

Computational Worlds: An Information Ontology

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Submitted to

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&
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Acknowledgments

I wanted to thank Professor Markus Gabriel for the energy and passion he displays in his philosophical work. Many of the ideas presented herein grew out of Summer Schools, seminars, personal conversation, and direct confrontation with his growing body of work. Consider this thesis my last attempt to develop a few philosophical theses, the originality of which I can't accept credit. In fact, the 'non-existence of the world' thesis I first encountered in the work of French Philosopher Alain Badiou. However, the first time the idea came alive for me and bit me in my buttock was after my encounter with Markus Gabriel in the Summer of 2012. While my philosophical career ended perhaps before it began, I dedicate these thoughts to Professor Gabriel. *A Professor of Philosophy, indeed, but a Philosopher first and foremost.*

Introduction

The world exhibits unprecedented complexity. Things are changing faster than our ability to comprehend them. Many believe our time to be a transition from a simpler and stable time to a future when equilibrium will be completely beyond our grasp. Drowning in waves of information and bludgeoned by images and sounds of digital media, many people have lost a sense of orientation and its attendant teleology, longing for security and stability. Such disorientation has yielded newer and improved accounts of the prevalence of ‘the death of God’.

Stability and security, however, are deceptive. For they are but momentary eddies in an incessantly complex and turbulent flux. Today’s world of complexity is as irreducible as it is inescapable. While the moment of complexity doubtless fosters confusion and vertigo, today’s socio-political, economic, and cultural transformations nonetheless create newer and improved possibilities to explore and ascertain the nature of our present. If all philosophy, as Hegel says, is a ‘philosophy of its time’, then it is our duty as scavengers of the present, to apprehend complexity. In order to apprehend complexity, we must ascertain precisely what makes this moment different from its predecessors.

It’s not simply that our moment of complexity is any different than its predecessors. Rather, what is unique about our time is the rate of acceleration at which things change. Everything moves faster and faster to the extent that speed itself has emerged as *the* virtue of contemporary life. As Marx said, ‘all that is solid seems to melt away’, creating a sense of disorientation, championed by some as the conclusion of false-consciousness and lamented by others as the onset of

debilitating nihilism. For many, confusion and uncertainty yield a need for simplicity that fosters a futile longing for a return to ‘basic values’ or a ‘return to nature’. In today’s world, however, simplicity has morphed into an idle and idolatrous dream incapable of realization.

What role does philosophy play in such a world? Perhaps: What role *can* philosophy play? Philosophy, it is often thought, trades in simplicities. The *modus operandi* of most philosophy proceeds in accordance with a principle of reductionism. Underneath the parade of phenomena and the surface-level flutter of activity reigns a simple ‘One’, whether a fundamental level of reality or a metaphysical unity. The spectrum of reductionism holds no philosophical bias, for analytic and continental thinkers alike take reductionism to its absurd ends. Whether reducing the common-sense world to aggregates of sub-atomic particles governed by the laws of nature and probability or reducing the sensuous world of everyday objects to correlates of thought, both reduce one domain to the logic of another.

The philosophy that will emerge in the pages below flies in the face of common sense. In fact, one could argue that the conclusion borders on insane. Philosophers are often on the offensive against ‘the mob’, *pace* Berkeley. From Diogenes, Plato, Copernicus, Darwin, Freud, up to and including Alan Turing, radical thinkers have pushed thought to its limits exposing and unfurling the extent to which our default setting as humans thrown into a world is wrought to the core in deception and illusion.

This thesis will be no different, I admit. For, in the pages that follow, ‘the

world', that unified, all-encompassing domain about which we speak and make apparent discoveries every day will be declared another mythology. Merely another illusion. Instead, reality will look radically different. *Reality comprises distortive, aesthetic simulations*. The reality that will emerge will be a computational reality, a metaphysical pluralism in which actuality and possibility vie and vex, ultimately 'collapsing' into unified information states. Every state, every relation, every simulation creates a new world, one that's never before existed. Despite the simple laws constitutive of any space, the mutual compatibility of different information states yields a creative, aesthetic world each moment of which reads like an original screenplay. This is a philosophy of the transfinite; more negatively, an anti-Kantian, anti-monistic philosophy. I seek nothing less than a new prism through which to view traditional philosophical problems and, in the best-case scenario, create possible solutions. If anything, I will have risked tarrying on the tangent of the real.

Philosophical Hacking

Philosophy is ultimately concerned with problems and the concepts we create to venture solutions. In fact, if one seeks to glimpse the variety constitutive of the philosophical enterprise corner any philosopher and ask, 'Hey. What's *your* problem?' Hidden in this simple question will emerge a complexity worthy of the most beautiful fractal. Committing to philosophy means accepting an adventure the outcome of which has no transcendental assurances. Thus, the philosopher as conceptual adventurer lacks the assurance that her problems are well founded, risking the possibility that the problems emerge merely as a property of our current

state of knowledge. Moreover, the problems we venture to proffer as solutions—or dissolutions— never achieve the pristine clarity of precision known in the exact sciences. Philosophy trades in open-ended questions and answers, a dance that pivots around this call-and-response structure. It invites a dialogue intrinsically plural, suggestions for revisions, and proposals for further improvement or completely new alternatives.

It is important to stress immediately that in what follows, The Reader will encounter countless excursions into various scientific and mathematical theories and concepts. These excursions should not be regarded as my attempt to construct a scientific or mathematical theory. I understand by ‘scientific theory’ an explanation of a well-defined range of natural phenomena, based on systematic observation and formulated in terms of a set of consistent but approximate concepts and principles. A mathematical theory, on the contrary, like complexity theory, is a mathematical theory, one not based on observable physical data. Applied mathematicians and experimental physicists, of course, can and do integrate the mathematical tools for their scientific theories to explain, say, nonlinear natural phenomena like self-regulating living systems. I’m operating within the domain of a philosophical theory. Most of the arguments offered below aren’t based on a voluminous set of observations of physical systems. A philosophical theory, like Sellars claimed, concerns how things, in the most general sense, hang-together, in the most general sense.

Philosophy is conceptual hacking. ‘Hacking’ is often understood as a technical skill possessed only by those high-level computer engineers whose software and

computer know-how facilitates a relationship with the internal logic of computer software; that is, provide any piece of software to a computer hacker, and she'll find not only the internal state-of-affairs but, more importantly, the inherent possibilities lying dormant therein. For example, give a hacker a pair of glasses. The 'normal' mind sees a technology for vision correction. However, a hacker sees not only a technology for vision correction but sees possibilities galore. The question isn't merely *what is this/what does this do*; it is also, and more emphatically, *what can I make this do? What possibilities are inherent to these objects and its relations?* Thus, hackers gave us Google Glass and Oculus Rift. Hacking, then, should be understood more generally as any attempt to infiltrate a particular domain and, first, exhibit its internal structure of current state-of-affairs, that is, all that domain's facts. But, second, and this is the creative, constructionist venture, the hacker must find those virtual possibilities lying dormant in that particular domain's state-of-affairs. The proper tools of the philosopher —the philosopher's technology— are concepts. Thus, conceptual hacking comprises the philosophical investigation into a particular concept ('Knowledge', 'Reality', 'God', 'World', etc.) and the determination and exhibition of how that concept is understood and employed. The positive, creative aspect of conceptual hacking consists in the construction of solutions or dissolutions that attempt to render that concept coherent within a larger, more general *Weltbild*.

Hacking is ultimately concerned with abstraction and abstractions. While most flee in the face of abstraction, the hacker welcomes, even seeks its intrusion. Hackers produce new concepts, new perceptions, new sensations, all hacked of out

raw data: they are abstracters of new worlds. One might venture to designate the task of hacking as double: preventing the existence of ‘the world’ by debugging the inherent contradictions within any theory of everything and, subsequently, putting its intellectual and conceptual firepower in the service of creating new worlds.

This task promotes the hacker to a cultural position of fundamental importance. Computer hackers, to be sure, have received the most attention in virtue of domestic surveillance programs and the heroic efforts of Edward Snowden, Julian Assange, and Chelsea Manning. However, the original hackers had little to do with computers. Instead, ‘phone freaks’ were the original hackers. Phone freaks sought to disrupt and short-circuit the communication and phone systems of AT&T and Bell. The point was to short-circuit the telecommunications world by finding inherent loopholes, gaps, and glitches.

Difference is a property of the creative genius of any hacking community. To hack is to differ. It refuses representation. Its motivating concern, rather, is not the representational User Interface (UI) but the underlying code and machinery that serve as the UI’s enabling condition. Thinkers tinker, and the fruit of a hacker’s labor is the alteration of representational worlds. Concerned with the abstract, by implication, hacking is concerned with the virtual. For in virtue of abstraction the virtual is identified, produced and released. I belabor these points because the hacker or the Philosopher’s relation to Being will become evident below. Suffice it to say that those rebellious, unhygienic tinkerers and thinkers tarry on the tangent of chaos.

Part One will explore the notion of a discrete reality. It will be necessary, of

course, to get clear on some terminology. I see this as the main task of this first part. Part Two applies the ideas in Part One to David Foster Wallace's masterpiece *Infinite Jest*. This allows us to understand more clearly the central axiom of any new metaphysics: *the world doesn't exist*.

Part One

Get with the Program

During the twentieth century, the emergence of information theory and laws of thermodynamics generated a communications transformation whose waves covered every aspect of the world. The academy will never be the same; the economy will never be the same; the everyday will never be the same; this we owe to the digital revolution. Today's dominant media comprise pixels with billions of bits the increase of which exponentially grows more and more complex. Today's natural scientists, working at the edge of thought and experiment, at energies and velocities never before imagined, interact not with macroscopic objects but, rather, with abstract data. A scientist didn't collect her data; rather, a supercomputer whose computational power is extraordinary. The simple task of driving a car doesn't allow escape from our digital reality. Applying pressure to the peddle no longer manually activates the firing of pistons; instead, applying pressure to the peddle activates computer software that interprets the amount of pressure and sends a signal to the engine with the appropriate acceleration information. Software is everywhere. The historical record of technological revolution exhibits the extent to which pervasiveness is a necessary feature of technology; that is, its penetration into all domains of human activity, not as an exogenous source of impact but as the fabric in which such activity is woven.

Information, computation and the computer revolution have reached philosophy departments as well. Terrell Ward Bynum, in 1998, published a groundbreaking

work entitled *The Digital Phoenix: How Computers are Changing Philosophy*. The preface indicates the extent to which, even at that time, the computer revolution had made its mark.

From time to time, major movements occur in philosophy. These movements begin with a few simple, but very fertile, ideas — ideas that provide philosophers with a new prism through which to view philosophical issues. Gradually, philosophical methods and problems are refined and understood in terms of these new notions. As novel and interesting philosophical results are obtained, the movement grows into an intellectual wave that travels throughout the discipline. A new philosophical paradigm emerges. [...] Computing provides philosophy with such a sweet of simple, but incredibly fertile notions—new and evolving subject matters, methods, and models for philosophical inquiry. Computing brings new opportunities and challenges to traditional philosophical activities. [...] computing is changing the way philosophers understand foundational concepts in philosophy, such as mind, experience, reasoning, knowledge, truth, ethics and creativity. This trend in philosophical inquiry that incorporates computing in terms of a subject matter, a method, or a model has been gaining momentum steadily¹.

