GÖDEL, HOFSTADTER, WALLACE:

THE GÖDELIAN METALOGICAL NARRATIVE STRUCTURE OF

DAVID FOSTER WALLACE'S *INFINITE JEST*

by

Cory M. Hudson

A Thesis Submitted in Partial Fulfillment

of the Requirements for the Degree of

Master of Arts in English

Middle Tennessee State University

August 2015

Thesis Committee:

Dr. Allen Hibbard, Committee Director

Dr. Marion Hollings, Committee Member

For Mom and Dad

ACKNOWLEDGEMENTS

There are many people that I am grotesquely indebted to for all their efforts on my behalf. For the sake of brevity, I cannot list everyone; but first and foremost, I need to express my sincere gratitude and unflinching love for my parents and little brother, Sean. I have subsisted on the Alan and Verna Fund for the Wayward Youth (i.e., me) for the better part of my graduate career, and without their unflagging and undying support, I would not have been able to complete this thesis. Though they may not completely understand or see the point in the ramblings that occur throughout this thesis, I dedicate it to both them.

I would also like to thank Dr. Terrence Quinn in MTSU's Department of Mathematical Sciences for serving as an "unofficial adviser" on my thesis. Dr. Quinn graciously opened his office door and sacrificed his time to help a random English graduate student who emailed him out of the blue seeking to garner a basic—if not understanding—impression of the sexy mathematical maneuvers in Kurt Gödel's essay. Dr. Quinn offered to read the first chapter of this thesis and provide me with his comments. The merits of Chapter One are substantially his.

I also owe a debt of gratitude to Dr. Mary Holland from SUNY New Paltz for sending me a pdf file of the keynote address that she delivered during the First Annual David Foster Wallace Conference hosted by Illinois State University. Her 2014 keynote address, despite torpedoing my original thesis idea focusing on Wallace's meta-fictional realism, rang my psychic cherries, and it opened me toward a new perspective on Wallace's work.

ABSTRACT

Despite acknowledgements that it forms an intellectual predecessor to *Infinite Jest*, the influence that Douglas R. Hofstadter's *Gödel, Escher, Bach* (*GEB*) had upon the structure of David Foster Wallace's novel has resisted critical exploration. Filling this gap in Wallace scholarship, this study fully probes the degree to which the structure of *IJ* mimics Kurt Gödel's notions of incompleteness and recursion as explained by Hofstadter. Gödel, via a self-referential mathematical formula designated ϕ, established the impossibility for a calculus to account for every true mathematical statement about natural numbers. Wallace used Gödel's notions as a formal principal to structure *IJ*. The recursive incompleteness of a closed fictional system modeled on such a proof opens finally toward the reader, inviting exit from the experience of reading the novel. In that transcendent movement to the outside of the novel's textual system, writer and readers form an empathetic bond with one another beyond the experience of inhabiting impossible formulae.

TABLE OF CONTENTS

PAGE

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION: RESTRUCTURING WORLDS AND THESES

During my time as an undergraduate pre-law student,[1] I enrolled in Dr.

Clyde E. Willis's political science course "Introduction to Law and the Legal

System." Dr. Willis gave each of us a copy of his "'The Rules Thirteen' An Essay

for Students" on the first day of class, which he wrote—in the spirit of Ludwig

Wittgenstein's Preface to *Philosophical Investigations*—to give his (Dr. Willis's)

students an insight into his approach to the theoretical and practical applications

of the U.S. legal system as well as the U.S. academic community at large. What

resonated most strongly with me (i.e., what rang my psychic cherries) when I first

read "The Rules Thirteen" were Dr. Willis's "Merlin's 'There are no Boundaries

Rule'" and "Balzac's 'You Must Read Fiction'" rule.

The whole *raison* behind the two aforementioned rules was to highlight the

insane silliness of perfunctory compartmentalization. Dr. Willis condemns the

perniciousness of man-made boundaries thusly:

> While self-proclaimed experts may find their boundaries comforting,
>
> the fact of the matter is that the boundaries do not exist. They exist
>
> only in the minds of people that have at times as much to conceal
>
> as reveal, and they reveal the miasma of petty minds. One purpose
>
> of non-useful boundaries is to encourage a lack of knowledge of

---

[1] Who knew that the path to a M. A. degree in English could begin in an academic life devoted to studying the workings of the judicial system and the U.S. government? I thought that I was going to be some hot shot defense attorney, but . . . Poli sci professors should be a bit more careful in assigning their required reading. Kafka's *The Trial*, London's *Call of the Wild*, and Balzac's *Colonel Chabert*—though great literary examples of amorphous legal systems—might not encourage a student to stick with his or her ambitions for a career in governmental service.

society. We created the nuanced boundaries and have the will to

refuse them a dominant power over us. (46)

Reading fiction is one way to break through the "nuanced boundaries" we create.

Fiction that is grounded in experience depicts all of life's rich facets as they

inundate characters simultaneously, and good authors—really mind-blowingly

good authors such as Honoré de Balzac or David Foster Wallace—do not

separate life into chapters as educational institutions categorize studies into

distinct departments of political science, English, philosophy, or mathematics;

instead, a truly great writer engages life as a whole. Fiction offers us an

opportunity to see how everything we learn is interrelated.

One of the more salient aspects of David Foster Wallace's *oeuvre* is how it

defies categorization. Wallace's wildly calculating construction of prose recreates

the world where he and his readers dwell, a world devoid of neat taxonomic

groupings or phyla or species or classes. In his magnum opus, *Infinite Jest*, I see

Wallace re-erecting Boston in stunning detail across 1,079 dense pages, and—

within the seemingly anfractuous paragraphs and sentences—Wallace becomes

the architect of a linguistic Boston parading a sense of weltschmerz reflected

against the environment and the characters that inhabit *Infinite Jest*'s ambit. The

cast of characters ranges from the affluent administrators, students, and teachers

from the Enfield Tennis Academy (E.T.A.) to the wretched and/or hard-bitten

addicts of the drug and alcohol rehab center Ennet House, and each character in

Infinite Jest is forced to navigate Wallace's labyrinthine world. Since the text's

publication in 1996, critics and scholars have grappled with this beast of a

narrative seeking to place it within the American literary canon or to dismiss Wallace's epic as panoplied, ordurous dudgen. Close to twenty years later, however, we are still talking about *Infinite Jest*, and—considering the current boom in scholarship on David Foster Wallace—it doesn't seem as if the debates/conversations are about to end any time soon.

This thesis joins the discussion among various critics about the narrative structure of *Infinite Jest*. However, my approach for analyzing that structure does not take place solely within the confines of the Department of English. When I began pondering about the structure of *Infinite Jest*, I ascribed to Wittgenstein's advice to look at the same thing (e.g. *Infinite Jest*'s structure) continuously, albeit under different circumstances; as a result, part of my goal in this thesis is to create an account of Wallace's narrative structure for *Infinite Jest* that crosses academic boundaries; as such, this thesis will take us (you—my reader—and myself) into topics outside of the English Department, primarily mathematical theory and a little bit of philosophy.

When we talk about Wallace, it seems to be a disservice to speak of his work exclusively from the perspective of an American literature tradition because his writing is rife with references not only to global literary history but also to various philosophies from around the world, mathematics and mathematical theories, popular culture, and the list goes on. If we want to know the reality of Wallace's fiction, we must, like Merlin and a young thirteen-year-old pre-King Arthur, transform ourselves into eagles, so we can fly above *Infinite Jest* and tool around Wallace's epic at a higher altitude. From up here, we can do our best

Merlin impressions and ask if we can see any boundaries below us, and what we will of course discover is that we "see no such boundaries, for there are no such boundaries! The only . . . boundaries are those that we create and which exist in our minds" (Willis 50). We must be willing to transcend those boundaries, and we must take into account all of the facets that make up Wallace's world in *Infinite Jest*.

My argument is that Wallace applied a mathematical structure, a framework that was heavily influenced by Douglas R. Hofstadter's equally dense text *Gödel, Escher, Bach: An Eternal Golden Braid* (*GEB*)*,* to his (Wallace's) tome of a book, *Infinite Jest*. Hofstadter's book deals with theories that stayed with Wallace. In fact, Wallace tells Steve Paulson in a 2004 interview that when he started really studying philosophy in-depth "it was the beginning of the infiltration by kind of continental deconstruction on analytic philosophy and the world was full of recursion, and involution, and things bending back on themselves, and various incarnations of Gödel's proof, and I think some of that kind of affected me at a spinal level" (qtd. in Burn 133). By appropriating Hofstadter's discussion of Kurt Gödel's incompleteness theorems and mathematical concepts of fractals and recursion, Wallace structures *Infinite Jest* analogously to the recursive formula that Gödel creates to prove his incomplete theorems. Gödel's formula is a self-referential formula that defines itself in terms of a simpler version of itself. Wallace structures *Infinite Jest* as a recursive definition of addiction, and he prevents his definition from undergoing a vicious infinite regress by inserting a simpler version of itself, James Incandenza's film

"Infinite Jest,"[2] inside the novel to bottom out or terminate the regress. In truth, these are some heavy hitting concepts (e.g., Gödel's formula and his incompleteness theorems). Chapter One provides a description of Gödel's work thus giving the foundation of this argument a little more transparency, but for now an abstracted generalization of the implications of Wallace's adoption of a metaphorical use of Gödel will help clarify where this thesis is headed.

The unique structure of *Infinite Jest* allows the novel to operate as a recursive definition for addiction. Wallace's novel defines addiction in terms of addiction, but rather than creating a closed fictional system that leads to an infinite regress or a paradox, Wallace bottoms out the recursion present in the novel which effectively emphasizes a breed of open literature that differs from the closed-up metafictive texts emblematic of some of Wallace's postmodern forefathers. Unlike John Barth's classic metafictive short story "Lost in the Funhouse," in which Barth delivers a narrative in which the narrator comments on the techniques of writing fiction and the struggles of developing a storyline as the narrator relays the story about a young boy named Ambrose, Wallace's open fiction emphasizes the relationship between the reader and the writer in a way that causes the reader to participate indirectly in the growth of the writer's narrative. When Wallace bottoms out of the recursive structure of *Infinite Jest*, the reader is encouraged to jump out of the fictional system. One of the implications of Gödel's incompleteness theorems is that a *final* systematization of

---

[2] For ease of reference, henceforth *Infinite Jest* in italics will refer to Wallace's text and "Infinite Jest" within quote marks will mean J. Incandenza's film.

arithmetic cannot be established, or, in other words, Gödel proves that no one can account for every meta-mathematical statement for arithmetic. In my reading of *Infinite Jest*, I contend that Wallace's desire to create fiction that is marked with a pulsing desire to create a "meaningful connection" between literature and the physical world in all of its day-in-day-out-boredom-routine-and-petty-frustration glory and to write "morally passionate, passionately moral fiction" that was also "ingenious and radiantly human" inspired him to write a novel designed to encourage the reader to jump above the novel to obtain a higher level perspective to make connections in the novel and outside of the novel (*A Supposedly Fun Thing* 33; *Consider the Lobster* 274). Zadie Smith says it much better than I in her essay "*Brief Interviews with Hideous Men*: The Difficult Gifts of David Foster Wallace"; as a reader of Wallace's fiction, she feels that his stories are "turned outward, toward us" (273). Wallace does not direct his fictive systems toward the characters in his narrative—"His stories simply don't investigate character"—but, instead, those systems act upon the reader holding a tangible copy of *Infinite Jest* (Smith 273).

