 179). The evocation of the divine name in prayer refers back to this in all the variations and changes of words one poses.

It is the word of God that is endlessly alive with meaning. It is that infinity that one touches in prayer itself. Out of a basic element, the very name of God, the associated letters of the name and alphabet are permuted and combined and exchanged in prayer itself by the very act of repeating the same prayers multiple times and daily. After all, the absolute infinite, God, gives expression to himself through withdrawing from the world and then allowing creation to arise out of a combination of structural elements, the alphabet (Scholem 1972b, 181). In prayer then, we repeat as best we can the act of creation.

It is therefore not coincidental that the most basic religious expression is a linguistic movement. It is not a free association as in psychoanalysis. But insofar as it is a repetition it achieves some of the same aims. In particular, it shows how we are in the image of God insofar as we are the absent cause of the movement of words. As Jacques-Alain Miller explains, the one who free-associates is the very "element" "lacking" in the chain of associations and receives a "stand-in" in the

form of signifiers (Miller 1977, 26). The words take our place. In our place, they create a link to the absent creator. We are a desire excluded from the structure and yet the absent cause of the series of words (Miller 1977, 27). There must be a lack, a blank, to enable the words to replace each other in order and in succession (Miller 1977, 30). It is our very being that insists as this lack—the empty set from which the succeeding can be built. And in prayer there is always one more signifier to be said due to this lack and incompletion, one more word needed to be said in our encounter. with infinity itself. In prayer we are able to come as close as possible to experiencing our creation again: at one and the same time the subject is anterior to the signifier and the signifier anterior to subject. The main consequence consists essentially of this: the birth of linear time. We must think together that which makes the subject the effect of the signifier and the signifier as the restative of the subject. It is a circular, though non-reciprocal, relation (Miller 1977, 34). One judges oneself by judging one's ability to approach the Name and bear its truth. Prayer, then, is pure speaking. One is not trying to describe a world, but only to address infinity itself. Prayer sanctifies the name itself by offering a pure relation to it. One speaks to the Name and speaks it. It is a speaking to, but also a praising of the name for allowing us to speak to it. One may even list the very traits of God, but does so ultimately for the act of listening to the names themselves.

This is why prayer itself is whispered softly to oneself. It asks that one hear it and receive it as one's very being and self. This is why one says prayer, one sanctifies the Name. Of course, there are other ways to do so: by good deeds to others, by defending others, through martyrdom, etc. But prayer itself hallows the holy Name. The Torah says that one should not desecrate the holy name. The verb used here is *l'challel* which literally means to make a void space of

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(chalal). One desecrates the name by turning it into nothingness, erasing it, making it invisible. To sanctify the name is to make it appear as the mark of the void. Prayer is the elimination of the state of the vacuum via the name itself. God is absent from this reality, but in absenting himself leaves behind his Name.

We sanctify that name when we stop being silent and speak the name in prayer. If we behave in the wrong way we also make it appear as if the name is eased by not heeding its words. God is lacking in this world, but we sanctify the name by showing it appears in and through this nothingness. One sanctifies God by being willing to lose one's own life in order not to betray the unicity of God. That means never giving into idolatry even if forced to by a death threat for example. To sanctify means to make holy: "Give unto the Lord the glory due unto His Name; worship the Lord in the beauty of holiness" (Psalm 29:2). To make holy means to note the uniqueness of something, of God. God is separate and transcendent: "You shall not desecrate My holy Name, and I shall become sanctified in the midst of the children of Israel, for I am God your God" (Leviticus 22:32).

And that is why another central prayer is called the 'Kaddish'. The Kaddish says directly, 'magnified and sanctified be God's great Name.' We say this prayer to mourn the dead since they await us in the days to come: "In the future, the righteous will be named after God." It is important to recall this name in order to recall the hope and principle of faith that points toward the future: "HaShem is a refuge for the oppressed, a stronghold in times of trouble. Those who know your name will trust in you, for you, HaShem, have never forsaken those who seek you" (Psalms 9:9-10).

This future is made possible by how the Name itself forms our reality. It is by the very iteration and elaboration of the Name that we can see the future

redemption: "May His great Name grow exalted and sanctified in the world that He created as He willed." At the time of universal consciousness everyone will then be praising this name and will be involved in perpetual prayer: "My mouth will speak in praise of HaShem. Let every creature praise his holy name forever and ever." (Psalms 145:21). "I will lift up the cup of salvation and call on the name of HaShem (the Name)" (Psalms 116:13).

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Reality in the Name of God NOAH HORWITZ

What should philosophical theology look like after the critique of Onto-theo-logy, after Phenomenology, and in the age of Speculative Realism? What does Kabbalah have to say to Philosophy? Since Kant and especially since Husserl, philosophy has only permitted itself to speak about how one relates to God in terms of the intentionality of consciousness and not of how God is in himself. This meant that one could only ever speak to God as an addressed and yearned-for holy Thou, but not to God as infinite creator of all.

In this book-length essay, the author argues that reality itself is made up of the Holy Name of God. Drawing upon the settheoretical ontology of Alain Badiou, the computational theory of Stephen Wolfram, the physics of Frank Tipler, the psychoanalytical theory of Jacques Lacan, and the genius of Georg Cantor, the author works to demonstrate that the universe is a computer processing the divine Name and that all existence is made of information (the bit). As a result of this ontic pan-computationalism, it is shown that the future resurrection of the dead can take place and how it may in fact occur. Along the way, the book also offers compelling critiques of several significant theories of reality, including the phenomenological theologies of Emmanuel Levinas and Jean-Luc Marion, Process Theology, and Object-Oriented Ontology.

Reality in the Name of God explores how the concepts of Jewish mysticism can be articulated and deployed as philosophical theses within current metaphysical debates. It provides a new and dynamic Structural Realist ontology of information. Ultimately, the book aims to deal a death blow to the restriction of philosophy and theology in relation to elaborations of a how a believer relates to a God outside the mind and to return thought to a direct encounter with the divine nature of reality itself and its creator.

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