The arguments presented in the second part of this thesis, presented via David Foster Wallace's masterpiece *Infinite Jest*, will work in this emerging tradition of digitization and computation. However, it will be a rather nuanced position as I promote what is otherwise a specialized and local discipline into a grand metaphysical world-picture, one in which the world is declared non-existent and the scattered, entangled worlds comprise sets of laws that enable its objects to perform particular roles. I will argue in favor of a world-picture in which, paradoxically, the world doesn't exist. Indeed, I'm emphatically not advocating an external-world skepticism wherein reality comprises our thoughts and the posits of those thoughts.

¹ Ward Bynum and Moor, *The Digital Phoenix: How Computers are Changing Philosophy* (Blackwell 1998), pg. 1.

Such a view generally goes by *idealism*. The realism-idealism debate is hopelessly confused. This confusion results largely in virtue of a reductive metaphysical picture that restricts existence to one's preferred domain, say, perception, thought, or being physical or occupying space-time. Such a picture generates what I call 'coordinate confusion'. Much of philosophy could be rendered as the attempt to determine the proper coordinates for "queer" entities like numbers, sets, consciousness, fictional objects, and moral and ethical principles. The result is a spectrum of positions like eliminativism, naturalism, emergentism, idealism, epiphenomalism, etc. Depending on the starting point, the coordinates of those troublesome entities must be ascertained and the answer one gives to "coordinate confusion" more often than not functions as a philosopher's tell. Realism is a local phenomenon. Idealism, for example, is a realism with regard to particular entities, whether *ideas, the mind, perception, God, etc.* There isn't *Realism simpliciter*. All realism is about something or other. Thus, the simple split between realism/idealism operates under a profound confusion and yields only argumentation that operates on straw men.

Theories of totality and notions of the world currently presupposed by metaphysics will be our main target. This distinction, however, between our theories about the world and the world itself is precisely the metaphysics we should oppose. For, *theories about the world are a way the world is*. Hilary Putnam expressed this nicely: "the mind and world jointly make up the mind and world"². This is precisely why it's false to presuppose that we have, over here, the subject,

² Hilary Putnam, *Reason, Truth, History* (Cambridge 1981), ix.

res theoretica, and on the side of nature, over there, *res extensa*, that upon which we impose our theories of nature. Instead, theories about Nature are a way Nature is. Nature is inherently self-reflexive. This may, in fact, provide a nuanced revision of Parmenides' cryptic remark: 'thought and being are the same'.

The primary aim of philosophy is, by means of conceptual hacking, to overcome the dualism between thought and being. However, much contemporary philosopher fails to achieve a higher-order reflection that thematizes *the thought of thought thinking the relation between thought and being*. Most contemporary analytic philosophy, for example, operating under the assumption of scientific naturalism, assumes that given the fundamental truth of natural science, the relation between thought and being is quite clear. That is, physics investigates 'the world', understood as a *blobject* comprising spatio-temporal reality in which physical objects interact according to the physical laws of nature. This world becomes the object of a thought. Thought is understood as a physical calculation mechanism receiving physical inputs and generating complex semantic outputs. To know the thing in itself is to know how the world would appear without the existence of minds to whom the world appears. To appear to a human subject, the world would immediately evolve into something the content of which is unlike the features of which it's composed.

The world is standardly taken to denote the totality of all spatio-temporally extended things governed by the laws of nature. It treats the world, in the words of Martin Heidegger, ontically; that is, the world is treated as a physical object. In modern philosophy the concept 'being' came to denote the physical world, the

nature of which is investigated by the physical sciences. In this dichotomy, epistemology emerged as *first philosophy* and the being of the external world remained forever beyond the grasp of philosophical thought. If one were to take Quine's *criteria of identity* and apply this principle to this conception of the world, then we should jettison such a simplistic notion. The criteria of identity states that in order to individuate something as being *such and so* one requires the possession of a criterion by means of which one can provide the sought-after individuation. The act of individuation seeks to delimit the entity in question, determining its boundaries and limits in order to distinguish it from other entities. Quine says, "no entity without identity"³. On such a conception, it's difficult to see precisely how one could individuate the world with the result that the world remains the world. That is, "the world" would have to be an object of possible reference; it would in other words have to be a *summum ens*. But, the world is not a possible object of experience and therefore cannot be identified or individuated, for once its delimited it's no longer the world. But, let's not get ahead of ourselves. My argument against the world, and the argument in favor of metaphysical pluralism will occur in part two. Because I want to construe a metaphysical pluralism that's digital, that is, a reality comprising discrete states, I'd like to venture through some history and terminology in order to set the mood.

³ W.V.O. Quine, *Ontological Relativity and Other Essays* (Columbia University Press 1969), pg. 23.

Form and Semantic Information

The concept of information means many things to many people. Indeed, there are many different concepts of information afloat in the space of contemporary ideas, so the first thing one has to do when talking about information is to clarify what one is talking about. Below, I'll sketch what I mean by 'semantic information' and its relation to the colloquial use of the word.

Despite the swarm of definitions, one common property of information in the stipulates that it has something to do with order and structure. In fact, the everyday, colloquial conception of information makes sense when we attend to its etymology. All the variants of 'information' —transformation, reformation, deformation, and conformation— pivot around 'formation' or 'form'. Thus, information designates the infusion or transportation of form onto some previously unformed entity or entities. It is the shaping or our molding of a formless heap.

Throughout Western Philosophy we've seen various accounts of the nature of form and its appearance in the world. Plato, as is well known, introduced perhaps one of the first metaphysical systems into Western Civilization grounded precisely on the notion of form, or *eidos*. Plato paints a picture of a world in which every object and attribute is but a pale, imperfect copy of a perfect, abstract ideal, a form, or archetype, which resides somewhere in an imaginary heaven. Aristotle, instead of rejecting outright Plato's account of the forms, re-defined it as the set of the essential properties of a thing. An essential property, say, of a cat would be quadrupedalism, although color, being variable and consequently accidental, is not part of its form. Two cats share the essence of catness but there is no catness

without a real cat. Our understanding of the material world, he argues, depends not on having forms within our intellect. These mental forms he calls ideas, abstractions, or concepts.

Biology also utilizes this colloquial notion of information, where the infinity of shapes of living organisms provides us with a spectacle of awesome profligacy. In his book *On Growth and Form*, published in 1917, Scottish naturalist D’Arcy Thompson wrote,

We have learned that our own study of organized form is but a portion of that wider Science of Form which deals with the forms assumed by matter under all aspects and conditions, and, in a still wider sense, with forms which are theoretically imaginable. The mathematical definition of a form has a quality of precision which is expressed in few words or in still briefer symbols and these words and symbols are so pregnant with meaning that thought itself is economized; we are brought by means of it in touch with Galileo’s aphorism (as old as Plato, as old as Pythagoras, as old perhaps as the wisdom of the Egyptians), that the Book of Nature is written in characters of Geometry⁴.

The idea of form expresses relationships, and this insight carries over into the concept of information. It’s important to note, however, that information is not identical with form. The fractal patterns, for example, on the floor of a restaurant in Prague display various kinds of form, yet there’s no useful sense in which the pattern could be referred to as information. Cicero used the verb ‘inform’ to signify giving shape to something, forming an idea, and molding a person or his mind.

⁴ D’Arcy Thompson, *On Growth and From* (Cambridge University Press, 2014), pg. 269.

Information involves the transfer of form from one medium to another. Because form is about relations, we can tentatively define information as the communication of relationships.

Information should never be understood merely in its etymological sense. To do so yields an epistemological view of its nature, something we're trying to avoid in this argument for a digital reality. However, should one render information etymologically, that is, in-forming a chaotic mess of mere data into a coherent unity—always thought to be accomplished by means of humans— then one cannot avoid adopting what I'll call the Kantian View of Information. I call this the Kantian view because it advocates an essential relation between information and human-access. The correlation between reality and the human subject is rendered inescapable and subsequently leads to what's been called 'the worst argument in the world' (TAWW)⁵. TAWW is the argument that any attempt to think the unthought *ipso facto* turns the unthought into a thought. Thus, it's not possible to escape the "correlationist circle". Kant's Critical Philosophy retains as much power, influence, and pervasiveness today as ever, in all domains of intellectual work. You'll find remnants of Kant in the Copenhagen Interpretation of Quantum Mechanics, various strands of Cognitive Science, and dare we say, with few exceptions, the dominant positions in contemporary philosophy.

The essential component of Kant's Copernican Revolution is the following: the subject is conceived as an active agent whose conceptual constitution precludes

⁵ My knowledge of Stove's 'worst argument in the world' came from the following article: James Franklin, "Stove's Discovery of the Worst Argument in the World", *Philosophy* 77 (4) (2002): 615-624.

unmediated and immediate experience of reality (the so-called 'noumenal' realm). The picture advocates a view in which the subject is always-already enmeshed in the process of observation. Observations operate on the basis of distinctions. These distinctions are the distinctions of the observer and not inherent to the environment or the reality under observation. Observations always have a blind spot, because during the process of observation the observation conditions cannot be observed simultaneously. I'm in favor of the constructivist thesis and, insofar as Kant is a constructivist, then we're in fundamental agreement. However, there's an *important* caveat: 'observer' designates not merely the active human, concept-mongering subject but, rather, any constitutive system. For example, there's a constructivist component to the relation between a plant and sunlight in photosynthesis, insofar as all possible relata in a particular situation are not incorporated into a plant's activities. A plant doesn't make much use, say, of the perfume someone just sprayed while admiring its (the plant's) beauty. Rather, there exist in a situation particular systems of objects that are compatible with the functions of a more complex network. The complex process of photosynthesis, for example, involves strict rules governing the input-output functions that produce the wonderful dance of nature. The important point to stress is that 'noumena' and 'phenomena' are not specific to human-world relations but, rather, a property of *ALL* relations. The human-world relation is simply one kind of object-object relation. The strategic and nuanced move here is to expand Kant's Copernican Revolution to include all relations, not simply the human-world correlate. All relations produce or leave-behind a *noumenal* realm of properties that weren't

compatible or were simply unimportant to the function of that particular activity.

This is the concept of *withdrawal*.

Slavoj Žižek nicely captures the choice late in his massive tome *Less Than Nothing*.

Is the void of subjectivity a particular domain of the ‘universal incompleteness / void of reality, or is that incompleteness already in itself a mode of subjectivity, such that subjectivity is always already part of the Absolute, and reality is not even thinkable without subjectivity (as in Heidegger, where there is no Sein without Dasein as its locality)? It is at this precise point that Ray Brassier criticizes me for choosing the second, ‘transcendental’ option, unable as I am to think the Void of Being as such without subjectivity; from my standpoint, however, Brassier is here following Meillassoux, who pays a fateful price for his suspension of the transcendental dimension—the price of a regression to a ‘naïve’ ontology of spheres or levels in the style of Nicolai Hartmann: material reality, life, thought. This is a move which is to be avoided at all costs⁶.