There is something to note about *Infinite Jest*'s structure from the get go. It is recursive—a concept that is pretty fundamental to Hofstadter's *GEB* and Gödel's incompleteness theorems. It can be a funky concept to wrap your head around sometimes. Andrew Plotkin, for example, jokes that "If you already know what recursion is, just remember the answer. Otherwise, find someone who is standing closer to Douglas Hofstadter than you are; then ask him or her what recursion is" (qtd. in Gossett 329). In mathematics, recursion refers to functions

that are defined in terms of themselves. The Fibonacci sequence is a good

example of recursion in mathematics. The first part of the system runs as follows:

{1, 1, 2, 3, 5, 8, 13, . . .}, and it is defined by the formula $f(n) = f(n-1) + f(n-2)$.

The key thing to notice in the formula is that $f(n)$ is defined by (is equal to) terms

of itself. Recursion occurs when items repeat in a self-similar way.

A fractal is another really interesting application of recursion; moreover, a

fractal is the basis for Wallace's narrative schema for his novel. Wallace states in

an interview with KCRW Radio's Bookworm program that *Infinite Jest* is

intentionally "structured like something called a Sierpinski Gasket . . ." (qtd. in

Herring 89). Figure One shows an example of a Sierpinski gasket. To create the

gasket shape, you start with an equilateral

triangle. The next step is to locate the

midpoints on each of the three lines that

make up the equilateral triangle. Those

points will be the corners for the largest

inverted equilateral triangle in the above

figure. It is pretty much a rinse and repeat

process from there. You just keep drawing

Fig. 1. Sierpinski gasket from "Sierpinski's Triangle," *mathforum.org*, GNU, 28 June 2012.

inverted equilateral triangles inside of the right-side up equilateral triangle.

The gasket shape is intimately interwoven with the narrative of the novel.

In "*Infinite Jest*: Triangles, Cycles, Choices & Chases," David Herring, drawing off

of Greg Carlisle's narrative deconstruction of *Infinite Jest* in *Elegant Complexity:*

A Study of David Foster Wallace's Infinite Jest, notes that the twenty-eight

chapters, which are divided into smaller sub-chapters, of Wallace's text steadily grow in size over the course of the book and relate to the gasket shape. Herring states that readers become cognizant of an aggrandizement of the "size and focus of the chapters as they read, and the initial smaller chapters—relatable to the smaller triangles of the gasket shape—are later retrospectively understood to form part of the overarching structure so we are ultimately aware of the gargantuan system of relationships that operates across the entire novel" (90). Basically, if you refer back to Figure 1, *Infinite Jest* in toto, all 1,079 pages of it, corresponds to the entire Sierpinski gasket. Now look at Figure 2. Notice how one Sierpinski gasket is, in fact, made up of an infinite number of smaller gasket shapes. Figure 2 shows how one Sierpinski gasket has three copies of itself embedded within itself, and each of those copies
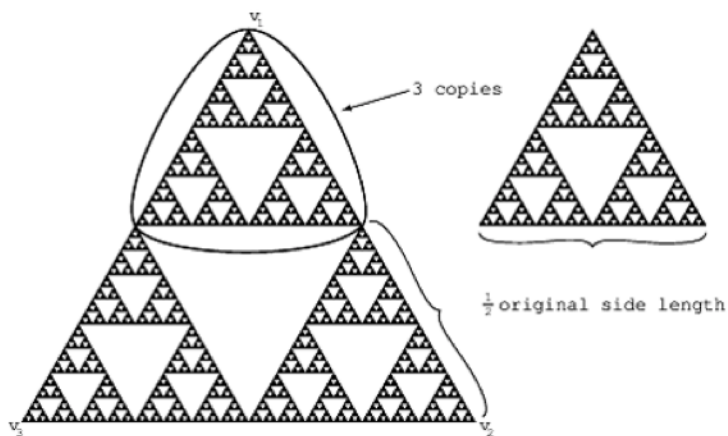
Fig. 2. Breakdown of a Sierpinski gasket from "Sierpiński gasket," *encyclopediaofmath.org*, Springer, 26 Mar. 2012.

has three copies embedded in each of them, and each of those copies of the copies … ad infinitum. The three smaller gaskets that surround the largest up-turned equilateral triangle in the center of the original Sierpinski gasket seem to relate to the three major plot lines that comprise *Infinite Jest*: the Incandenzas and ETA, Don Gately and Ennet House, and the race for James Incandenza's lethally entertaining film cartridge between the Organization of North American

Nations (ONAN) and les Assassins des Fauteuils Rollents (AFR), a Québécois séparatiste group. Within the Sierpinski gaskets that represent the three plot lines are even smaller gaskets that relate to the sections that tell the narratives of the different plots, and there are even smaller gaskets within the ones that relate to the larger sections for the smaller sub-sections.

Greg Carlisle in *Elegant Complexity* describes the threads of *Infinite Jest*'s narrative as "looped as well as intertwined" (325), and the annular nature of the Sierpinski gasket that frames the narratives accounts for the novel's loopiness. The annularity of *Infinite Jest*'s structure also mimics the major theme of addiction that is present in all three of the major plot lines in Wallace's novel. In *Infinite Jest*, drugs and alcohol and sports and entertainment all serve as metaphors for an addictive continuum that Wallace saw dominating contemporary American culture. Wallace tells D. Lipsky that the addictive continuum has:

> something to do with that we're just—we're absolutely dying to give ourselves away to something. To run, to escape, somehow. And there's some kinds of escape—in a sort of Flannery O'Connerish way—that end up, in a twist, making you confront yourself even more. And then there are *other* kinds that say, "Give me seven dollars, and in return I will make you forget your name is David Wallace, that you have a pimple on your cheek, and that your gas bill is due."

And that that's fine, in low doses. But that there's something

about the machinery of our relationship to it that makes low

doses—we don't *stop* at low doses. (81)

The recurrence of this theme throughout the different plots and sections and subsections of the book, as a result of *Infinite Jest*'s self-similar shape, cuts across the different strata of American society (governmental bureaucracy, upper/middle-class America in E.T.A., and upper/middle/lower-class in Ennet House) and Wallace's choice to structure the book based upon a Sierpinski gasket sets up a situation where the characters within the gasket shape are locked inside a self-similar, recursive structure that provides no exit or egress, like a funhouse of sorts.

However, the reader, outside of the fractal, has the ability to zoom in/out on the different gasket shapes in such a way that resembles Gödelian metalogic, a particular case of being able to "step back" to a different view point or an ability to remove oneself to a "higher" perspective in order to see patterns and make connections. *Infinite Jest*, essentially, has different levels of meaning depending on which part of the Sierpinski gasket/narrative the reader focuses, and the reader's ability to continually zoom in and out of the system allows the reader to see the details better for what they are. Wallace seems to be one of the rare individuals that Hofstadter speaks of in *GEB* with "the vision to perceive a system which governs many peoples' lives, a system which had never before even been recognized as a system," and who devoted his life "to convincing other people that the system really is there and that it ought to be exited from!" (37). The

addictive continuum is thus a recursive system from which the characters of *Infinite Jest* cannot escape, and Wallace places the onus on his reader to rise above the system he creates, recognize it, and exit it.

In this thesis, I will explore the isomorphic relationship between Wallace's *Infinite Jest* and Hofstadter's *GEB* in order to demonstrate how Wallace's use of Gödel's incompleteness theorems encourages the readers of *Infinite Jest* to break out of set systems, to break out of the addictive continuum and funhouse narratives. Wallace finds a way—using Hofstadter's relationship between Gödel and "strange loops," or self-referencing objects—to show how many of the logical contradictions and paradoxes brought about by self-referencing objects in metafiction are inescapable. As humans, we are almost always wanting more. We have a drive to know and to be, and, in the words of Hofstadter, "it is impossible for a human to act unobservant" (37).

Wallace's fiction forces its readers to observe a reality outside of their own experiences and embrace such paradoxical questions concerning language, literature, and the world by rejecting the premises—a strategy Hofstadter calls "unasking." In and of itself, this is not some huge revelation for fiction; however, in the wake of American books such as Brett Easton Ellis's *American Psycho*; Mark Leyner's *My Cousin, My Gastroenterologist*; or Jay McInerney's *Story of My Life*, to name a few, Wallace saw contemporary American fiction becoming superfluous relics, steeped in narcissism and shallowness, of the soigné practices of postmodernist writers from the 1960s and 1970s. *American Psycho* is pretty much a series of aggrandizing depictions of rape, torture, and

manslaughter interspersed with descriptions of high-end clothing and ornamental

business cards. Capriciously bouncing back and forth from one erratic idea to the

next, without any discernable linkages between said haphazard ideas, Leyner's

novel assails its reader with schizoid portrayals of abstract situations that are

about as coherent as the vague impressions one is left with after a bad acid trip,

and McInerney's *The Story of My Life*, in the words of Michiko Kakutani, has

some "quick, funny portraits of club denizens in this volume, and some satiric

renditions of the stoned dialogue that can accompany the ingestion of chemical

substances," but, "In the end . . . none of this makes us care about Mr.

McInerney's characters. It simply leaves us depressed at the shallowness of

these people's lives, and at the author's failure to find a worthy showcase for his

talents." In "E Unibus Pluram: Television and U.S. Fiction," Wallace, partly in jest

and partly dead serious, ponders the question "Umm, insights and guides to

value used to be among literature's jobs, didn't they?" (76), and this thesis simply

seeks to establish how the mathematical structure of *Infinite Jest* encourages

readers of Wallace to remove themselves to a "higher level" in order to make

sense of his narrative and make connections that the characters within the text

cannot. The reader must jump out of the system (the book) and survey what she

has done (read, understood, thought of, imagined, etc.).[3]

---

[3] Granted, it is easy for readers' of Wallace to apply anything and everything that I have
just said re Ellis, Leyner, and McInerey to Wallace's writing. My thesis director and my
thesis reader, for example, have told me that Wallace does not necessarily make them
care about his characters; however, there is a strong contingent of Wallace readers who
do believe that Wallace represents a break from the above-mentioned narcissism of
1980s postmodernism. Marshall Boswell, for instance, declares that Wallace "owes more
to the great postmodernist novels of the 1960s and 1970s than to the 'brat pack'

I believe that Wallace drew off of many of the ideas Hofstadter proffers in

GEB. Some Wallace scholars have briefly acknowledged that *GEB* is the spiritual

precursor for *Infinite Jest*'s structure. For example, Wallace's current biographer,

D. T. Max, states in *Every Love Story is a Ghost Story: The Life of David Foster

Wallace* that Wallace was well aware of Hofstadter's 1979 book. "*Gödel, Escher,

Bach*, by Douglas Hofstadter," notes Max, "impressed Wallace a great deal. . . .