Contrary to Žižek, this is precisely the move I wish to make in what follows. Žižek makes the usual mistake of presuming that, for example, when observation is referred to in physics, especially in quantum mechanics, that human observation is under consideration.

This is wrong. I’m partial to at least one component of Graham Harman’s so-called Object-Oriented approach for the simple reason that it takes seriously observation as a fundamental component of all interactions. Thus, when two objects interact and a simulation emerges in which one object subsumes certain compatible

⁶ Slavoj Žižek, *Less Than Nothing: Hegel and the Shadow of Dialectical Materialism* (Verso, 2012), pg. 905.

properties of its partner, an observation has occurred. Observation, as has often been repeated by quantum physicists trying to avoid the *What the Bleep do you Know?* shenanigans, should not be limited to a subjective activity accomplished by human beings. Rather, observation denotes the interpretive activity undergone by the informational exchange displayed by any relation of entities coming together in mutual matrimony. Any object can collapse the wave function; this privilege isn't limited to the domain of human abilities. Object-Object relations, then, display their own subtle subjectivity insofar as any relationship does not exhaust the 'objective' properties of these respective objects. If there's anything like objectivity operating here it's the virtual multiplicity of possibles, each of which has certain probability distributions. These probability distributions refer to the becoming actual the virtual or more precisely, the probability of a state-of-affairs given the requisite structure-generating observers. Alain Badiou also falls victim to the anthropic fallacy in both *Being and Event* and its phenomenological sequel *Logics of Worlds* insofar as The One, while not a primitive existent, is a property of human beings, that is, what grants consistency via set theory to the inconsistent multiplicity is human subjects.

Being withdraws from all realities. Semantic information, to come back to the beginning of this section, underscores the representational or meaning aspects of information. I want to suggest that we expand semantic information to include all relations with the caveat that we adopt a metaphysical skepticism. All relations involve the construction of metaphysical caricatures. No relations can exhaust *all* the properties of respective relata. The interaction of sunlight and plants doesn't exhaust *all* possible properties of sunlight and plants. There are leftovers so to

speak. These withdrawn, possible properties have something essential to do, I argue, with Being.

Metaphysical, Shannon Information

Hidden within the semantic notion of information is a syntactical or more profound metaphysical, structural notion of information. The technical definition of information is found in the work of Claude Shannon, particularly in his wonderful *Mathematical Theory of Communication*. Shannon disregards the semantic, representational properties in order to focus more precisely on its formal properties. I'm partial to this approach, which should be clear once we proceed into the second part.

Shannon wrote at the beginning of his book,

The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point. Frequently the messages have meaning; that is they refer to or are correlated according to some system with certain physical or conceptual entities. These semantic aspects of communication are irrelevant to the engineering problem. The significant aspect is that the actual message is one selected from a set of possible meanings. The systems must be designed to operate for each possible

selection, not just the one which will actually be chosen since this is unknown at the time of design⁷.

Shannon, of course, doesn't mean that information *simpliciter* has *nothing whatsoever* to do with semantics. For his purposes, however, meaning, reference, aboutness will not figure prominently as to be thematized in his theory. Shannon Information has less to do with individual messages and more to do with the totality of a situation or a state. Warren Weaver, who wrote the long preface to Shannon's notoriously difficult book, claims:

Information is a measure of one's freedom of choice when one selects a message. If one is confronted with a very elementary situation where he has to choose one of two alternative messages, then it is arbitrarily said that the information, associated with this situation, is unity [...] The concept of information applies not to the individual messages (as the concept of meaning would), but rather to the situation as a whole, the unit of information indicating in this situation one has an amount of freedom of choice, in selecting a message, which it is convenient to regard as a standard or unit amount⁸.

As is known, the most basic unit of information is the *bit* (**binary digit**). A bit represents a choice between two possible states. So, a single bit (0,1) selected from a two-state space is said to carry information. In a more complex case, a message such as 0110010101 selected from a space of possible binary messages carries

⁷ Claude Shannon, *The Mathematical Theory of Communication* (University of Illinois Press, 1998), pg. 31.

⁸ *Ibid.* pg. 9.

information in a similar way. What is important, for Shannon, is not any *interpretation* of these states; what matters is the *specificity* of a state within a space of different possibilities.

Let's formalize an *information space*.

- An information space is defined as an abstract space comprising a number of states, *information states*, and a basic structure of *difference relations* between those states.

A situation with 16 possible states has 4 bits of information. If *information space* refers to the totality of possible states in a given situation, then I could, at this very moment, make a fist; I could put some rap music on and wave my middle finger in the air; I could stick my thumb up. Each action is a possible state of my hand. Indeed, there's countless others. These possible states and their discrete nature is information space. 'Information State' refers to the actual arrangement of the space's possibilities. Here, semantic information becomes important. An *actualized* possibility—a raised thumb for example—when entangled with other states yields very different consequences. For example, a raised thumb in response to the question "Was the movie enjoyable?" is different than a raised thumb when standing roadside with passing cars. The state-entanglement creates different senses. But these senses and states are discrete. More controversially, information states are *worlds*. As Wittgenstein wrote,

The world is everything that is the case. The world is the totality of facts, not of things. The world is determined by the facts, not of things. For the totality of facts determines what is the case, and also whatever is not the case. The facts

*in logical space are the world. The world divides into facts. Each item can be the case or not the case while everything else remains the same. What is the case—a fact—is the existence of states of affairs. A state of affairs (a state of things) is a combination of objects (things)*⁹.

I won't go into my reading of Wittgenstein here. Suffice it to say that it's quite interesting that Wittgenstein's early desire led him to seek study with Boltzmann, someone we'll discuss below. This desire alas went unfulfilled as the latter took his life shortly before Wittgenstein's arrival at the University in Vienna. But, notice the similarity to our hitherto discussion. Wittgenstein affirms a nuanced It from Bit thesis. What's fundamental is *facts* or, in our language here, bits. The world is the collection of *everything that is the case, viz. facts or bits*. The important difference is that I pluralize Wittgenstein singular use of 'world'. Worlds are everything that is the case. Worlds are collections of facts and bits. 'Worlds' here is synonymous with information states. An informational reading of Wittgenstein would be a fascinating study, indeed. Especially given Wittgenstein's early forays into engineering.

What's essential to take away from this discussion is the implicit metaphysical aspect of Shannon's account of information. The *difference* between the bit-components of an information space is *Being*. Every situation or assemblage is an information space. Cell Division is an information space; photosynthesis is an information space; the concentric rings in a tree trunk is an information space; my thought *it's snowing in Berlin* is an information space; a performance of Thomas Adès' *Trevot* is an information space, albeit an extraordinarily complex one; the

⁹ Ludwig Wittgenstein, *Tractatus Logico Philosophicus* (Routledge Classics, 2001), pg. 50.

physical universe is an information space, an even more extraordinary, exorbitantly complex one. As we'll see later, however, there's no Information Space. In other words, there's no Information Space of all information spaces. This is another way of saying, more formally expressed, that universal quantification is impossible. Insofar as the metaphysical attitude involves what Bertrand Russell called "the attempt to conceive the world as a whole," the argument is against metaphysics in this precise sense¹⁰. However, I'm not averse to all forms of metaphysics given that I'm not at the mercy of definitions, especially one as historically and semantically heterogeneous as 'metaphysics'.

Let's call the sentiment expressed by Russell —the grasping for the whole— Old-School Metaphysics. Old-School Metaphysics, as we'll see more precisely later, designates the attempt to capture by means of thought and/or experiment a picture of the whole. It's thus the epitome of a *Weltbild*. In contrast, New-School Metaphysics subtracts the quantification over Everything, and adds locality. The admittedly Hollywood-inspired slogan 'The World Doesn't Exist' is the fundamental axiom of New-School Metaphysics¹¹. We're no longer concerned with cutting *The Everything* at the joints but rather concerned with the no-less ambitious attempt to identify the constitutive structure, laws, and Being of information spaces.

The difference between an *information space* and *information state* is crucial to understanding properly the metaphysical picture I'm going to paint below. I've already done some of the work above, but let's concentrate on getting clearer before

¹⁰ Bertrand Russell *Mysticism and Logic and Other Essays* (Gutenberg Press, 1953), pg. 1.

¹¹ This phrase is pilfered directly from the work of Markus Gabriel. See in particular his aptly titled *Warum es die Welt nicht gibt* (Ullstein 2013).

proceeding further. I'm not concerned directly with semantic information in what follows. Indeed, I'm not convinced that properties like *meaning* or *reference* or *sense* aren't required in order to make my position intelligible. Because I want to argue for a structural realism, a position that defends the existence of mind-independent structures, rules, facts, etc. I would argue in favor of the controversial position that *meaning* and *sense* would exist even in the absence of theoretical and practical concept-wielding bipeds. Because my interest here is philosophical, more specifically, the extent to which utilizing the conceptual resources of information theory can foster and lend credence to metaphysical pluralism, my focus will be primarily on Shannon and Boltzmann's notion of Information. Boltzmann information was the measure of W , viz. the number of ways a system can be rearranged. *The more astronomical W , of course, the more astronomical our ignorance.* In simple two-state information spaces, like a coin-toss, our ignorance is reduced accordingly. The radicality of Boltzmann was his inclusion of absence in the definition of information. Whatever increased, Boltzmann reasoned, was the result of the arrangement of particles. In Vienna, his tombstone features his name, dates, and the following cryptic inscription: $S = k \log W$. This expression represents one of the most profound insights into the decryption of nature's secrets. Boltzmann ushered into science a crucial understanding and utilization of probability, a notion that resided almost exclusively in his time in the domain of gambling! Instead of ascertaining the certitude of particular properties of particles—velocity, coordinates, mass, acceleration— Boltzmann underscored the likeliness, randomness and probability of the arrangement of particles. In place of

probability, however, one can talk of the number of ways to arrange an information space. Take a dice throw with six possible states. The probabilities are clear. But take, say, two dice. A two-dice-throw increases the complexity and number of possible states. Number of ways for '12' is one; number of ways for the state '7' is six. Entropy, under Planck's direction, came to be understood as the logarithm of the number of ways of arranging the states of a system, multiplied by a constant in appropriate units. In fact, the mathematical notation written above ($S = k \log W$) owes its formulation to Planck. 'S' refers to entropy ('S' *distinguishes it from energy*); 'k' for *Konstante*; and W for the number of ways of possible arrangement. My argument for the discrete nature of information spaces, and thus for reality, doesn't imply that I see for philosophy the unenviable task of determining the entropy of each information space. I'm not aiming for predictions, certainty or measurement in philosophy. Rather, I'm seeking only a preliminary investigation into the metaphysical aspects of information theory and its possible application to various philosophical concepts. I hope to show that the utilization of its resources can propel forward and foster a metaphysical pluralism.

If anything information and entropy are about structures, relations, and states. It parallels then not an *ontotheology* in which metaphysics reduces various forms of complexity to the behavior of a particular kind of object. This is Old-School Metaphysics, reduction and monism of the worst kind. We should avoid substance-based metaphysics at all costs. A Structural Realist commits to a mind-independent reality with the caveat that one's ontology —one's theory of existence— quantifies over all objects. Any ontology worth its salt must account for all objects, whether

physical or ideal, non-physical or real. Most brands realism avoid including structure, relations, and possibilia into their theory of existence; structural realism corrects this. It also takes as fundamental facts, bits, and states. All realities comprise structural and status (“states”) properties and, thus, Hegel may have been onto something when he claimed, “Spirit is a bone”. Structure is the skeletal frame of a system and to cut a system at its joints is to ascertain its structure, both underlying and emergent. If a child were to ask a structural realist, “So, Mr. SR. How does it all work?” the answer would be: *every system is informational, and the systems have mind-independent structures and rules. Even its objects are clusters of data.* Perhaps more appropriate for the child: *We live in computer simulations.*

On Being and Reality as Simulation

Three American baseball umpires argue vehemently after a game about the calling of balls and strikes. The first exclaims that he "calls'em as I see'em"; the second insists he "calls them as they are"; the third argues that "they ain't nothin' until I call'em". This joke is a riff off an old tale John Archibald Wheeler used to repeat to one of his most famous students: Richard Feynman. Wheeler will serve as a hero or as the French prefer to say "master" of the general approach of this thesis. A student of Einstein and Bohr, two physicists who wisely eschewed the aversion to philosophical imagination, Wheeler adopted this proclivity toward *Why*, incorporated it into his scientific *How*. His philosophical concerns can be broken down into the following five questions:

- Why is there something rather than nothing?
- Why the Quantum?
- Participatory Universe?
- What makes meaning?
- It from Bit?

Why something rather than nothing? will not be directly addressed here. I also won't give an argument for *why the quantum exists*; rather I'll presuppose it does and piggyback the applications of quantum theory to computing. This allows me to avoid a classically defined closed system with all its attendant demons: Descartes, Maxwell and Laplace in particular. I seek open, evolving dynamic systems whose fundamental constituents elude precise measurement and prediction. This isn't merely a heuristic model I seek; rather, this is the world I believe in and find out there. Not a closed System of the World but a transfinite proliferation of worlds or, more precisely, proliferating information states.

A participatory universe will be directly advocated. Like the third umpire mentioned in the joke above, there's nothing there -there are no states- until an observation occurs. This is of course a controversial position. It's been the playground of philosophy since its inception and since the emergence of quantum theory in the 20th century when Einstein wrote his famous papers against the seemingly anti-realist, probabilistic proclivities of quantum mechanics. However, it's not only humans who participate. All objects, all relata, enter relations and generate/simulate information states/worlds.

We have expanded the role of observation to include all relations, not simply that of human-world correlate. All relations, whether subject-object or object-object, involve observation insofar as "observation" designates a relation in which compatible information, physical or abstract, is communicated, processed and output. Hence, our computational worlds. All worlds are governed by this computational structure while not every world has the same computational functions. For example, the functions governing the communication and processing of information in the human brain are not the same functions governing those of human psychology. The rules for the social game played in the domain of American restaurants are not the same as the neurophysiological rules governing my bodily relation to nutritional input. For example, there's a rule in restaurant situations where your interlocutor offers to pay for the meal knowing this isn't a real offer. The exchange goes on for three rounds until someone gives up. This rule doesn't compare to the complex chemical and electrical exchange of information at the synaptic level. Another example: the rules governing the quantum, Planck level of physical reality differ completely from the classical rules of macroscopic physical reality. Despite stubborn attempts by physicists to reconcile these two exclusive domains of reality, their fundamental difference persists to such an extent that many have grown sufficiently courageous to abandon one or the other levels completely.

It from Bit will also play an important role in what follows. I will often interchange *facts* for *bits* arguing that, in fact, they are synonymous. This metaphysical picture departs radically from the common sense view that reality is some dumb, physical *whatever* out there. I proffer instead that the many realities in

which we live, move, and have our being are constituted wholly and completely by information. As Wheeler wrote,

*Every it - every particle, every field, even the space-time continuum itself-derives its function, its meaning, its very existence entirely from the apparatus-elicited answers to yes/no questions, binary choices, bits*¹².

Wheeler, like Einstein before him, accomplished the seemingly impossible task of installing metaphysics and imagination back into physics. Wheeler brought the child back into serious, scientific discussion. He focused on questions that drive all of us to child-like reflection and wonder at the incredible complexity and sheer being of reality.

The further we pursue this string of associations the more explicit it emerges that reality, like the internet's distributive systems, comprises an interconnected web. Network of Networks. Relations are the object of philosophy and science. "The aim of science," wrote Henri Poincaré, "is not things in themselves, as the dogmatists in their simplicity imagine, but the relations between things; outside those relations there is no reality knowable"¹³.

The pure difference between primary bits I'll call *dedomena*. These primary bits, however, are better to be regarded as qubits, that is, quantum bits, than as classical bits. Classical bits display a Boolean logic of information, as we've seen, with Yes/No, 1/0, On/Off, Open/Closed, High/Low Voltage. Qubits, however, in all their quantum glory, push thought to its limits by substituting "and" in place of

¹² Wheeler, John A. (1990), W. Zurek, ed. *Information, Physics, Quantum: The Search for Links, Complexity, Entropy, and the Physics of Information* (Redwood City, California: Addison-Wesley).

¹³ Henri Poincaré, *Science and Hypothesis* (Dover 1952), pg. xxiv.

"or". Now states can be *both true and false at the same time*: 1 and 0 at the same time, for example. It's easy to see why quantum computing has become the rage in debates in theoretical computer science. Quantum computers, while presented limited to solving astronomically large prime factor problems, perhaps hold the key to the next evolutionary stage of computation and its everyday ramifications for everyday life.

Dedomena is "data" in Greek. Again this refers *not* to the states but the difference between the states, before they become *actual*. Think of it as a pure logical space yet to be actualized into onto-logical space. *Dedomena* are emphatically not experienced directly but rather inferred information states. *Dedomena* for example consist as a kind of *le Grand Dehors* whose existence is required in order for anything at all to exist. For even if there's nothing, even presented with a white piece of paper or an empty set, we are still confronted with information. Even in the face of nothing, we have something, namely the fact of nothingness. I won't develop further this thesis here but consider this a path toward an answer to another of Wheeler's themes. Suffice it to say that I would advocate a position in which the foundational element of all worlds is non-material. Whether this spirals into *idealism* I leave open. In that case, both Norbert Wiener and John Wheeler are the worst of idealists. However I think not. Being comprises *dedomena*, patterns or fields of pure *possibilia* not matter or energy. Materiality and its attendant onticality are complex derivatives thereof. Alain Badiou mirrors such a view with his distinction between "inconsistent" and "consistent multiplicity"¹⁴.

¹⁴ Alain Badiou, *Being and Event* (Continuum 2006), pg. 30.

Inconsistent multiplicity can never be a possible object of experience, but only inferred through set-theoretical operations like the power set rule leading to the transfinite numbers.

A simulation is the actualized entanglement of information spaces. A world, then, is a simulation. Photosynthesis involves a number of informational entities — plants, sunlight, sugars, carbon dioxide, oxygen, etc. But, as we've seen, this process doesn't generate a simulation in which all possible properties come to reality. That's why a simulation is an abstraction: it's a simplified model. But, the simulation of a simplified model isn't something specific to the relation of humans to reality. On the contrary. Any relation is a computational simulation and, thus, a world. For all worlds involved relations and constitutive rules. We live, therefore, in computational simulations. These simulations are as real as common sense's reality! To be real is to be a simulation.

Absolute knowledge is the higher-order realization that no Royal Method exists. Indeed, there are methods. Darn good ones. But The One Method is an illusion. In other words, there's no all-encompassing algorithm the application of which decrypts the secret about reality. Methods illuminate new domains of speech and uncover truths and facts about the domains to which they're applied. But the dream of a *mathesis universalis* is an illusion. The non-existence of The Method renders a space in which speculation can take hold. That philosophical activity denounced by a figure no greater than Kant returns as the oppressed. A renewed metaphysics commences from the commitment to bits, facts and structures all of which exist to the same extent as neutrinos, cats, Pez dispensers and Teslas. As Dumbledore,

seemingly an advocate of a new metaphysics, exclaims: "Harry. Just because it happens in your mind doesn't mean it's now real".

Speculative Philosophy, in this sense, recuperates interest in the Absolute; however, it bumps the Absolute to a higher register. The Absolute is not longer a noumenal "great outdoors" of the collection of mind-independent macro-physical objects. The Absolute, rather, is the higher-order fact everything is contingent. The Absolute is the higher-order fact that every system teeters on the tangent of chaos. This is what Heidegger got right when he claimed that Being is not a being. Being is the difference that makes a difference. Being is the *potentia* inherent within information spaces. Being is the difference between yes/no, 1/0, on/off, and true/false. This is what Heidegger means when he accuses the sciences of not thinking. The near-sightedness of the natural sciences disallows a proper reflection on the enabling conditions of the ontic, viz. Being. This was precisely Heidegger's point in the opening of *Being and Time*. Heidegger won't play much a role here in virtue of his concern with the *Sorge* of *Dasein*. I depart from Heidegger's concerns precisely when he commences his interrogation of the human being as the proper medium to access Being. I'm concerned with Being and its collapse into actual information states, that is, into reality. Whether those states appear to a human or a tree isn't my concern.

Digital times need a digital philosophy. I propose we take seriously a position that advocates the fundamental discrete nature of our world. I will work out what this means in Part Two. The no-world thesis defended in the next section will apply most of the abstract ideas in this section to David Foster Wallace's masterpiece,

Infinite Jest. This application is justified for Wallace penned one of the most well versed *information novels*. He too advocated a discrete reality. That is, a reality comprising entangled states. These states do not flow continuously into each other but rather leap from world to world. A world is *not* an all-encompassing, closed aggregate of objects but rather an open network of entangled objects connected by virtue of algorithms. Each world comprises its respective organizing principles, aggregating and entangling compatible objects into unified information states. Worlds have limits and, at these limits, are fundamentally open. In the F. Scott Fitzgerald short story ‘My Lost City’, the protagonist ascends to the roof of the Empire State Building and immediately observes that NYC has limits. More precisely *his* city has limits. Fitzgerald writes,

And with the awful realization that New York was a city after all and not a universe, the whole shining edifice that he had reared in his imagination came crashing to the ground¹⁵.

We’ll see that worlds too have limits. Worlds are in pieces. Places and parts. More like cities and networks than we’ve ever thought.