Wallace borrowed his father's copy and 'actually shoved this book excitedly at

people in the eighties' . . .," and more importantly, for the purposes of this thesis

at least, Max further states that, "*Gödel* is a predecessor to *Infinite Jest*, at least

structurally. Mark Costello[4] remembers Wallace when he was working on his

---

novels—Bret Easton Ellis's *Less than Zero* and Jay McInerney's *Bright Lights, Big City* being the principal two . . ." (21). Moreover, "Wallace decisively explodes the vacuity of Ellis and [Jill] Eisenstadt's phony nihilism" in works such as his short story "Girl with Curious Hair" (79). Boswell notes that Cheese, a character from "Girl" who serves as a contrast to the story's "flat, inhuman WASP personified" protagonist Sick Puppy (80), avows that "'punkrockers were children born into a very tiny space, with no windows, plus walls all around them made of concrete and metal . . . and that as adults they were trying to cut their way out of the walls'; that this was why they 'all felt as if they had nothing and would always have nothing [and] therefore they made the nothing into everything' (["Girl with Curious Hair"] 67)" (80-81). "Girl" tries to speak against the rich, privileged, and vapid characters Ellis seems so fond of, and, as a result, it is a "life story" that "uses pastiche and virtuosity to move fiction forward toward an open reengagement with the emotions" ("Girl" 66; Boswell 81)—an idea that circles back to the quoted comments from Zadie Smith above. I am not trying to argue in this thesis that Wallace made some mind-boggling move of originality by encouraging his readers to step outside of *Infinite Jest* because that is not any different from reading any other book. My argument merely asserts that Wallace applied a mathematical structure to *Infinite Jest* that reinforced that notion of stepping outside of a system to gain a different perspective.

[4] Costello was a personal friend of Wallace, and he was Wallace's roommate during their time at Amherst University and while they were both living in Boston. Costello and Wallace even collaborated on a writing project: *Signifying Rappers: Rap and Race in the Urban Present*.

novel 'going on about the "braid" or "fugue" shape—disparate elements making a whole'" (312, n. 6).[5]

Only a handful of critics, though, are indirectly exploring the influence that Hofstadter had upon Wallace. Essays such as the above mentioned "*Infinite Jest*: Triangles, Cycles, Choices, & Chases" and "*Brief Interviews with Hideous Men: The Difficult Gifts of David Foster Wallace*" by Herring and Smith, respectively, as well as Mary Holland's "'Divid[ing] by Zero': David Foster Wallace and the Future of (Meta)Fiction," Ryan David Mullins's "Theories of Everything and More: Infinity is Not the End," and Paul Quinn's "'Location's Location': Placing David Foster Wallace" touch upon the recursive systems that serve as the foundation of *Infinite Jest*'s structure, but there still seems to be a gap since Hofstadter's "metaphorical fugue on minds and machines in the spirit of Lewis Carroll," as *GEB* is described on its front cover, is often omitted from the discussion about *Infinite Jest*'s recursive/annular structure. I have been unable to find any published material that directly spells out the connection between *Infinite Jest* and *GEB*, although there are, admittedly, some blog postings on the Internet and throw-away-lines embedded in footnotes or endnotes that allude to *GEB* in passing within a few of the published articles and books about *Infinite Jest*'s structure. It seems that no one has published a serious study that delivers an in-depth reading of how Hofstadter influences Wallace and *Infinite Jest*. I hope to fill in this gap in Wallace criticism. I want to know what happens when one interprets

---

[5] I think that it is fitting that the statement that set me on the path to writing this thesis on David Foster Wallace, the author my peers refer to as "that guy with the endnote fetish," was found in an endnote.

Wallace's narrative structure and the scholarly articles written about Wallace's writing style in terms of Gödel's incompleteness theorems, fractals, recursion, and other sexy mathematical concepts.

In so doing, the first chapter will closely examine the structural similarities between *Infinite Jest* and *GEB*. I will break down each text into smaller pieces and create an isomorphism that charts the parallels between the recursive structures and formal mathematical systems that border each text. For my purposes, the term "isomorphism" refers to the mapping of two complex structures onto each other, in such a way that for each piece of one structure there is an equivalent piece in the other structure. Hofstadter uses the concept of isomorphism to plot meaning in *GEB*, and I will mimic Hofstadter's cartographic techniques in this thesis to diagram the recursive structures that make up Wallace's *Infinite Jest*. Whereas Hofstadter's whole shtick in *Gödel* is to present an analogy between how the individual neurons of the brain synchronize to create a unified sense of a self-aware mind and the social organization that takes place in an ant colony, my goal is to establish an analogy showing that Wallace has done for literature what Gödel did for mathematics.

The first chapter, "Gödelian Metalogic," will serve as the foundation for the second chapter, which will demonstrate the isomorphic relationship between Hofstadter's *GEB* and Wallace's *Infinite Jest*. "Gödelian Metalogic" will, admittedly, be quite math-y. Chapter One will attempt to demonstrate Kurt Gödel's incompleteness theorems and how his recursive formula ϕ works. The first chapter will begin with a brief history lesson about nineteenth-century

mathematics, and we will look at the proliferation of research into abstract

mathematical concepts (e.g., infinity, irrational numbers, and non-Euclidean

geometry) during this epoch. This discussion will lead us to the endeavor to

create a final systematization of mathematics. The *Principia Mathematica*, written

by Bertrand Russell and Albert North Whitehead, will be our primary example in

this regard. The ambitious attempt by Russell and Whitehead to define a set of

axioms and rules of inference in symbolic logic from which all arithmetical truths

could be proven will set the scene for the publication of Gödel's "On Formally

Undecidable Propositions of *Principia Mathematica* and Related Systems," and

the rest of the first chapter will be devoted to trying to establish a working

illustration of how Gödel proved that there can never be a *final* systematization of

arithmetic.

Once the mathematical foundation is set, we will be able to look at

Wallace's application of Gödelian metalogic that allows the reader of *Infinite Jest*

to jump out of Wallace's formal system, and once on the outside, the reader is

then able to make connections that are inaccessible to the characters within the

novel itself. The course that we take in the second chapter, "*Infinte Jest* ≅ *Godel,*

Escher, Bach," will mirror *GEB*'s progression as best as possible. As such, there

will be a section in this thesis for many of the key chapters and significant

dialogues that comprise *GEB*, and those chapters and dialogues of *GEB* will be

applied to *Infinite Jest* in the order that they appear in Hofstadter's text. For

example, *GEB* opens with the story of Bach's "Canon per Tonos," and Hofstadter

describes the interplay between self-reference and Bach's *Musical Offering*. The

"Canon per Tonos" is made up of three voices where "Copies of one single theme often fit into each other, forming visual analogues to the canons of Bach" (Hofstadter 15). Hofstadter's discussion about the nesting present in Bach's endlessly rising canon, smaller subsets within a larger theme focusing on a single theme, will be isomorphically linked to Wallace's use of three plots to explore his theme based on the addictive continuum. Here we will encounter our first introduction to Hofstadter's "strange loops" and "tangled hierarchies." From our introduction to strange loops and a quick discussion of M. C. Escher, we'll move toward a discussion of Gödel's banishment of strange loops, which will spur a discussion about Wallace's expulsion of certain postmodern literary techniques, specifically irony and closed off metafictional narratives.

I will contend in this second chapter that Wallace's fascination with formal systems, Gödelian metalogic, recursion, and the concept of infinity—everything that will make up the isomorphism—is a key element overlooked in Marshall Boswell's description of Wallace's writing as a literature of resuscitation in *Understanding David Foster Wallace*. Wallace was very vocal about his exhaustion with postmodernism, despite his keen interest in many of the seminal writers of the postmodern canon during his time as an undergrad at Amherst University. Sic passim with experiences of people disconnected with the world, the postmodern novels resonated with a young Wallace who felt "frightened and uncomfortable" in a world without meaning (Max 22). For Wallace, Pynchon's *The Crying of Lot 49* embodied "the idea that to live in America was to live in a world of confusion, where meaning was refracted and distorted, especially by the

media that engulf and reconfigure every gesture" (Max 31). However, though authors such as Barth and Pynchon identified the crisis Wallace saw in the world around him, the problem with postmodernity boiled down to its continued use of tired metafictional devices.

TV's arrogation of literary forms is indicative of the fact that those techniques are exhausted in the spirit of Barth's "The Literature of Exhaustion" and "The Literature of Replenishment." It is in these essays where Barth offers his warning that literature is susceptible to the "used-upness of certain forms or the felt exhaustion of certain possibilities" (64). Barth is delivering a caution that literary techniques have a shelf life, and that these systems need to be "retired, subverted, transcended, transformed or even deployed against themselves [every so often in order] to generate new and lively work" (205). And Wallace, in "E Unibus Pluram," claims that it is high time that a new bunch of literary rebels, Wallace's "anti-rebels"—the "born oglers who dare somehow to back away from ironic watching . . . Who treat of plain old untrendy human troubles and emotions in U.S. life with reverence and conviction. Who eschew self-consciousness and hip fatigue," must reinvigorate the contemporary literary scene. It is my contention that Wallace's use of Gödelian metalogic to frame his narratives was his vision for the re-energizing of an era of American literature that he felt was exhausted. Mary Holland, for instance, notes, in the keynote address she gave at Illinois State University's First Annual David Foster Wallace Conference—"'Divid[ing] by zero': David Foster Wallace and the Future of (Meta)Fiction"—that many critics and scholars read Wallace in such a way, particularly his short story

"Westward the Course of Empire Takes its Way," as a successful attempt on

Wallace's part to rid "himself and American letters of the terminal brand of

metafiction born with postmodernism by Barth and his peers"; moreover, in her

readings of Wallace's post-*Girl* work Holland, like Boswell, does not believe that

Wallace is directly attacking Barth and postmodern metafiction. Rather, she feels

that "Barth [is] alive and perhaps healthier than ever" in Wallace's writing (11).

Barth is prominently represented within Wallace's short story "Westward,"

which was "written in the margins of John Barth's 'Lost in the Funhouse' . . .," as

stated in the acknowledgements to *Girl*, and the story centers around two

dysfunctional love stories coiled around a third story of unrequited appreciation.[6]

Mark Nechtr, the story's main protagonist, and his wife Drew-Lynn (D. L.)

Eberhardt are and were, respectively, students in a MFA writing program at the

East Chesapeake Tradeschool (ETC).[7] The big shtick for this short story is that

Mark is a young writer who at the same time distrusts but listens to his literary

mentor Ambrose, a character who embodies the real-life John Barth. As Mark

moves on a westward course, away from Ambrose/Barth, he reevaluates himself

as a writer, and he eventually comes to the conclusion that he wants "to write

---

[6] Similar to *Infinite Jest*, "Westward" is also a narrative comprised of three different plot
lines that merge to constitute a whole.

[7] D. T. Max, Marshall Boswell, and many others have commented on the
autobiographical elements of "Westward." Wallace wrote this short story while he was
working on his own MFA degree at the University of Arizona, and "Westward" is often
read as Wallace working out his personal frustrations with the institutionalized nature of
creative-writing workshops. For further reading about the autobiographical stuff, you can
check out Max's *Every Love Story is a Ghost Story* and/or Boswell's *Understanding
David Foster Wallace*.

something that stabs you in the heart" (332).[8] Mark envisions writing stuff where "the Exit would never be out of sight. It'd be brightly, lewdly lit. There would not be any labyrinths to thread through, no dark to negotiate, no barrels or disks to disorient, no wax minotaur-machina to pop out on springs and flutter the sphincters of the lost. Egress would be clearly marked, and straight ahead . . ." (331-32). Mark does not want to be just another Barthean crank turner reeling off stories in which the reader and writer and characters become lost in a funhouse narrative without any possibility of escape. Mark's stories will not have pinchbeck gimmicks that deliver cheap thrills. Rather, Mark wants to deliver a narrative of sentiment, of susceptibility.

Despite Wallace's and Mark's shared desire to write a new breed of fiction that dramatizes what it means to be alive and human during these contemporary times—a narrative that analyzes that lonely individual trying to make sense of an absurd world—that will henceforth be know as . . . "Maybe it's called metalife. Or metafiction. Or realism. Or gfhrytytu. . . . Maybe it's not called anything," "Westward" is not that kind of narrative. It is juvenile and pretentious, honestly; however, "*Infinite Jest*, by way of contrast," suggests Boswell, "emphatically *is*" the type of narrative that Wallace and Mark desire to share with their readers ("Westward" 333; Boswell 102). *Infinite Jest* is Wallace's mature attempt in which he finally writes the narrative that embodies the traits of the anti-rebel that he espoused in "E Unibus," and the anti-rebel is a post-ironic character, haunted by

---

[8] Compare to Wallace's comment to Pietsche from page three about how he (Wallace) wanted "to author things that both restructure worlds and make living people feel stuff . . ." (qtd. in Max 173).

the specter of Barth, which represents Wallace's craft or vessel driving westward

to a serious debate about breaking free of closed fictional systems.

CHAPTER ONE: GÖDELIAN METALOGIC

Since the specter of Kurt Gödel haunts this thesis, it would behoove us to start by establishing who he is and why he is an important figure in history, which I am acutely aware is no small feat. My understanding of Gödel is, admittedly, very basic.[1] I am way more interested in discussing how the final conclusions of his milestone essay "On Formally Undecidable Propositions of *Principia Mathematica* and Related Systems" inspired Douglas R. Hofstadter—who then rang David Foster Wallace's psychic cherries—rather than laying out the complex proofs that get Gödel to his conclusion. That being said, even though Gödel's mathematical prowess is far, far beyond my own, a demotic familiarity of "On Formally Undecidable Propositions" is necessary if the ensuing chapter on the isomorphism between *GEB* and *Infinite Jest* is going to have any meaning. Unfortunately, understanding Gödel is a rare achievement, and Hofstadter even goes so far as to state in *I am a Strange Loop* (*ISL*) that he has "met quite a few sophisticated mathematicians who admit that they never understood his [Gödel's] argument totally!," so I do not feel utterly alone in this regard (142); however, I do possess a rough impression and can create a rough analogy working at a

---

[1] The most accessible introduction that I have found explaining Kurt Gödel's "On Formally Undecidable Propositions" is *Gödel's Proof* by Ernest Nagel and James R. Newman. Nagel and Newman do their best in their short text to explain Gödel in such a way that does not punish or chastise you for not remembering a whole lot about mathematics from your grade school days or the history of mathematics, and my explanation of Gödel's incompleteness theorems in this chapter follows what I learned from my reading of *Gödel's Proof*. Other references that I have found useful are: *The Unknowable* by Gregory J. Chaitin, *Gödel's Theorem in Focus* edited by S. G. Shanker, and *Gödel's Theorem Simplified* by Harry J. Gensler. Hofstadter does a fine job explaining Gödel's proof in the tenth chapter of *I am a Strange Loop*, but his explanation is heavily veiled in analogies and metaphors, which, at times, makes it difficult to see what Gödel was doing in "On Formally Undecidable Propositions."

remove, using the explanations from those rare few who actually understand Gödel's proof, from the at-source insights that will comfortably situate us within the context of Gödelian metalogic.

Gödel's essay revolutionized the discipline of mathematical logic, and it is considered, to this day, to be one of the more significant contributions to modern thought. In his article, Gödel proves that any attempt to establish a formalized, systematic codification of number theory—a reduction of number theory to a few axioms (assumed truths) and theorems (a new rule or proposition, which is not self-evident and must be created out of axioms following rules of inference)—fails because:

1. If the system is consistent, it cannot be complete, and

2. the consistency of the axioms cannot be proven within the system.

The two statements above are Gödel's incompleteness theorems, and Gödel concludes in his essay that there can never be a *final* systematization of arithmetic. There will always be something left out of the system, or, in other words, it is impossible for a formal calculus (i.e., a formal system) to prove or even account for every true meta-mathematical statement about natural numbers.

Gödel's conclusion regarding the impossibility to create a final systematization of number theory loosely comports to the set-theoretical paradox developed by Bertrand Russell in 1901, which shows that poorly constructed formal systems, such as Georg Cantor's "naive set theory," lead to

contradictions. In lieu of dealing with Russell's paradox in its symbolic form—let

$R = \{x \mid \notin x\}$, then $R \in R \Leftrightarrow R \notin R$—let us work with the paradox in a much easier,

analogous fashion. First, a set is a well-defined collection of objects, and using

that definition, think of the set of all things that are not members of the set of all

things. Now ask yourself this question, "Is the set of all things that are not

members of the set of all things a member of itself?" One would naturally assume

it should be since the set itself is not technically a member, but an interesting

paradox results from our question because if the set of all things that are not

members of the set of all things should be a member of itself, it is not, and if it is

a member of itself, it should not be. Since the inclusions to the set of all things

that are not members of the set of all things are the non-thing members, the set

as a whole only qualifies as a member of itself if and only if it is not.

Russell's paradox is confusing, but a second example known as the

"barber paradox," a popular adaptation of Russell's paradox, might be a little

easier to follow.[2] Hofstadter uses the variant in *GEB* and *ISL* to explain Russell's

concept, and the barber paradox works like this: there exists a town with only one

barber who shaves all of the men, and only those men, who do not shave

themselves. The question to ask yourself this time is, "Who shaves the barber?"

Granted, simple logic tells us that the barber probably shaves himself; it is very,

---

[2] W. V. Quine, in an essay entitled "The Ways of Paradox," notes that Bertrand Russell did not develop the barber's paradox, and that Russell credited an unnamed source with its authorship in 1918 (2). Quine also clarifies that the barber paradox is not as paradoxical as Russell's paradox due to simple logic, but the barber's paradox, if used didactically, does help elucidate the antimonious nature of the above Russel's paradox (11).

very doubtful that the barber sports a ZZ Top style beard, but if we strictly adhere to the definition of our barber as the one person in the town who shaves all of the men, and only those men, who do not shave themselves, by our definition, the barber is no longer the barber once he glides a straight edge razor across his own bewhiskered cheek. Just as we exclude the barber from the defined set (or how we excluded the set of all things not members of the set of all things from itself), Gödel concludes in "On Formally Undecidable Propositions" that mathematicians will fail in every attempt—whether that effort is poorly constructed or consistent—to create a *final* formalized system of arithmetic because there will always be an inherent exclusion.

The inability to create a final formalized calculus is the basis for the argument I am presenting in this thesis. The main strategy that I see Wallace deploying in *Infinite Jest* is to create a novel structured in such a way where the reader can escape from her head; and furthermore, that this strategy is analogous to the self-referential meta-logic used by Gödel in "On Formally Undecidable Propositions" and Hofstadter in *GEB*. Roberto Natalini argues in his essay "The Mathematics of Infinity" that Wallace's "Mastering [of] infinity . . . could even apply to Wallace's obsession with escaping solipsistic loneliness by communicating with another consciousness" (44), so Natalini argues that Wallace uses mathematics as a rhetorical tool. "[M]ath as a language" (43). If we read *Infinite Jest* as being structured according to a very loose[3] form of Gödelian

---

[3] Loose as in not according to a strict mathematical application of Gödel.

meta-logic, *Infinite Jest* can be described as a narrative world created as a formal calculus heavily besieged by an annular system representative of an American culture with a predilection for various addictions that the reader needs to break out of through a particular case of stepping back to a different view or horizon, such as Gödel does in "On Formally Undecidable Propositions."

In order to prove his claim, Gödel makes the *Principia Mathematica* (*PM*)—an endeavor by Bertrand Russell and Albert North Whitehead to represent all of number theory in an axiomatic way by mapping arithmetical statements about natural numbers onto formal logic—his scapegoat. Gödel creates a formula ϕ[4] to demonstrate the limitations of *PM* and, to use a crude verb, breaks the formal calculus created by Russell and Whitehead. The genius behind formula ϕ is that Gödel formats it in such a way so that the formula twists into a meta-mathematical statement that claims, "This very formula is not provable via the rules of *PM*" (Hofstadter 138). Gödel's proof of the above formula within *PM* was the mathematical equivalent of an explosion's brisance, and the proof rocked the mathematical logic discipline, blowing back everyone's hair once everyone comprehended the ramifications of Gödel's essay. He did not merely show that his recursive formula ϕ—a formula that talks about itself within the formula—is provable within *PM*; in so doing, he creates a paradox since the statement can be proven within *PM* while simultaneously contradicting itself in a

---

[4] Do not worry about "ϕ." Phi (ϕ) is just the arbitrary variable I decided to use to represent Gödel's formula. That is how Nagel and Newman referred to Gödel's formula in *Gödel's Proof*, and I am merely following their lead. I could have just as easily said, "Gödel creates a formula G," "Gödel creates a formula *,*" or "Gödel creates a formula ♫."

self-referential manner; therefore, Gödel concludes that a false statement is provable within *PM*—undermining *PM's* claim to consistency. The formula is a "strange loop," in a sense, and the strangeness occurs because the self-referential loopiness of the formula does not succumb to an infinite regress. It bottoms out as a result of the paradox it creates, and the importance of this will be touched upon later in this chapter once my coarse estimation of Gödel's proof is laid out more completely.

In order to get to a clearer understanding of the palmary magnitude of Gödel's incompleteness theorems, it might help to start with the context in which Gödel writes "On Formally Undecidable Propositions." The essay appears in a German scientific periodical during a tumultuous period with regards to mathematics. During the nineteenth century, mathematical research kicks into overdrive as mathematicians begin to investigate notions like negative, complex, and irrational numbers; non-Euclidean geometry (such as: Riemannian, hyperbolic, or elliptic geometry, for example); the concept of infinity; etc. However, not all mathematicians favored the proliferation of increasingly abstract concepts in mathematics. For mathematicians such as Charles Lutwidge Dodgson, the new mathematical concepts being explored during the nineteenth century were not indicative of events with any necessary reason for their being as they are. For example, there is a tangibly clear reason that if I start out with three apples, and someone gives me two more apples, I now have five apples; but what is the point, Dodgson might have asked, of knowing what the root of negative one apple is? Dodgson, better known (especially to those of us who are

a bit more lit-minded) as Lewis Carroll, is a primo example of a mathematician uncomfortable with the kind of postmodern, abstract mathematics taking place during this mathematical epoch.