For my purposes, the emergence of information culture doesn't represent simply a new organizing metaphor that digitally models and approximates an elusive reality. Reality is indeed elusive. But because reality always already recedes and eludes our simulations and models, relativism and anti-realism do not follow. I suggest we take seriously the view that reality itself is digital. The worlds in which we live are discrete simulations. We should view reality as constituted by

¹⁵ F. Scott Fitzgerald, *My Lost City: Personal Essays, 1920-1940* (Cambridge University Press 2005), pg. 151.

information, that is, mind-independent, structural entities and worlds that are coherent clusters of *dedomena*. Information is not relative to a human observer but is relative to observation. Being as *dedomena* always withdraws from any relation. Reality emerges from entangled information spaces. But Being itself always already withdraws from a relation. But, again, relations engender simulations and these simulations are worlds. Computational worlds. The point is that you live in computational worlds whether you like it or not. You're thrown into a proliferating numbers of worlds all of which operate according to particular logics, rules and algorithms. How do we understand a computational reality? Furthermore, how do we understand a messy computational reality, a radical metaphysical pluralism in which the One doesn't exist. How do we understand a world in which there is no world? The continuation of philosophical inquiry without a confrontation with and employment of the tools of computation risks what I will call intellectual luddicism, that is, the philosopher who maintains that philosophy is 'its own time rendered in thought' but remains embarrassingly ignorant of those computational systems that run the world.

Part Two

Theories of Everything and More: Infinity is not the End

One very important interpretive key that can help readers understand and appreciate the complexity of *Infinite Jest* lies in the analysis of its recursive structures. Most of the novel's constitutive narrative and sub-narratives pivot around precisely this mechanism. *Infinite Jest* is about a film "Infinite Jest," a film so entertaining that viewers cannot escape its paralysis-inducing pleasures. Viewers are sucked into an infinite loop of views until the regress concludes in the death of the viewer. One literally watches the film to death. The recursive nature of the title is just the start of the endless jest of infinities!

This chapter will make explicit the *implicit* metaphysical position underlying David Foster Wallace's infinitely complex second novel *Infinite Jest*. Furthermore, I will expand on the ideas presented in Part One. First, I will explore the fundamental dichotomy operative in contemporary philosophical debates in the wake of Kant's Critical philosophy: the *linguistic turn* and the *metaphysical turn*. It's quite common that readers of Wallace's work place him within a certain Wittgenstein-inspired meta-philosophy, that is, *the linguistic turn*. I find this exclusivity mistaken and will provide a much-needed correction. In fact, *Infinite Jest* provides the seeds for the development of a quite radical *metaphysical* position that I'll make explicit below. The section will conclude with what I'll call a Domsday Argument: *the world does not exist*. I'll investigate the extent to which Wallace's use of a Sierpinski Triangle as the "structural synecdoche"

underlying *Infinite Jest* contributes to such a *prima facie* absurd thesis as the non-existence of *the* world. Second, I will explore what I take to be Wallace's preferred methodology, what I'll call a *phenomenology of worlds*. As we saw in the previous section, 'worlds' and 'information states' will be used interchangeably.

I'll distinguish Wallace's objective phenomenology, which peers into the logical structure of worlds, from orthodox phenomenological investigation, which peers into the logical and transcendental structure of intentionality. Last, I will illustrate two types of infinity operative within *Infinite Jest*, viz. bad and good infinity. I will argue that Wallace's theory of freedom evolves out of his notion of what constitutes the internal mechanisms of infinite sets. "Bad Infinity" comprises an incessant recursion in virtue of the activation of an algorithm, that is, an inconclusive, mechanical repetition. "Good Infinity," on the contrary, consists in the higher-order reflection on the mechanisms or algorithms governing a particular set. By focusing on this higher-order reflection, we can illuminate Wallace's view of human freedom.

Metaphysics is dead. Long live metaphysics!

The *metaphysical turn* represents a fundamental change of attitude in relation to the methodological power of the *linguistic turn*. It became *au courant* in philosophical circles, in the wake of Kant's "Critical" philosophy, to restrict philosophical investigation to *limning the structure of language, thought, and access-conditions to the world*. The old Zen proverb captures this logic quite nicely: "when the finger points to the moon, the fool looks at the finger."

Most of philosophy (or *foolosophy*?!), then, since Kant was indeed mainly because claims about reality were unwittingly taken as claims about our claims about the reality! In the introduction to *The Linguistic Turn*, Richard Rorty explains,

The purpose of the present volume is to provide materials for reflection on the most recent philosophical revolution, that of linguistic philosophy. I shall mean by “linguistic philosophy” the view that philosophical problems are problems which may be solved (or dissolved) either by reforming language, or by understanding more about the language we presently use¹⁶.

Instead of investigating the fundamental nature of the world, such a conception regards the proper task of philosophical reflection as the analysis of *our thought or talk about the world*. Whether the philosopher investigates language, concepts, representations, or access-conditions to the world, she remains on the *res cogitans* side and implicitly *presumably* puts the world “over there,” *ipso facto* engendering the infamous gap between mind and world. The natural sciences, more specifically theoretical and experimental physics, investigate the fundamental nature of *res extensa*. If philosophy mingles at all with the latter, it is only indirectly in its proper custodial duties of cleaning up the conceptual and linguistic mess. This is an *idealism about philosophy*, that is, philosophy’s proper domain of activity consists in the investigation into the fundamental nature of *res cogitans*. At the very least,

¹⁶ Richard Rorty (ed.), *The Linguistic Turn: Recent Essays in Philosophical Method* (Chicago: University of Chicago Press, 1967), 3.

“linguisticism” fails to thematize “the world” to render perspicuous its—the world’s—precise meaning.

However, let’s not be misled by this meta-philosophical sleight-of-hand. Linguisticism operates according to its own ontology. It would be appropriate therefore to inquire into the ontology of language. Presumably, since the proper domain of philosophical investigation consists in the analysis of thought, concepts, and the logical structure of representation, that which is analyzed and investigated must exist! Thus, there’s an implicit ontology at play and focusing on language doesn’t get one off the hook ontologically or metaphysically.

So that we don’t lose track, let me add again that the secondary literature on Wallace focuses almost exclusively on his inclusion and participation within the *linguistic turn*. Indeed, Wallace presents profound insights and explorations of representational solipsism, linguistic idealism, descriptivist accounts of language with strong parallels to ordinary language philosophy, strong interest in mathematical logic and arithmetical systems all of which seem to indicate that Wallace’s S.O.P. (standard operating procedure) consists in staging within the domain of fiction various problems within philosophy of language that have been a staple of philosophical thought since its inception. It’s difficult to give a succinct and fair overview of the linguistic turn here, but I think the preceding will suffice for my purposes.

Metaphysicians now generally storm the gates of the world right past the epistemological and linguistic protestors. They operate “from the gut,” as John

Heil calls it¹⁷. That is, they seek “head-on confrontations with the universe.” Metaphysics has generally been defined as the investigation into the fundamental nature of reality. So, instead of bothering with our access- conditions to the world, metaphysicians find it perfectly within their rights to take literally their claims about the nature of the world. When someone says something about the nature of the moon, metaphysicians don’t take too seriously the idea that the claim about the nature of the moon was *really* a claim about the claim about the nature of the moon. Metaphysics, then, by making certain claims about the nature of the world already operates with an implicit ontology. Ontology, as far as this paper is concerned, consists in the higher- order explication of existence criteria. It—ontology—is not concerned directly with *what there is*, nor is it simply an investigation into the *meaning* of the concept ‘existence’. It’s concerned, rather, with making explicit the existence criteria with which we are always already operating. We make explicit our ontology *après-coup* insofar as, in order to make *something* explicit, it must already be operative in some implicit fashion. For example, when I claim, *there is a prime number between 2 and 9* and this claim is true, then I’m committed to the existence of numbers. Our everyday acts —whether non- propositional or propositional— perform these ontological commitments. It would be strange indeed were we to live and move in the world without being at least implicitly committed to the existence of *something*!

I’ve referred to Wallace’s implicit position as a *metaphysical pluralism*. Metaphysical pluralism should be understood in contrast to its opposite, viz.

¹⁷ John Heil, *The Universe as We Find It* (Oxford University Press, 2012), pg. 1.

metaphysical monism. Pluralism liberates our concept of existence from the strictures of monism. Metaphysical monism is the view that there is only one world or information state made of one kind of stuff. Metaphysical pluralism, on the contrary, advocates world plurality, that is, reality comprises a transfinite proliferation of information states. Monism conflates *the world* and *reality* and defines existence in terms of law-governed, space–time coordinates. The ontology of metaphysical monism defines existence in terms of appearance within *the world* where the latter denotes the physical universe. I suggest we think differently. The physical universe is *a* world, not *the* world. The physical universe under investigation by the natural science is one, unified information state.

A world is a set of objects the collection of which is governed by the inclusion criteria of one’s ontology. Alexius Meinong’s “ghetto” notion of existence offended Bertrand Russell’s *parsimonious* sense of reality. However, Russell’s parsimonious sense of reality offends what I take to be Wallace’s *promiscuous* sense of reality. As we’ll see below, existence is always relative to a world. ***To be real is to be actual in the physical world.*** On this account, ‘Ghosts exist,’ is meaningless until one provides the proper information state in which ghosts exist. Ghosts do not exist in the actual information state of the physical universe. So, ‘Ghosts do not exist in physical reality’ is true. However, ‘Ghosts exist in *Infinite Jest*’ is true. ‘Ghosts exist in the original television series *Scooby Doo, Where are You!*’ is false given that the show’s fundamental premise is concerned with debunking supernatural ontologies.

It’s very important not to confuse *reality* with *existence* or *material existence*

with *existence*. Ghosts exist despite not being real. Given that existence is relative to inclusion within an information state, ghosts exist in the domain of fictional characters without being real. To be real, then, is to exist in the actual, physical world. Ontology is the investigation into the implicit existence criteria according to which we're always already operating, while metaphysics refers to the attempt to investigate the fundamental nature of that which appears in *an information state or world*.

If existence is relative to a world, then we can go in two directions: we reduce the world to one particular information state, namely the information state of physical reality, or we proliferate our states and advocate a flat ontology, that is, a metaphysical pluralism in which an infinite number of worlds exist. A flat ontology is committed to the idea that *all things equally exist, but all things do not exist equally*¹⁸. What's included within a world is established by the operative inclusion or existence criteria. So, when one claims that 'existence is relative to an information state' think of the inclusion of a particular object within a set the inclusion of which is set by inclusion or existence criteria. It follows, on such an account, that it is not always contradictory to claim that *there are* non-existent things. To assert, *there is no coffee* is not to employ an unrestricted quantifier that quantifies over everything in the world. One could assert *there is no coffee* while coffee nonetheless exists in the other room. I will not argue for this thesis here, even though it's relevant to the discussion below, but this is why one can't quantify over everything. That is, there are no unrestricted quantifiers. This is important because we'll see below that Wallace implicitly defends what's I've been calling a

¹⁸ I credit Ian Bogost with this formulation

metaphysical pluralism in *Infinite Jest*. In fact, his fiction is fundamentally concerned with the plurality of information states in which we find ourselves moving and existing.