Dodgson's day job was as a mathematics lecturer at Christ Church College in Oxford, England, and when abstract mathematical concepts started becoming vogue at the college where he taught, he became absolutely incensed; in fact, he was so incensed that he decided to write a story about a world governed by inane and contradictory laws where up is down, down is up, objects change size, and what-have-you. Working under the pseudonym Lewis Carroll, in order to avoid any possible negative repercussions from his colleagues, Dodgson pens *Alice's Adventures in Wonderland*, a satire about the evils of nineteenth century mathematical concepts and what happens if mathematicians start disregarding the basic axioms (such as Euclid's five postulates in geometry) that had guided mathematics since the Greeks—most definitely not a story inspired by a bad acid trip or one too many puffs off of a hookah. Alice's odyssey through Wonderland mirrors Dodgson's/Carroll's crusade at Christ Church College, and the analogy boils down to: Alice is to Wonderland as the perfect Euclidean geometrist is to Christ Church College.

Dodgson implies that the most basic principles of mathematics can no longer be trusted in *Alice's Adventures in Wonderland*, and he further implies that in this "new" breed of mathematics the truth can never be known absolutely, which does not bode well with the Mathematician's Credo, as described by Hofstadter. The Mathematician's Credo is kind of the opposite way of how many

of us tend to approach the world in which we dwell. Instead of a Camusian-infused, absurdist approach, Hofstadter divulges in *ISL* that, "mathematicians see their pristine, abstract world as the antithesis to the random, accident-filled physical world we all inhabit. Things that happen in the mathematical world strike mathematicians as happening, without any exceptions, for pronounceable, understandable *reasons*" (127). Things do not just happen in the mathematician's world all willy-nilly; for, "*where there's a pattern, there's a reason*" (Hofstadter 127, italics original). *PM*, consequently, is an endeavor to provide pronounceable, understandable proofs that demonstrate properties of natural numbers, or formulas, defined in a consistent mathematical system formalized through pure logic; additionally, it is also a good representation of a formal system's ability to regard the abstract as a material or a concrete thing since *PM* is an attempt to establish a set of axioms in symbolic logic from which all arithmetical truths can be proven through the application of transformation rules or rules of inference.

As human beings, we typically feel more comfortable being able to explain the occurrences of the various phenomena transpiring around us. We seem to yearn for tangibility because the concreteness of being able to see an actual object (holding up one apple to represent the number one), being able to pick that object up, being able to examine it, etc. offers us something on which to hang our hats, so to speak. The reification of arithmetic and natural numbers by Russell and Whitehead tries to eliminate the abstractness of arithmetic like "1 + 1 = 2" by talking about mathematics as a formal system and, in effect, confirms a

notion of a pronounceable, understandable world which makes the abstractness

of mathematics more concrete, more perceptible, which is comforting. Figure

Three, is a *small* portion[5] of the proof for "1 + 1 = 2":

```
362              PROLEGOMENA TO CARDINAL ARITHMETIC              [PART II

*54·42.  ⊢:: α∈2.⊃:.βCα.ɡ!β.β≠α.≡.β∈ι"α
     Dem.
⊢.*54·4.  ⊃⊢::α=ι'x∪ι'y.⊃:.
              βCα.ɡ!β.≡:β=Λ.v.β=ι'x.v.β=ι'y.v.β=α:ɡ!β:
[*24·53·56.*51·161]     ≡:β=ι'x.v.β=ι'y.v.β=α              (1)
⊢.*54·25.Transp.*52·22.⊃⊢:x≠y.⊃.ι'x∪ι'y≠ι'x.ι'x∪ι'y≠ι'y:
[*13·12]   ⊃⊢:α=ι'x∪ι'y.x≠y.⊃.α≠ι'x.α≠ι'y              (2)
⊢.(1).(2).⊃⊢::α=ι'x∪ι'y.x≠y.⊃:.
              βCα.ɡ!β.β≠α.≡:β=ι'x.v.β=ι'y:
[*31·235]                          ≡:(ɡz).z∈α.β=ι'z:
[*37·6]                            ≡:β∈ι"α              (3)
⊢.(3).*11·11·35.*54·101.⊃⊢.Prop

*54·43.  ⊢:.α,β∈1.⊃:α∩β=Λ.≡.α∪β∈2
     Dem.
⊢.*54·26.⊃⊢:.α=ι'x.β=ι'y.⊃:α∪β∈2.≡.x≠y.
[*51·231]                          ≡.ι'x∩ι'y=Λ.
[*13·12]                           ≡.α∩β=Λ              (1)
⊢.(1).*11·11·35.⊃
      ⊢:.(ɡx,y).α=ι'x.β=ι'y.⊃:α∪β∈2.≡.α∩β=Λ              (2)
⊢.(2).*11·54.*52·1.⊃⊢.Prop
  From this proposition it will follow, when arithmetical addition has been
defined, that 1 + 1 = 2
```
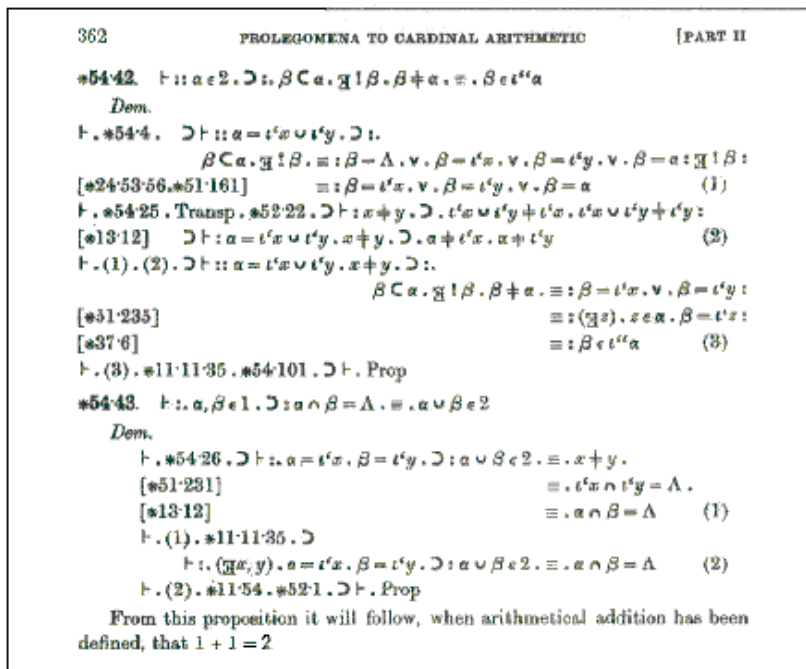
Figure 3: Bertrand Russell and Alfred North Whitehead, *Principia Mathematica* (Cambridge, 1968, 362); rpt. "Gauss', Greens', and Stokes' Theorems" (*Mathematical Simulation Technology*, n.d. web).

For many of us, the above facsimile image from *PM* probably looks more

confusing and seems more difficult than wrestling with the abstract in the sense

that "1 + 1 = 2" "was an idea but is now about to become a fact. The closer it

comes to becoming concrete the more abstract it seems" (*IJ* 239), and *PM*'s

proof gets very abstract to us lay(wo)men; however, Russell and Whitehead map

arithmetical statements about number theory onto symbolic logic in Figure Three,

---

[5] The reproduction of *PM*'s proof for "1 + 1 = 2" found in this thesis is grossly incomplete; the facsimile image is only a small, small segment of the "1+ 1 = 2" proof in toto. The full proof is actually about 300 pages long due to the fact that *PM* first had to define the meanings of "1," "+," "=," and "2" before proving how two ones add up to two.

and the mapping is significant because it offers detailed derivations for finite and transfinite arithmetic through purely deductive logic. *PM* does not "mirror" mathematics in formal logic throughout its three volumes; instead, it provides a different viewpoint for seeing and recording patterns in arithmetic. It provides a new language for understanding arithmetic. A child starts doing mathematics, and said kid learns that "1 + 1 = 2." Such mastery of arithmetic is more akin to "mirroring." S/he sees the mathematical maneuvers on the page of a textbook and mirrors, or apes, the steps in the book to gain mastery. The function of mathematical logic, however, is different. It has a main focus on the role of symbolism (the relationship between the signifier and the signified) rather than on the generative and spontaneous insights, i.e., how did "1 + 1 = 2" become a meaningful statement in the first place?

Russell's and Whitehead's formal calculus for number theory seeks to account for the role of symbolism in mathematics while satisfying the Mathematician's Credo; as such, *PM*'s goal is to provide consistency and completeness.[6] Not only is "1 + 1 = 2" true because a proof of "1 + 1 = 2" exists in *PM*, which attests to *PM*'s consistency; moreover, since "1 + 1 = 2" is true, there is a proof for "1 + 1 = 2" in *PM*, which speaks to the completeness of *PM* (Hofstadter 129); however, Gödel's incompleteness theorems expose the *ad infinitum*, circular routine of *PM*, which will be explored more in-depth below.

---

[6] At least Russell and Whitehead believed *PM* was complete and consistent pre-"On Formally Undecidable Propositions."

Ernest Nagel and James R. Newman write in *Gödel's Proof* (*GP*) that "When a system has been formalized, the logical relations between mathematical propositions are exposed to view; one is able to see the structural patterns of various 'strings' of 'meaningless' signs, how they hang together, how they are combined, how they nest in one another, and so on" (27). Mathematicians such as Russell and Whitehead hoped that all of the properties of natural numbers could be derived from purely logical axioms, and they held that such a system would *finitely* define what constituted as number theory. From the axioms they established as the foundation for *PM*, Russell and Whitehead undertook an elaborate game of symbol shunting—following transformation rules that work similarly to the rules of inference—to engender first, second, third … nth generation theorems from the progenitor axioms.

PM "created the essential instrument for investigating the entire system of arithmetic as an uninterpreted calculus—that is, as a system of meaningless marks, whose formulas (or 'strings') are combined and transformed in accordance with stated rules of operation," states Nagel and Newman (44), and, as a result, *PM* has what is analogous to its own vocabulary that consists of "variables" (such as: *p*, *q*, *r*, etc.) and "constant signs" (which are logical symbols such as: ~ [not], ∨ [or], ⊃ [if … then …], and • [and]). Just like in grammar, *PM*'s vocabulary can be arranged into statements, or if we want to use the sexy mathematical lingo, the sentential variables and connectives (the "constant signs") can be written as "strings of symbols," also referred to as simply "strings" or "formulas," and, in keeping with the grammar analogy, if we want our strings to

make any sense to other people, the variables and constant signs need to be deployed in a specific manner.

We want what Hofstadter refers to as *wff*s, which are "well-formed formulas" (132).[7] *Wff*s are strings of symbols that are meaningful, or formulas that make sense. For instance, the statement "plus one equals two one" means absolutely nothing. It is gibberish; comparably, the *PM* string "+ s0 = ss0 s0"[8] is just as nonsensical, so *PM* needs a grammar or formation rules, which are the acceptable combinations you can make with the variables and the constant signs, which in the case of the above example would simply be "s0 + s0 = ss0." Since Russell and Whitehead limit the scope of *PM* to arithmetic and natural numbers, our example of a *wff* happens to be a true statement in addition to being a *wff*. If we were to have a string such as "s0 + s0 = ssss0" (1 + 1 = 4), the string would still be an example of a *wff*; we would just say that that particular *wff* is a false statement.

Now that we have the language for *PM*, we are lacking two things: axioms and a way to create new theorems out of the axioms. We have four formulas that serve as the basis for the axioms within *PM*:

---

[7] Nagel and Newman refer to *wff*s as "tautologous" formulas in *GP*.

[8] *PM* does not refer to natural numbers as you or I would in our day-in-day-out-math-y parlance; rather, Russell and Whitehead refer to natural numbers as the successors of zero, so instead of "1," *PM* would have the successor of zero, or "s0," and instead of "2," the *PM* notation would be "ss0."

Table 1: Axioms. Ernest Nagel and James R. Newman, *Gödel's Proof* (New York: New York UP, 1960, 48-49)

1. $(p \lor p) \supset p$; if either p or p, then p;	1. If (either Henry VIII was a boor or Henry VIII was a boor) then Henry VIII was a boor
2. $p \supset (p \lor q)$; if p, then either p or q;	2. If psychoanalysis is fashionable, then (either psychoanalysis is fashionable or headache powders are sold cheap)
3. $(p \lor q) \supset (q \lor p)$; if either p or q, then either q or p;	3. If (either Immanuel Kant was punctual or Hollywood is sinful), then (either Hollywood is sinful or Immanuel Kant was punctual)
4. $(p \supset q) \supset ((r \lor p) \supset (r \lor q))$, if (if p then q), then (if (either r or p), then (either r or q)	4. If (if ducks waddle then 5 is a prime) then (if (either Churchill drinks brand or ducks waddle) then (either Churchill drinks brandy or 5 is a prime))

The left-hand column above shows the basic formulas from which the axioms can be derived, and the right-hand column gives various sentential examples that help make sense of how the different symbols hang together. The examples might seem erroneously foolish, but what Nagel and Newman want us to realize is that the formulas do not have to have meaningful connections between the

consequents and the antecedents. The sentences that we substitute for the variables in no way affect the validity of the logical connections asserted, just like how "s0 + s0 = ssss0" is a *wff* but also false, and if a system is consistent, the false statements can be proven wrong. In fact, the goal of a consistent system, Nagel and Newman assert, "is to show that there is at least one formula that cannot be derived from the axioms" (51). We want our formal system to have the ability to weed out things that are not true because it lets us know that there are certain logical rules governing our system, and our system is able to respect those rules. Our system can engender formulas that are *wff*s, or, in other words, our system can create logical truths and will not allow us to derive both a formula and the negation of that formula from the established axioms governing our system.

PM uses rules of inference, or "transformation rules" in the vernacular of *GP*, which is basically an elaborate game of symbol shunting, in order to derive longer and more complicated versions of the above formulas. The rules of inference, in essence, are just your standard take-the-premises-then-analyze-their-composition-and-return-a-conclusion mode of thought from formal logic. We can start with the original four formulas and derive a string like "$((p \supset q) \supset ((r \supset s) \supset t)) \supset ((u \supset ((r \supset s) \supset t)) \supset ((p \supset u) \supset (s \supset t)))$" (Nagel and Newman 50).

There are five axioms that lay the foundation for *PM*:

Axiom 1	$(\exists x)\,(\sim sx = 0)$	There does not exist a number x such that the successor of x is 0, i.e., there are no negative numbers.
Axiom 2	$(\exists x)\,((x + 0) = 0)$	There exists a number x such that x plus zero equals 0.
Axiom 3	$(\exists x)\,(\exists y)\,((x + sy) = s(x + y))$	There exists such numbers x and y that x plus the successor of y equals the successor of x plus y, i.e., $x + (y + 1) = (x + y) + x$.
Axiom 4	$(\exists x)\,((x \bullet 0) = 0)$	There exists such a number x such that x times zero equals zero.
Axiom 5	$(\exists x)\,(\exists y)\,((x \bullet sy) = ((x \bullet y) + x))$	There exists such numbers x and y such that x times the successor of y equals x times y, plus x. In other words, if you know that $2(4) = 8$ then you can reason that $2(5) = 8 + 2 = 10$.

All of the progeny theorems must originate from the above axioms. The way that you engender next generation theorems is very well defined: you begin with the five axioms, and you apply transformation rules for every possible combination, which allows you to manipulate the symbols into new theorems. For example, from $(\exists x)\,((x \bullet 0) = 0)$ we can derive $\sim(\exists x)\,((x \bullet 0) = 0)$, which simply says, "There

does not exist a number *x* such that *x* times zero equals zero." From the original axiom, we have come up with a new theorem; though this is a pretty basic example, it does show how new theorems can be generated from the foundational axioms.

The creation of new theorems from axioms and pre-existing theorems kind of works in a similar fashion as the Chinese-buffet-restaurant-tubular-style-drop-in-plate-rack-equipped-with-a-self-leveling-dispenser does.[9] The afore-described plate rack is a stand-in for *PM*, and the first five plates we put into our plate rack are the five original axioms that make up the foundation of *PM*. After we apply *PM*'s transformation rules to the initial five axioms (the first five plates in our rack), we fashion some first-generation theorems (we have some new plates that we can add into our rack). We can then apply the transformation rules to the first-generation theorems, which gives us a stack of second-generation theorems (yet another stack of plates to place into our rack), and then from that batch of second-generation theorems, we can, yet again, apply *PM*'s transformation rules to those second-generation theorems in order to yield third-generation theorems, and so on ad infinitum. "Needless to say," Hofstadter explains, "the hope here is that all of these mechanically generated theorems of *PM* are true statements of number theory . . . and conversely, it is hoped that all true statements of number theory are mechanically generated as theorems of *PM*. . ." (129). In a nutshell,

---

[9] The plate-holder analogy is not entirely accurate because the plate-holders can only store *n* plates, be it ninety-two, forty-six, twenty-three, or whatever. They are finite. In order for the plate-holder analogy to work, we need to use our imaginations and pretend that our Chinese-buffet-restaurant-tubular-style-drop-in-plate-rack-equipped-with-a-self-leveling-dispenser can hold an infinite number of plates.

we are just revisiting early comments in this chapter with regard to completeness and consistency, the Mathematician's Credo. *PM* attempts to account for every possible theorem about number theory that is a 100% accurate one to one ratio concurrent with every true statement that could be made about number theory.

Now that we have an idea of how *PM* works, we can finally look at how Gödel breaks it.[10] It was Gödel's hope, and ultimately his achievement, to show that meta-mathematical statements could be turned into arithmetical statements within *PM*. Mapping meta-mathematical statements in *PM* is important because it shows us that regardless of how large the system (*PM*) is you simply cannot lay down a finite set of axioms and theorems from which you can derive all of the true arithmetical statements. There will always be a statement outside of the system. I could start generating new theorems today, and I could keep going at it until the day I die; on the day of my death, my kids could pick up where I left off, and they could start a life of generating new theorems, which their kids—my grandchildren—could take over when their parents—my children—die, and so on and so forth.

---

[10] I do not mean to imply that Gödel did not have a great respect for *PM* because he did, and he shares his reverence for Russell's and Whitehead's work in the opening lines of "On Formally Undecidable Propositions" thusly:

> The development of mathematics in the direction of greater exactness has—as is well known—led to large tracts of it becoming formalized, so that proofs can be carried out according to a few mechanical rules. The most comprehensive formal systems yet set up are, on the one hand, the system of *Principia Mathematica* (*PM*) and, on the other, the axiom system for set theory of Zermelo-Fraenkel (later extended by J. v. Neumann). These two systems are so extensive that all methods of proof used in mathematics today have been formalized in them, *i.e.*, reduced to a few axioms and rules of inference. (Gödel 145)

So, how does Gödel take his formula ϕ—which is a statement about a statement—and translate that formula/sentence hybrid into *PM*, a formal calculus designed to discuss—not statements, but—numbers? Despite the apparent lunacy, Gödel brilliantly finds a way to talk about his formula ϕ in the number focused *PM*. In "On Formally Undecidable Propositions," Gödel shows that it is possible to assign an exclusive number to each of the variables and constant signs that we discussed above. The change that Gödel makes to *PM* is slight. He does not change the rules or the axioms governing *PM*; all he does is slightly alter the notational system.[11]

Instead of the formal logic symbols (~, ∨, ⊃, or •) that Russell and Whitehead employ, Gödel uses whole numbers, which—for obvious reasons— are now referred to as Gödel numbers. Nagel and Newman provide a handy grid in *GP* that shows the constant signs from *PM* with their associated Gödel numbers:[12]

---

[11] N.b., Gödel creates a new language to refer to *PM*, which itself (*PM*) was a new language to refer to natural numbers. Gödel's new notational system is just a new perspective to look at natural numbers.

[12] Nagel and Newman use ten associations in their explanation of Gödel numbering, but Gödel only used seven in his essay. The number of associations depends on how you set up your formal calculus, and Nagel and Newman claim that using ten makes it easier to understand the process of Gödel numbering. We will follow the lead of Nagel and Newman in our discussion.

Table 2: Gödel Numbers. Ernest Nagel and James R. Newman, *Gödel's Proof* (New York: New York UP, 1960, 70)

Constant Sign	Gödel number	Meaning
~	1	Not
∨	2	Or
⊃	3	If … then …
Ǝ	4	There is …
=	5	Equals
0	6	Zero
s	7	The immediate successor of
(	8	Punctuation mark
)	9	Punctuation mark
,	10	Punctuation mark

The above table is comprised of our "elementary constant signs," which belong to

our vocabulary. In addition to our elementary constant signs, our vocabulary also

contains three additional kinds of variables: "numeric variables," "sentential

variables," and "predicate variables." The numeric variables can be replaced with

numerals and numerical expressions, and below is a table, also gleaned from

GP, that shows the numerical variable associated with its unique Gödel number:

Table 3: Numerical Variables. Ernest Nagel and James R. Newman, *Gödel's Proof* (New York: New York UP, 1960, 71)

Numerical Variable	Gödel Number	A Possible Substitution Instance
x	11	0
y	13	s0 (s0 = 1)
z	17	*y*

We can see that numerical variables are assigned a distinct prime number that is

greater than ten in Table 2, and in the table that follows, we can see that

sentential variables—which are variables that can be substituted with formulas

(sentences)—are assigned their own unique prime number that is also greater

than ten but squared:

Table 4: Sentential Variables. Ernest Nagel and James R. Newman, *Gödel's Proof* (New York: New York UP, 1960, 71)

Sentential Variable	Gödel Number	A Possible Substitution Instance
p	11^2	0 = 0
q	13^2	(∃*x*) (*x* = s*y*)
r	17^2	*p* ⊃ *q*

Finally, we have our variables that can be substituted with predicates such as

"prime," "composite," and "greater than." These variables are, unsurprisingly,

called predicate variables, and just like the numerical variables and the sentential

variables, the predicate variables also get their own distinct prime number that is

greater than ten, but the predicate variable's distinct prime is cubed:

Table 5: Predicate Variables. Ernest Nagel and James R. Newman, *Godel's Proof* **(New York: New York UP, 1960, 72)**

Predicate Variable	Gödel Number	A Possible Substitution Instance
P	11^3	Prime
Q	13^3	Composite
R	17^3	Greater than

So what can we do with the above Gödel numbers? Let's take the

statement ($\exists x$) ($x = sy$), which states, "There exists such a number, x, where x is

the immediate successor of y." Think about the number line: 1, 2, 3, 4, 5 …. All

our statement is saying is that for every number on the number line, take "1,"

there is a number that follows it, so "2." Going back to our statement in its

symbolic form, we can use the above tables to assign distinct Gödel numbers to

each symbol so that the arithmetical statement ($\exists x$) ($x = sy$) turns into:

$$(\quad \exists \quad x \quad) \quad (\quad x \quad = \quad s \quad y \quad)$$

$$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$$

$$8 \quad 4 \quad 11 \quad 9 \quad 8 \quad 11 \quad 5 \quad 7 \quad 13 \quad 9.$$

Rather than work with that string of numbers, we want to work with a single,

albeit large, number. In order to get that huge, huge number,[13] we want to find

---

[13] We are talking about absolute numerical monsters here: Numbers that are in the quattuordecillions, duovigintillions, and, even, duotrigintillions.

the product of the prime numbers, starting with "2" and moving up the list of prime numbers until you have an equal number of different primes to correspond with each Gödel number with which you are working, raised to a Gödel number. That description might sound a bit muddled, so here is an example based on the above string of Gödel numbers 8 4 11 9 8 11 5 7 13 9 ➜ 2^8 x 3^4 x 5^{11} x 7^9 x 11^8 x 13^{11} x 17^5 x 19^7 x 23^{13} x 29^9.