In virtue of the fact that worlds can have sub-worlds—that is, worlds can exist in worlds—it’s important to recognize that *worlds themselves exist*. This is the fundamental point of the above critique of the linguistic turn. To restrict existence questions to the domain of language is a mistake insofar as one remains committed to the existence of language in order to analyze it. The linguistic turn operates with an implicit ontology and an implicit metaphysics. However, it places these the proper domain of philosophical investigation. Quine, for example, was concerned with something he called “ontological commitment.” What exists is always relative to what quantifies over our true theories of the world. That is, for Quine, to exist is “to be the value of a variable¹⁹.” This formulation seeks to capture the ontological commitments of a theory already regimented in first-order, quantificational logic. I find Quine’s formulation persuasive on the condition that we modify his intentions. Instead of speaking about ontological commitments, it’s more fruitful to interpret Quine’s position as proffering a theory of existence *überhaupt*. And, as we said above, existence is relative to a world and, in the words of David Lewis, worlds “come and go with the pragmatic wind²⁰”! Existence is not a first-order property of individual objects. Rather, it’s a higher-order relation.

To summarize where we are. I’ve explored what I take to be the two dominate

¹⁹ W. V. Quine, *From a Logical Point of View: Nine Logico-Philosophical Essays* (Harvard: Harvard University Press, 1980), 13.

²⁰ David Lewis, *On the Plurality of Worlds* (Oxford: Blackwell Publishers, 2001), 164.

strands in contemporary philosophical discussion: the linguistic approach and the metaphysical approach. The linguistic turn advocates epistemology as first philosophy insofar as philosophy's proper domain of investigation consists in the analysis of language, while the metaphysical turn bypasses the restrictions on talk about the world by doing just that, making claims about the nature of fundamental reality. I've suggested, moreover, that we modify the orthodox conception of metaphysics by avoiding its domain-reductionism and enable the proliferation of domains. Metaphysics, then, would receive a promiscuous makeover: metaphysics investigates the fundamental nature of those elements appearing in their respective domains.

Doomsday argument: *The world doesn't exist*

Wallace's metaphysical pluralism indirectly positions itself against any and all metaphysical positions that seek to reduce the complexity and multi-layered reality to one particular world. For Wallace, *the world doesn't exist*. Instead of a bird's-eye view of totality, we must remain mummified within our flesh. However, higher-order contemplation enables us to hop from skin to skin, information state to information state, world to world, thinking and tinkering with their constitutive laws. While the bird's-eye view is jettisoned, Wallace permits what Max Tegmark calls a "frog's view":²¹ We're not caged within one world but rather simultaneous occupants of many worlds the number of which seem to extend to the infinitesimally

²¹ Max Tegmark, "The Mathematical Universe": <http://arxiv.org/pdf/0704.0646.pdf>, (accessed 24 September 2013).

small to the transfinitely large. This foreshadows Wallace's notion of freedom, which we'll address in section 3 below.

Wallace has admitted in various contexts that he employed a Sierpinski Triangle as a structural model of *Infinite Jest*. The most informative elaboration of his employment of a Sierpinski Triangle can be found in his 1996 interview on KCRW's show *Bookworm*. Wallace makes the following claim in response to host Michael Silverblatt's intuition that Wallace employed a fractal geometry to structure the novel:

That's one of the things that's structurally going on. It's actually structured like something called a Sierpinski Gasket, which is a very primitive, kind of pyramidal fractal; although what was structured like a Sierpinski Gasket was the first draft that I delivered to Michael [Pietsch, Wallace's Editor] in 1994 and it went through some mercy cuts. So, it's probably kind of a lopsided Sierpinski Gasket now. But, it's interesting, that's one of the structural ways that it's supposed to kind of come together'. And later: 'It seems to me that so much of pre-millennial life in America consists of enormous amounts of what seem like discrete bits of information coming and that the real kind of intellectual adventure is finding ways to relate them into each other and to find larger patterns and meanings, which of course is essentially narrative but that structurally it's a bit different'²².

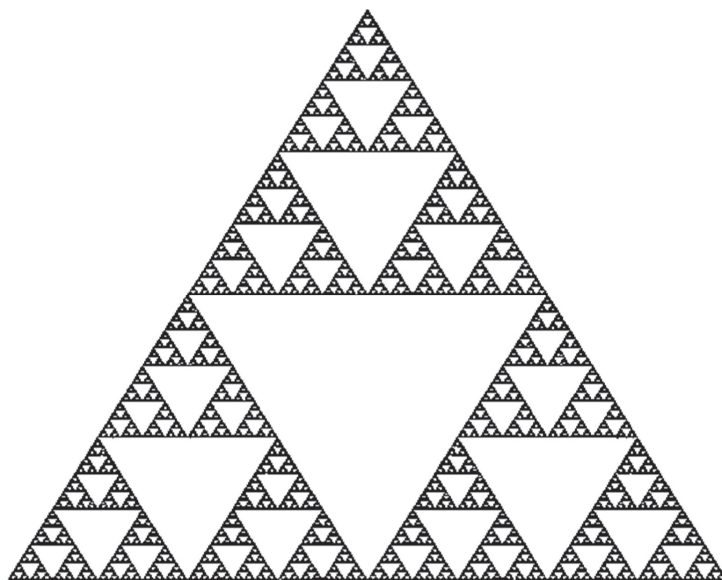
Let's pause to say a few words about fractals. To interpret *Infinite Jest* and Wallace's intentions ontologically would be to attribute to him a fractal ontology. This discussion returns to the opening lines above with regard to the "interpretive key" to identifying what's happening structurally in the novel, viz. recursive

²² One can access the interview at the following link. David Foster Wallace and Michael Silverblatt, "*Infinite Jest* Interview," http://www.ckrw.com/etc/programs/bw/bw960411david_foster_wallace.

structures. Fractals are one kind of recursive structure, that is, they are geometrical, self-similar objects. For example, stories inside stories, Russian dolls, movies inside movies, or dreams within dreams. Think, for example, of Las Vegas' replicas of famous cities: Paris, New York City, Venice (Italy). Imagine, though, if builders constructed in Vegas a fully functioning model of Las Vegas! Vegas in Vegas. However, within the new Vegas, they also constructed a Vegas within Vegas within Vegas. This is an example of recursion. A fractal demonstrates recursive structure insofar as a basic pattern is iterated such that each individual part resembles the whole.

Indeed, we encounter a number of naturally occurring fractals in everyday life! Think, for example, of snowflakes, coral reefs, and nervous systems. We won't explore this here, but there are non-fractal objects that are self-similar, viz. line-segments. Note that an important difference exists between abstract and real fractals. The former's iterative structure continues *ad infinitum*, while the latter's doesn't. At some point in the analysis of a natural fractal, the part does not resemble that whole. It's not necessary to analyze in detail the intricacies of fractal geometry here; I do think the preceding definition and discussion will suffice however to follow the argumentation presented below. What is a Sierpinski Triangle? Let's avoid the mathematical explanation, and focus more on what the triangle looks like and how it can be informally constructed. We'll then speculate a bit on its ontological and metaphysical consequences. A Sierpinski Triangle is an elementary, pyramidal fractal. Its construction involves, first, drawing a triangle; then, within the triangle one draws three triangles and within those three triangles another three

triangles, and so on *ad infinitum*. The fractal nature of the triangle consists in its self-similar repetition. (See Image Below)



The world is standardly taken to denote the totality of all spatiotemporally extended things governed by the physical laws of nature. It treats the world, in the words of Martin Heidegger, *ontically*; that is, the world is treated as an *empirical object*. The Sierpinski Triangle, one could say, exhibits this totality: everything that exists appears inside the triangle and inside the sub-triangles and sub-sub-triangles. How could one possibly argue for the non-existence of *the* world? Of course the world exists, one might object. Where else do we live than in the world? Fair enough. But, where is this world? We can't have a possible experience of the world. One can't point to the world. Indeed, one can point to various objects that appear within a world; however, *the* world itself can never be a possible object of experience.

The physical universe, moreover, is not *the* world. If one posits that the world is the information state in which everything exists, it follows that, given the implicit existence criteria, in order to exist, the physical universe would have to appear within itself. This infinite regress illustrates the meaning behind the claim that only worlds exist. There is no domain of all domains, set of all sets, list of all lists or world of all worlds.

I've argued that we shouldn't limit *the world* to law-governed, spatio-temporal coordinates. Rather, we should expand our notion of the world to a transfinite proliferation of domains in which things exist, appear and perform various roles depending on the nature and rules of that domain. Numbers do very different things depending on the nature of the domain in which they appear; hands perform distinct roles depending on the domain in which they appear. For example, it's doubtless true that a hand is a collection of sub-atomic particles arranged hand-wise; however, this doesn't exhaust the true descriptions and properties of a hand. It's important to note that I don't want to conflate "horizons" or "perspectives" and what I'm calling worlds. Phenomenology would treat these different descriptions of a particular object as gestalt switches or changes of perspective. However, I want to claim that with what I'll call an objective phenomenology and a metaphysical pluralism the worlds in which things exist and perform various roles *exist*. It amounts, then, to realism *about* information states. We do not project them onto the world; rather, they exist independently of our projective activity. Each individual triangle composing a Sierpinski Triangle represents a particular domain or world. Furthermore, the number of worlds can incessantly extend to the infinitesimally

small given that the triangles within triangles continue to proliferate *ad infinitum*. Thus, there is an infinite number of worlds. Most importantly, however, we began the triangular construction process by drawing a large triangle, subsequently engendering the “internal” infinite regress. But, we could also include this initial triangle within a much larger, more encompassing triangle, and could proceed outward into the transfinitely large. In other words, the regress extends inward as well as outward.

It’s important to note that when I claim that we occupy many worlds, I’m not claiming that our physical, spatiotemporal coordinates occupy two *universes*; that is, this position doesn’t necessarily imply the multiverse view currently gaining traction in contemporary physics (although I am partial to that position). Again, this is because the universe is not *the* world. The universe, rather, is *a* world. Think of a world as a domain of objects collected in accordance with axiomatic laws, rules and algorithms. Imagine a table on which you find some cubes. Suppose someone asks you, “How many objects are on the table?” Common sense may claim that there are three cubes on the table. However, suppose Max Tegmark emerges in the room and says to Common Sense Man, “Sorry. There aren’t three objects on the table. Rather, the precise amount is impossible to determine, as these cubes are merely subatomic particles arranged cube-wise.” Then, German painter Neo Rauch saunters into the room: “Given that the cubes are different colors. We’re forgetting to count the colors. So, in addition to the three common sense cubes, I

count seven different colors, giving me ten objects.²³”

This example can be a bit misleading for my purposes, though. It can be used not to prove an ontological point, but to support the epistemological claim that the *concept* of existence is plural and, thus, we project different models of counting upon the world. I think this is wrong. I propose that we think of worlds as domains of objects collected according to some rules or laws, as existing independently of human projective activities. That is, we find ourselves operating, living, acting, and thinking within structures whose nature exists independently of us. One needs to step away from the epistemological position *toward the ontological*.

Wallace employs precisely this model to compose his novel, the Sierpinski Triangle, takes this ontological step; that is, *Infinite Jest* explores proliferating domains and worlds and their constitutive laws.