So what the hell is the use of being able to say that 145, 666, 408, 161, 709, 409, 197, 789, 938, 288, 649, 818, 781, 891, 470, 181, 481, 887, 898, 950, 349, 321, 995, 516, 094, 737, 500, 000, 000 is the Gödel number for the statement ($\exists x$) ($x = sy$)? Gödel numbering might seem to make things unnecessarily complicated, but there is a reason behind Gödel's numerical madness. Gödel needed a systematic mapping through which every formula in the calculus would receive a numerical "code," a Gödel number, and since one of his ultimate goals was to prove *PM* could never be complete, Gödel needed an infinite supply of notational symbols to prove his claim; therefore, he went with prime numbers in his systematic mapping through which every *PM* formula would receive a Gödel number.

According to our friends Nagel and Newman, "The method is essentially a set of directions for setting up a one-to-one correspondence between the expressions in the calculus and a certain subset of the integers" (35). In other words, the method *arithmetizes* meta-mathematical statements in the sense that the number 145 … 000 is a tag or a label for the statement "There exists such a number, *x*, where *x* is the immediate successor of *y*." Nagel and Newman give a

"trivial analogue" to hammer home the import of arithmetizing meta-mathematical statements through the use of Gödel numbering: customers holding numbered tickets while they wait at the meat counter in a busy grocery store (77). I have never been to a meat counter that is busy enough to justify handing out unique numbers to customers queued up for some cold cuts—let alone opening the door for some overly excitable customer to launch into a victory dance akin to an Ickey-shuffle-touchdown-celebration upon hearing his or her number being called—but I have been to the DMV, which will work just as well because I have taken a number from them on various occasions and was giving *plenty* of time to see how their numbering system works.

When you walk into the DMV you are handed—thrust at you might be a more accurate description, but—a number that determines where you fall in the clientele-order-of-service. You can look down at your ticket with A-388 printed in blood red numerals, and using that number, you can determine all sorts of things. Things like: how many people have waited in that Kafakesque nightmare before you on that particular day, how many people are experiencing the excruciating boredom around you, who precedes whom (and by how many, too), etc. With Gödel numbering, a similar DMV number system seems to be at work; however, instead of numbering customers Gödel numbers tag meta-mathematical statements about number theory.

Following our DMV example, and similar to how in *Infinite Jest* the monthly Enfield Tennis Academy (E.T.A.) and United States Tennis Association (U.S.T.A.) and Organization of North American Nations Tennis Association

(O.N.A.N.T.A.) computerized rankings reflect where the student tennis players "stand entirely in relation to one another" (*IJ* 112), if we are given a number, we can determine whether or not that number is a Gödel number by finding the prime factorization of said number, and similar to our ability to know where we fall in the order of customers at the DMV, we can determine many defining characteristics from Gödel numbers. For instance, if the number is less than or equal to ten, we now know that numbers one through ten refer to our elementary constant signs; additionally, if the number is greater than ten, we can break that number down into its prime factors (factor the number out), and from the primes, we can determine if they are primes greater than ten, squared, and/or cubed, and can thus identify the variables that are associated with those numbers.

The nitty-gritty details that we can glean from the decoding process of Gödel numbers through factorization are not all that important for our purposes. It is enough to recognize that similar to how Ingersoll can make claims such as "John Wayne's over me, and I'm over Struck and Shaw, who two years back were both over me but under Troeltsch and Schacht, and now are over Troeltsch who as of today is over Freer who's substantially over Schacht . . ." from his monthly tennis rankings, Gödel numbers, basically, are a "visual symbol-pattern" through which the logical symbols Russell and Whitehead used in *PM* could be referenced with a unique number that could be decoded in order to visually demonstrate the sequence of symbols to which that particular number corresponds to in *PM* (*ISL* 132). The specifics are more of a "if you are interested" tidbit; however, what is important is the two-way mapping Gödel

conceived of with Gödel numbers that we are applying in this mathematically postmodern trap.

Gödel's systematic mapping parallels the mathematical calculus it charts in order to explain mathematical operations. It functions as a type of meta-mathematics in the sense that the mapping provides explanations using the very system it explains; additionally, the whole process, in a way, is similar to the inescapability of language that Wallace saw plaguing postmodernity. Wallace argues that the fundamental line concerning language from Ludwig Wittgenstein's *Philosophical Investigations* "is, quote, 'I don't know my way about" (qtd. in Burn 45). "We're *in* language," according to Wallace's reading of Wittgenstein, and, subsequently, we are unable to detach ourselves from language. Since nothing is "outside" of language—there is nothing that language cannot picture or refer to—we simply cannot study it objectively (qtd. in Burn 45); therefore, we are locked inside of this paradoxical loop whenever we try to deconstruct language and try to understand how it works. All of our explanations take the form of explanations derived from the very system we are explaining; however, Gödel seems to develop a method that corrals self-referentiality in terms of his mathematical system in "On Formally Undecidable Propositions," and Gödel's method for investigating arithmetic as a system of meaningless symbols, whose strings are combined and adapted in accordance with stated rules of operation could serve as an appealing exit from what Wallace saw as closed off narrative systems in postmodernity.

Nagel and Newman state:

Since every expression in the calculus is associated with a (Gödel) number, a meta-mathematical statement about expressions and their relations to one another may be construed as a statement about the corresponding (Gödel) numbers and their arithmetical relations to one another. In this way meta-mathematics becomes completely "arithmetized" (77).

It may seem absolutely ludicrous, but what Nagel and Newman suggest that Gödel is doing is describing a way for us to talk about statements about mathematics (meta-mathematical statements) in a language (a formal calculus) that was created to discuss numbers.

We are almost at the end with regards to this sketch of Gödel's proof; there is just have one last thing to look at, formula φ; unfortunately, *this* is the hard part. An inordinately long formula for *PM* that asserts, "A certain integer φ is neither a *wff* nor provable;" however, "that 'certain integer [φ]' about which this formula spoke happen[s], by a most unaccidental [sic] (some might say diabolical) coincidence, to be the number associated with (*i.e.*, coding for) *this very formula* (and so it was necessarily a gargantuan integer)" is needed (Hofstadter 137). Hofstadter explains that formula φ has two separate interpretations. First, Gödel's formula states that the integer φ is not the Gödel number for a theorem that is provable via the rules of *PM*, i.e., "The formula that happens to have the code number [φ] is not provable via the rules of *Principia*

Mathematica" (Hofstadter 138).[14] The big thing to notice is that the formula with the Gödel number ϕ is the formula making the claim it "is not provable via the rules of *Principia Mathematica*." The formula is making a claim about itself; thus, the formula is recursive. In the second interpretation, "Gödel further showed that his formula . . . was not all that unusual; indeed, it was merely one member of an infinite family of formulas that made claims about the system *PM*, many of which asserted (some truthfully, others falsely) similarly weird and twisty things about themselves" (Hofstadter 138). Gödel did not just find one example of "amazingly unsuspected, bizarrely twisty formulas hidden inside the austere, formal, type-theory-protected and therefore supposedly paradox-free world" of *PM*; rather, he found an infinite number of them (Hofstadter 138). Gödel found an infinite number of formulas that assert both the validity of the formula and the negation of the same formula, concurrently.

  A formula cannot contain its own Gödel number. Think about the eighty-seven-digit number that is the tag for ($\exists x$) ($x = sy$)—145 … 000—being embedded into the formula for which it stands. The Gödel number is much, much larger than the actual formula, and the process of embedding that number within the formula is the equivalent of trying to cram an elephant into a matchbox, to use Hofstadter's example (139). The trick lies in how you describe that number. Take the number 10, 000, 000, 000, 000, 000, 000, 000, 000, 000, 000, for example. Alternatively, we can write it down as 10^{30}, which is far smaller and

---

[14] Hofstadter provides two more variations of this statement that might be clearer: 1) "This very formula is not provable via the rules of *PM*," and 2) "I am not provable" (138).

uses fewer symbols, and if we want to keep Hofstadter's elephant-in-matchbox

analogy going, we are essentially taking the DNA of the elephant—a one-to-one

description of our elephant on a microscopic level—and putting a drop of the

elephant's blood into the matchbox.

Mathematically speaking, this is an absolutely agonizing maneuver to pull

off and/or explain; fortunately, Hofstadter uses an easier to understand analogy

in *ISL* to help his readers see how this step works, using an essay written by

Willard Van Orman Quine called "The Ways of Paradox."[15] In that essay, Quine

refers to the *pseudomenon*, which literally translates into "the deception." The

pseudomenon embodies the core of antimony, and it can be referred to as: "This

sentence is false" (7). Quine notes that the subject of "This sentence is false,"

"This sentence," is useless and refers to nothing; for example, we cannot say

"'This sentence is false' is false" and still profess that the sentence avers that it

itself is false. Instead, "'This sentence is false' is false" actually attests to the

falsity of something outside of itself" (Quine 7).

Hofstadter uses a similar example in *ISL* that follows thusly: "The

sentence 'This sentence has five words' has five words" (139). Hofstadter's

sentence, though true, is another example of a sentence that looks like it might

---

[15] N.b., the analogy is not a strict explanation of Gödel's mathematical proof. The
analogy is purely a generalization, and it represents Hofstadter's impression of Gödel's
proof, which is the basis for how I will be referring to Gödel's formula ϕ in the next
chapter that looks at how Wallace incorporated Gödelian metalogic in *Infinite Jest*. If you
are interested in learning the purely mathematical reasoning behind this move, Nagel
and Newman go through it step-by-step in *Gödel's Proof*. Though they do their best to
break it down into its simplest terms, for the mathematically uninitiated it is still a very
difficult process to understand. I wish you more than luck if you decide to descend into
the Gödelian rabbit-hole.

be self-referential, but in actuality, it is not. Ten words are needed to write "The sentence 'This sentence has five words' has five words," and the example as a whole really alludes to the shorter sentence within quotation marks that is embedded in the longer sentence made up of ten words. "The problem," Hofstadter explains, "is that anything I put inside quote marks will necessarily be shorter than the entire sentence of which it is a part. This is trivially obvious, and in fact it is an exact linguistic analogue to the stumbling block of trying to stick a formula's own Gödel number directly inside the formula itself" (140), so if we are hell-bent on writing a sentence that does vouch, emphatically, for its own falsity, we need a different approach.