Objective phenomenology

It is common knowledge that Wallace emerged out of an influential movement within post-WWII American fiction, viz. meta-fiction. Meta-fiction seeks to make explicit within traditional fictional narrative the normally merely implicit structures, mechanisms, and tropes that are the conditions for the possibility of fiction. Readers of meta-fiction encounter constant reminders throughout the text that what they're reading is mediated by an Author whose particular narrative devices can service basic manipulative goals. In other words, meta-fiction sought the *initially* radical aim of exposing the degree to which reality and narrative are

²³ For an elaboration of the cube example, see Hilary Putnam, *Ethics of Ontology* (Harvard University Press, 2004), pg. 33.

essentially and fundamentally mediated. Thus, narrative structure, language, and the Author of the story become essential characters of the story. Wallace developed his fictional interests within this tradition; however, he later found its incessant self-referentiality empty and its use of irony, which had emerged as a form of radical social critique, had been co-opted by the-powers-that-be. It had, as a result, lost all its radical potential insofar as its self-referential moves exhibited all the solipsistic proclivities Wallace grew to abhor. In fact, he struggled most of his post-*Infinite Jest* career to develop a viable alternative to the empty formalism of post-modern meta-fiction and succeeded, I think, in performing what I call a *moral meta-fiction*. The methodology of a moral meta-fiction is what the title of this section of the chapter calls “objective phenomenology.”

Phenomenology consists in the investigation into the nature and logical structure of human intentionality, and what appears within this intentional structure—that is, our conscious acts are always *about* something in particular. I can think, fear, or desire particular empirical or abstract objects, think about states of affairs in the world, etc. Mental acts and states, that is intentionality, though, must be directed *at* something; they must be *about* something. Thus, phenomenology pivots around this investigation into the logical structure of intentionality and *ipso facto* there emerge philosophical problems of “inside”/“outside.” That is, how do I get from in here to out there? It’s not difficult to see where meta-fiction pilfered many of its conceptual tools. Out of phenomenology emerge many of the perennial philosophical problems. For example, consider the problem of the relation of thought and reality, related of course to the discussions above concerning the linguistic and metaphysical turns as

well as being a central concern of Wallace's work. How much of the structure of the world and its constituents is a projection of the conceptual and linguistic structure of human beings? Furthermore, how can we even know where our projection begins and ends?

Don Gately, a central character in *Infinite Jest*, tells an interesting joke during an AA (Alcoholics Anonymous) meeting. This joke functions as an important analogy to a fundamental problem operative within Wallace's fiction. Two fish are swimming along when they encounter another fish, who/which asks them, "Morning Boys! How's the water?!" Once the fish achieves a sufficient distance from them, one of the two fish asks the other, "What in the hell is water?" Among other things, the joke illuminates the fact that human conceptual calisthenics has infiltrated and permeated reality to such an extent that the "real intellectual adventure" consists in demarcating where precisely, or even approximately, reality begins and conceptual thought ends. But, one must first escape the cave of first-order ignorance in order to achieve the higher-order reflection on the water/world—"Morning Boys! How's the world?" Objective phenomenology asks precisely this question.

Objective phenomenology operates a bit differently from orthodox phenomenology. It —objective phenomenology— investigates the logical structure of information states *in general*. So, while phenomenology thematizes the structure of intentionality, that is, the *aboutness* of *human mental states*, objective phenomenology thematizes the logical structure of the many worlds in which humans appear and engage in activities of various sorts. As we've seen we live and move and have our being in what seems to be an infinitely complex number of

worlds: there's the information state of Language, Society, Government, Fiction, Physical Reality, State Fairs, Lobster Festivals, Math and Logic Classes, Relationships, University Life, Digital Worlds, Art Museums, Dentist Offices, Bathrooms, Libraries, etc. While of course each particular world is describable within the language of the natural sciences, most particularly and successfully in theoretical and experimental physics, it's not the case that the mathematical language of contemporary physics exhausts the complexities and rules of these respective worlds. For example, while the physics of color or the physical laws governing fluid dynamics doubtless explicate many of the complexities composing a Jackson Pollock painting, other equally as important elements of the painting slip through the clutches of physics' mathematical language. It would be strange indeed if MOMA replaced all their museum guides with physicists from NYU since the meaning of a painting is not exhausted by its inclusion or appearance within one particular domain, viz. the domain of physics or the domain of art museums. Paintings can appear in what seems like an infinite number of domains, and, most importantly, these domains comprise rules, laws, expectations, norms, etc. that are *not* mere projections of human creatures. Instead, the human finds himself participating in domains the laws of which are already there and function, if you will, as the riverbed through and in which our actions flow.

To get a better feel for this argumentation, let me provide something like a analogical compass, which should make it clearer what I'm getting at. Take, as an example, Duchamp's so-called "ready-mades."²⁴ Most art critics conceive of

²⁴ Let it not go unacknowledged that, in Hilary Putnam's definition of metaphysical realism, he defines realism as the commitment to a "ready-made" world. That is, a world

Duchamp's aesthetic motivation as something like a democratic gesture; that is, *any particular object, regardless of its status, can be an object of art*. However, I think this epistemological interpretation misses a crucial *ontological* feature of Duchamp's radicality. Here's what I mean. Duchamp's "ready-mades" are everyday objects placed within a particular physical space, an art museum, and the apparent radicality of Duchamp's Gesture, placing a toilet within an art museum, *seems* to concern the object itself; that is, anything can be a piece of art. I think this is only partly true. A more interesting thesis is the following: the true radicality of Duchamp's Gesture consists in the toilet's placement within an art museum drawing attention to the information state in which the toilet appears. What counts as "art" or what's included or excluded from the halls of an art museum is governed by stringent inclusion conditions, viz. an ontology. Duchamp's reflexive move makes explicit the constitutive rules governing the inclusion criteria within the space of an art museum. More importantly, his radical gesture makes explicit the contingency of any and all constitutive rules governing such a space. Duchamp's Gesture is ontological insofar as it calls attention to an information state in which things *exist* and *appear* and *perform* various functions given that space's constitutive rules. It's not merely the boring, epistemological insight that we all have different views of the same object.

Objective phenomenology then is a *logics of worlds*. Here we see that objective phenomenology also has an "inside/outside" problematic of its own.

already constituted in such and so a manner. The task of philosophical investigation consists in identifying the one true regimented discourse that adequately ascertains this constitutive structure. See his "Why There Isn't a Ready-Made World," *Synthese* 51 (1982): 141–67.

Instead of it being a problem of consciousness, however, it's more a problem of, say, configuration spaces or domains. "Configuration space" refers to the abstract space *represented* in experimental and theoretical physics. Simply stated, and indeed, not doing justice to its complexity, it goes something like this: in order to study a particular real event that occurs in the universe, the physicist represents the real time event within a mathematical model or structure that isolates certain variables, the configuration of the system. The experiment seeks to decrease the number of influences operating on the event at the time in question. In order to measure and determine the facts of the event, this configuration space is represented by mathematical models. Suppose one develops a *massive* model to represent a particular state of affairs in the universe. Let's say that model represents the physical universe at war. Now, suppose one uses a tennis court to model a real-time event in the fictional war in question. What if it starts snowing?! Does it snow on the model? Or does it snow in reality? Wallace explores this wonderful example in the famous "Eschaton" event in *Infinite Jest* (321–42)²⁵. But, while configuration spaces and configurations are, of course, human inventions, highly successful ones at that, we should nonetheless not shy away from advocating their reality. That is, they exist. In fact, to my mind, theories and models about reality, given that they exist, are a way reality is. This echoes themes explored in Part One. A configuration space in theoretical physics is nothing more than the general category I identified as a *simulation*. The theoretical or experimental physicist relates to a number of different technologies and, out of this relation,

²⁵ I'll refer to page number of *Infinite Jest* in parentheses. Quotes are taken from David Foster Wallace, *Infinite Jest* (Little Brown, 1996).

emerges a simulation. This simulation is a world/information state. Again, as we saw in Part One, humans don't have a monopoly on simulations. All relations, all worlds, and all information states are simulations.

It's important to note that *Infinite Jest* begins with Hal Incandenza, arguably the novel's main character, a tennis and intellectual prodigy who also develops a circular drug addiction, telling the Reader, "I am in here". He goes on to describe in detail the simulation in which he's "in," the (academic) context, the room, the expectations, etc. composing the situation as such. The end of the novel, by contrast, concludes "out there," presumably reflecting Don Gately's—who's a former drug addict who plays an essential role in the novel's exploration of Alcoholics Anonymous communities— escape from the cycle of Demerol addiction.

Wallace's fiction attempts to present and explore incomplete fictional worlds —kinds of locally structured worlds of inexhaustible reality— the completion of which requires the participation of his readers. The completion process is outsourced to his readers who, lost within an informational overload, seek to be reflectively at home in a world. Most of Wallace's work, I believe, can be placed within the ancient tradition of spiritual exercises, where the goal of physics, poetry, and philosophy was to enable those who embark on the life of understanding to achieve a harmonious and reflective existence within the complex infinities of space and time. However, in the ancient tradition, the preferred means of reflection on the secrets of nature and the infinite complexity constitutive of the world consisted in thought's cosmic exile from the physical strictures of mortal life. Hence, in almost all ancient traditions, we read of exiles into the heavens

where, stationed away from the riff-raff of everyday life, one can contemplate in a state of purity the wonders of the world and its peculiar occupants, human beings. Wallace prevents cosmic escapades into contemplative heaven by preventing a bird's-eye view of the whole, or what Thomas Nagel called *the view from nowhere*²⁶. How to combine the perspective of a particular person inside the world with an objective view of that same world, the person and his viewpoint included? How is it possible to develop a theory of totality when one's position of enunciation is *within* that totality? Human thought cannot achieve a position from which the whole and its constituent parts and interrelations gradually develop into a high-definition picture of reality. Wallace keeps us moored *within* a world, or within a domain, in all their labyrinthine complexity, stitching together what seem to be patterns and interrelations without the psychological or ontological release of definitive answers. Whether those patterns are *really* there and constitutive of reality, or whether those patterns are simply projections of a 1,360-gram meat machine, serves as a fundamental *aporia* within Wallace's fiction, and kind of, say, metaphysical skepticism.

²⁶ See Thomas Nagel, *The View from Nowhere* (Oxford: Oxford University Press, 1989). Nagel dubs this "a problem that faces every creature with the impulse and capacity to transcend its particular point of view and to conceive of the world as a whole." Nagel thinks that an objective view cannot include everything and will always be incomplete. "Reality," Nagel asserts, "is not just objective reality." For Nagel, objectivity is not a property of things. Rather, objectivity consists in an *attitude toward things*. That is, the manner of understanding things and their relations such that one seeks to describe any kind of experience or thought "from the outside," and include it in a wider account of things in which that experience or thought occupies no privileged position. Nagel claims, if I'm reading him correctly, that some things remain unaccounted for within an objective account: some things will have been left out within the account. Debussy once said of Maeterlinck that he had a "passion for the beyond," a kind of "synoptic ambition."

Wallace's big TOE

The exploration of an author's contemporary reality and its seemingly herculean, interconnected patterns, and the attempt to capture and represent these underlying patterns in some kind of fictional intuition constitutes one of the aims of a form of literary fiction, viz. theory of everything (TOE) or encyclopedic fiction. At 1,079 pages, 97 of which comprise 388 footnotes, *Infinite Jest* fits snugly into this tradition alongside the sprawling novels of his heroes —Thomas Pynchon's *Gravity's Rainbow*, William Gaddis's *The Recognitions*, and *JR*, James Joyce's *Ulysses* and *Finnegans Wake*— but not without the following caveat: where most TOE novels explore the effect and possibility of the mythological and metaphysical impulse of totalization, *Infinite Jest*, while being a TOE, shows the impossibility of TOEs. TOE novels are expansive in reach and seek to capture reality's infinite complexity within a particular model. Unlike most encyclopedic novels, Wallace enacts a fictional critique of the metaphysics of totality, what we above called “domain reductionism.” Metaphysics can be understood in this sense as *a reaching for a conception of totality*.

According to Kant, the nature of human reason consists in its desire to propel itself out of a finite situatedness toward the “idea of absolute totality.” In short, *Infinite Jest* shows its readers that *the* world doesn't exist; rather, reality comprises a transfinite proliferation of worlds. Worlds are infinitely complex and transfinitely proliferating. But there are certain dangers implicit within infinity and infinite regresses, dangers that were certainly not alien to Wallace. In fact, he consistently explored the concept of infinity both in his non-fiction and his fiction.

Below, we'll explore two types of infinity, "bad" and "good" infinity, operative within Wallace's *Infinite Jest*.

Good and bad infinity: Morning Boys! How's the world?

I would like to connect metaphysical pluralism to a couple of themes that occupied Wallace's work perhaps more than any other: solipsism and human freedom. The aforementioned infinite loops, recursions, and addictions in *Infinite Jest* chronicle the degree to which excessive data-gathering, addiction, annular fusion technology, and athletic training lead to a dizzying circularity from which there appears to be no escape. However, Wallace offers liberation from the vortex of circularity. I want to suggest that, in Wallace's work, liberation from "bad" infinite regresses consists in the higher-order act of *choosing* what one does and doesn't pay attention to within the operative domains in which we're participating²⁷. We can be robotically manipulated by the rules and laws of whatever world we find ourselves in; or, we can tarry with

²⁷ In an important passage early in *Infinite Jest*, tennis coach Schtitt introduces a recursive tennis strategy that takes advantage of Georg Cantor's set-theoretical "paradise." The narrator claims that "Schtitt, whose knowledge of formal math is probably about equivalent to that of a Taiwanese kindergartner, nevertheless seemed to know what Hopman and van der Meer and Bollettieri seemed not to know: that locating beauty and art and magic and improvement and keys to excellence and victory in the prolix flux of match play is not a fractal matter of reducing chaos to pater. Seemed intuitively to sense that it was a matter not of reduction at all, but—perversely—of expansion, the aleatory flutter of uncontrolled, metastatic growth—each well-shot ball admitting of n possible responses, n^2 possible response to those responses, and on into what Incandenza would articulate to anyone who shared both his backgrounds as a Cantorian continuum of infinites of possible move and response, Cantorian and beautiful because *infoliating*, *contained* this diagnate infinity of infinities of choice and execution, mathematically uncontrolled but humanly *contained* bounded by the talent and imagination of self and opponent, bent in on itself by the containing boundaries of skill and imagination that brought one player finally down, that kept both from winning, that made it, finally a game, these boundaries of self" (*IJ*, 82).

the infinite complexity by breaking the cyclical loop of infinite regresses and self-referentiality by means of higher-order detachment from the world that frees us so that we can thematize its structures and laws. These “bad” infinities are represented in the aforementioned loops, recursions, addictions, mechanical training, and circular themes littered throughout *Infinite Jest*.

The film “Infinite Jest” propels viewers into a regressive feedback loop of incessant viewing until the viewer simply dies. This is the revolving door of solipsism. However, there’s another *Infinite Jest*, namely the novel itself, which represents a “good” infinity, an outward expansion beyond mechanical repetition. Moreover, answers to fundamental questions of the novel take place *outside* the temporal boundaries of the novel and force the Reader to enter the space of reasons and connect the dots. Wallace’s moral meta-fiction absorbs the Reader not into his (Wallace’s) own consciousness in order to alert the Reader to the fact and structure of subjective or authorial mediation; rather, while remaining within the orbit of meta-fiction, Wallace sublimates its narcissism and all-encompassing repetitive vortex of signifiers, into a *moral meta-fiction*, one concerned with inviting the Reader into particular domains not of his (the author’s) making. Once the Reader inhabits a particular world, Wallace issues an imperative, “Pay attention!” or “Look around! See the extra-ordinariness and infinite complexity of the ordinary and finite.” In this sense Wallace embodies a nuanced version of Socrates, not because he engages discursively with interlocutors to discover the *logoi* of concepts and definitions, but rather the *logoi* of what Wittgenstein called “forms of life.”

Wallace's ontology was a regional ontology. Yet, within the regional were both an infinitesimal depth and a transfinite breadth. He invited you, the Reader, into domains already constituted in such and so a manner, and begged you to pay attention to their abyssal complexity. In his now famous commencement address to the Kenyon College graduates in 2005, now titled *This Is Water*, Wallace explored this idea. He reminds the audience repeatedly that the goal of any education worthy of the name "isn't really about the capacity to think, but rather about the choice of what to think about"; "that education can reveal a (properly) Copernican revolution in which humans, immediate experience to the contrary, are *not* the center of the universe. The opposite view, that we are the center of the universe and existence, is our default setting, hardwired into our boards at birth. Think about it: There is no experience you've had that you were not at the absolute center of." He goes on to underscore the difficulty involved in avoiding lapsing into solipsism, that is, the tendency to attribute everything to a function of one's projectile cognition: "it is extremely difficult to stay alert and attentive instead of getting hypnotized by the constant monologue inside your head"²⁸. Education, then, consists in teaching students that learning how to think "really means learning how to exercise some control over *how* and *what* you think. It means being conscious and aware enough to *choose* what you pay attention to and to *choose* how you construct meaning from experience. Because if you cannot or will not exercise this kind of choice in adult life, you will be totally hosed . . . how to keep from going through your comfortable, prosperous, respectable adult life dead, unconscious, a slave to

²⁸ Wallace, *This Is Water: Some Thoughts, Delivered on a Significant Occasion, about Living a Compassionate Life* (New York: Little, Brown, & Co., 2009), 41.

your head and to your natural default setting of being uniquely, completely, imperially alone, day in and day out”²⁹. He later claims, “But, if you’ve really learned how to think, how to pay attention, then you will know you have other options. It will actually be within your power to experience a crowded, hot, slow, consumer-hell-type situation as not only meaningful, but sacred, on fire with the same force that lit the stars—compassion, love, the subsurface unity of all things”³⁰.

Wallace’s use of Ludwig Wittgenstein concerns not merely the focus on “meaning as use” or the construction and analysis of logical space. Rather, these passages show that he takes seriously the idea of *showing* versus *saying*. To speak or say what’s wonderful spoils the wonder; Wallace can only invite you and gesture toward the infinite complexity of the domains he explores. He sometimes seems to function as a philosophical tour guide of the various domains he chose to explore.

Philosophy and fiction, for Wallace, appear to be therapeutic activities; however, not because, as Wittgenstein thought, it cures the hubris and gullibility of human reason to mistake linguistic and grammatical complexities for metaphysical entities. On the contrary, philosophy and fiction can provide the “kick” to propel the person into a reflexive relation to his or her default settings, both epistemological and ontological, in order that the worlds and situations in which we find ourselves, and their constitutive rules and laws, are thematized and made an object of reflection. Most importantly, higher-order reflection on the structure and laws of domains exposes the contingency of those

²⁹ Ibid. 47.

³⁰ Ibid.

constitutive rules. Philosophy and fiction can illuminate the contingency of the formal structures and laws governing all domains. This is precisely what makes philosophy and fiction so radical.

Perhaps it's a stretch, but I think it's at least interesting to think of Wallace's implicit metaphysics as "quantum," that is, a kind of *quantum fiction*. As contemporary theoretical physicists improve and develop the standard model, we're seeing radical alternatives emerging concerning what's most constitutive of physical reality. Some propose that the most fundamental reality is not in fact particles or individual things; rather, the most fundamental level of reality is intangible: fields, relations, or waves. I'm proposing that we extend this quantum logic to domains in the sense defined above. Both the "manifest" and "scientific" images posit individual things, whether macroscopic or microscopic respectively, as the most fundamental constituents of reality. However, some avant-garde views posit fields or waves in which individual objects appear. However, these fields aren't in any sense of the word *things*. Likewise, what is most fundamental metaphysically, on the account sketched above, are not the individual objects that appear in domains but rather the domains themselves.

Worlds comprise interdependent individuals interfacing according to evolving rules and laws whose governance function as the rails along which society moves. The most fundamental components are not the elements, the individuals, nor the particles; rather, the worlds, fields, relations, networks, etc. in which they appear and perform are what's most fundamental in the many worlds of Wallace's fiction. It's important again to stress that worlds are not empirical objects. Physicists like

to think of the physical universe as an empirical object, most recently as a wave-function. However, worlds on this conception are no things, they are *no-thing* perhaps “less than nothing.” To conclude with the conclusion of the film *Now You See Me*, Wallace could have said this to you as well: “Come in close. Closer. Now you know the secret . . . on the count of three open your eyes and tell me what you see. 1, 2 . . . [Fade to black: No-thing].”

Conclusion

An excursion through *Infinite Jest* has allowed us to glimpse what it means when we forfeit belief in the fictitious notion of the world. In its place a dynamic, creative reality emerges, one in which we’re limited to local simulations each of which functions according to regional laws. The laws, as I’ve understood them, are computational insofar as they take inputs and generate outputs. Whether human-object relations or object-objects relations, the relations of reality are incessantly entangling and generating world simulations comprising information. If one were to look askew at reality, achieving sufficient distance from local entanglements, reality one could venture looks like a Kandinsky painting: overlapping shapes of different sizes and complexity, none of which stand firm as *fundament*. While cliché the oft-used metaphor of Russian dolls seems apt. One never reaches bottom *simpliciter*. Rather, one is tossed and turned through a vertiginous search for a proper *Heimat* concluding in a realization that the Absolute is nothing more than the simulation itself. *That reality is a contingent simulation* subject to evolving, dynamic information states *is the Absolute*. There is a reality/appearance distinction

maintained in this position. Old School Metaphysics, as we've seen above, maintains a commitment to the *really real* beneath the illusory plasticity of empirical reality. New School Metaphysics, however, sustains a reality/appearance distinction but introduces a *real* that's elusively slipping from relations.

Our place in the world is, indeed, one of actors on the stage of information states. Human freedom consists not in the freedom to do what one will; human freedom designates the higher-order recognition of one role specific to a particular state and the ability to hack this state and elicit and entangle and short-circuit one's position. Humans, like all entities, are engineers and hackers. *Homo hackus*.