The trick is to construct a sentence in which the subject of the sentence is a subjectless sentence fragment; moreover, the subjectless sentence fragment used is identical to the words that it precedes. Here is an example from Quine's essay: "'Yields a falsehood when appended to its own quotation' yields a falsehood when appended by its own quotation" (7). The predicate of our sentence describes to us a subject that is identical to it; and but so, the sentence becomes self-referential in the sense that the sentence makes a claim that itself is in fact a full sentence. The hybrid sentence that demonstrates the essence of Gödel's self-referential formula ɸ—but using Quine's approach to the *pseudomenon*—goes, "'when fed its own Gödel number yields a [false statement]' when fed its own Gödel number yields a [false statement]" (Hofstadter 143). The sentence overall is analogous to a *PM* formula that describes an unspecified number *x*. The subject of the sentence, let us call it *k*, is

the Gödel number for the *PM* formula that describes an unspecified number *x*.

Gödel puts the number *k* into the formula and replaces the unspecified variable *x*

with *k*, and then we find an even larger Gödel number, φ, and he states that φ is

not a provable formula within *PM*. The Gödel number φ never appears in the

sentence/formula, but it is described by the formula. And there it is: Gödel's

brilliant move in all of its glory:

> Gödel, analogously, created a "subjectless formula fragment" (by
>
> which I mean a *PM* formula that is not about any specific integer,
>
> but just about some unspecified variable number *x*). And then,
>
> making a move analogous to that of feeding Quines' Quasi-Quip
>
> into itself (but in quotes), he took that formula fragment's Gödel
>
> number *k* (which is a specific number, not a variable) and replaced
>
> the variable *x* by it, thus producing a formula (not just a fragment)
>
> that made a claim about a much larger integer, [φ]. And [φ] is the
>
> Gödel number of that very claim. And last but not least, the claim
>
> was not about whether the entity in question was a full sentence or
>
> not, but about whether the entity in question was a *provable*
>
> *formula* or not. (142)

Since the meta-mathematical statement "This very formula is not provable via the

rules of *PM*" is not provable by any pronounceable reasons that can be mapped

onto the formal system *PM*, the resulting conclusion must be that if number

theory is consistent, any meta-mathematical statements within *PM* cannot prove

its consistency.

Eighty-four years have passed since Gödel published his argument that no final systematization of mathematical truths regarding natural numbers can be formulated—i.e., a set of boundaries for what constitutes as logical, mathematics cannot be established—in "On Formally Undecidable Propositions of *Principia Mathematica* and Related Systems," and the consequences of Gödel's proof have yet to be fully understood; however, Douglas Hofstadter picks up on the no-final-systematization idea in *GEB*, and he uses Gödel's method of a precise two-way mapping and Gödel's exploitation of self-referentiality in mathematics in order to investigate how the unique individual self emerges.

The driving question behind Hofstadter's *GEB* investigates how something like the self—an "I"—emerges from "things" that have no selves, i.e., how do the itsy bitsy atoms of carbon and protein molecules and nerve cells and a vast array of beasts from the sub-nucleic zoo that make up our bodies in the physical world develop into a conscious, self-aware entity? How do you get to a self, or an "I"?

GEB is not, as suggested by its title, a book about mathematics, graphic art, and Baroque music; rather, Hofstadter's text explores the well-hidden neurological mainspring for human cognition. "The overarching goal," for *GEB*, states Hofstadter, "was to relate the concept of a human self and the mystery of consciousness to Gödel's stunning discovery of a majestic wraparound self-referential structure . . . in the very midst of a formidable bastion from which self-reference had been strictly banished by its audacious architects" (*ISL* xiii). In so doing, Hofstadter became strongly convinced of the belief that the isomorphic similarities between the emergence of Gödel's recursive formula ϕ

out of an underbelly of meaningless symbols (Gödel numbers) and the

spontaneous engenderment of cognition and awareness in the human brain out

of inanimate matter held "the secret of our sense of 'I'" (xiii). Since

mathematicians have figured out self-referentiality in mathematics—by linking the

atoms and molecules of the brain to the operations of mathematical logical

symbols—Hofstadter sought to establish an isomorphism ($\cong$)[16] between what we

know about mathematical systems and the "I" in *GEB*.

In the isomorphism between what we know of Gödel's development of

situations and explanations for instances where mathematical symbols become

self-referential and the "I," the logical primitives of Gödel's self-referential formula

can be reduced to but a few "meaningless" symbols (e.g., "($\exists x$) ($x = sy$)" or "2 + 2

= 4") akin to the relationship between the atoms and molecules (this stuff is

meaningless) and the "I," and Hofstadter emphasizes a Wittgensteinean-style

approach to his isomorphism by examining the same comparison through a

myriad of different perspectives. Gödel stresses a particular case of stepping

back in "On Formally Undecidable Propositions," so he (Gödel) could obtain a

different view or make observations from a fresh horizon or to develop a new

---

[16] The term "isomorphism" has a very specific definition from a mathematical pro's
perspective; however, in *GEB*, Hofstadter uses the term pretty loosely. For Hofstadter,
an isomorphism occurs when "two complex structures can be mapped onto each other,
in such a way that to each part of one structure there is a corresponding part in the other
structure, where 'corresponding' means that the two parts play similar roles in their
respective structures" (49), so if we were to look at a CD and a record; we might note
how each has music recorded onto them, or we could point out that both of them are
circular in shape, which allows each—the CD and the record—to spin allowing some
apparatus to read/playback the stored sound. In essence, if we understand how the
record works, we can create an isomorphism between the record and the CD in order to
try and determine how the CD works, or vice versa.

perspective; moreover, Wallace, in my reading of *Infinite Jest*, adopted the isomorphic notion from Hofstadter and Gödel when he structured *Infinite Jest*.

Wallace believed that "a big part of serious fiction's purpose is to give the reader, who like all of us is sort of marooned in her own skull, to give her imaginative access to other selves"; moreover, "if a piece of fiction can allow us imaginatively to identify with characters' pain, we might then also more easily conceive of others identifying with our own. This is nourishing, redemptive; we become less alone inside. It might be just that simple" (qtd. in Burn 22). If we are to take this as the simple basis for Wallace's fiction—the ability to escape our own heads through fiction—I believe that Wallace used a *GEB*-style isomorphism to map his notion of a real-world addiction continuum that he saw dominating American culture, and his method is what Mary Holland describes as a "method for sculpting through fiction a powerful human *presence* whose insistent engagement with the reader makes her feel, in her own life, less alone (13). Holland states in her keynote address that "'divid[ing] by zero' strikes me as an apt way to characterize Wallace's distinctive way of writing, which resulted in fiction that reveals the seeming infinity of information and perspectives needed to reach an understanding and empathy that will always be undefined" (28), and Gödel's meta-mathematical, two-way mapping appears to be an enormous influence on his (Wallace's) work. The recursion and infinite perspectives from "On Formally Undecidable Propositions" and *GEB* may have provided the structural framework Wallace needed in order to create a text that comprises multiple planes, layers, or perspectives of reality and fictionality, truth and

falsehood, sincerity and irony, real and representation, in an inherently fractured

amalgamation that can never be complete and never be whole.

CHAPTER TWO: *INFINITE JEST* ≅ *GÖDEL, ESCHER, BACH*

According to Douglas Hofstadter, an isomorphism is a sort of "information-preserving transformation" in the sense that "The perception of an isomorphism between two known structures is a significant advance in knowledge—and [Hofstadter] claim[s] that it is such perceptions of isomorphism which create *meanings* in the minds of people" (*GEB* 49; 50). The isomorphism works like the two-way mirroring system that we looked at with Gödel numbering in the previous chapter. Gödel establishes a mapping between the parts of two separate structures, i.e., Gödel numbers act isomorphically to *PM*'s logical symbolism.[1] Gödel, in effect, creates an isomorphism in that he has two similar calculi (*PM* and his formal calculi based on Gödel numbering) that he can compare and contrast, and the goal is to demonstrate a relationship between two operations or two objects or two properties; moreover, mathematicians tend to find isomorphisms in general to be useful because they (the mathematicians) can take what they know from certain well-known areas of mathematical research and apply previously proven axioms, theorems, and methods and what-have-you onto unfamiliar mathematical concepts in order to garner a working understanding of the unacquainted material.

The purpose of this chapter is to demonstrate the isomorphic relationship between Hofstadter's *GEB* and Wallace's *Infinite Jest*; in so doing, I will argue that Wallace adapted Hofstadter's definitions for recursion and strange loops into

---

[1] Refer back to Chapter One's Table 1 if you need a refresher on the relationship between the constant signs from *PM* and Gödel numbers.

the narrative structure for *Infinite Jest*. Wallace's epic work, as a result, is created

in an analogous fashion[2] to Gödel's recursive formula—formula ϕ—so that the

novel does not become a closed system. *Infinite Jest* defines itself with a simpler

version of itself—in the form of James Incandenza's film "Infinite Jest"—and the

result of this recursive definition eliminates a metafictional infinite regress; thus,

the reader can exit Wallace's system.

---

[2] I do not mean to imply that Wallace is doing the exact same thing that Gödel did in "On Formally Undecidable Propositions," and a quick cautionary note needs to be made before going any further.

Mathematicians would more than likely view my use of Gödel's incompleteness theorems as a complete abuse of them—a misunderstanding or exploitation that is so rife in popular discussions of their significance. Torkel Franzén, for instance, cautions his reader in *Gödel's Theorem: An Incomplete Guide to Its Use and Abuse* that a common and infelicitous application of Gödel's theorem is encapsulated in the following statement: "According to Gödel's incompleteness theorem, understanding our own minds is impossible, yet we have persisted in seeking this knowledge through the ages!" (124). The underlying idea Franzén is driving toward in the preceding quote is that, yeah, you can be as lofty and philosophical in your thinking about how the mind works, but at the end of the day you have to make that thinking work rigorously with proof. Fundamentally, you need falsifiability, and though it is admittedly a lot of fun to be all metaphysical and think about things above the mind in space and time and what the structures of these things are, at the end of the day you still have to prove your observations. The arguments regarding cognition either work or they do not work; likewise, your thinking about the workings of the mind either works or it does not.

Franzén's warning points out that "Gödel's incompleteness theorem neither states nor implies that understanding our own minds is impossible" (124), and in the case of Hofstadter's arguments in *GEB*, it needs to be readily recognized that Gödel's theorem inspired a metaphor in Hofstadter's mind, i.e., Hofstadter is not "drawing any conclusion from it" (124); of importance to this thesis, Franzén does say that "Finding suggestions, metaphors, and analogies in other fields when studying the human mind is of course perfectly legitimate and may be quite useful" (124), but those suggestions and metaphors and analogies can only serve as a spring board into deeper thought and reflection. They should not be confused with actual theories or serious studies.

My connection between Gödel, Hofstadter, and Wallace is not intended to set in stone some sort of substantive theory on addiction or American society, and I do not believe that Wallace used Gödelian metalogic to do so anyway. Like Wallace, I am merely arguing for a metaphorical similitude to represent a particular way of "going outside of a system."

Infinite Jest, in my reading, is designed to have "a surprise exit, an unofficial backdoor or escape hatch opening on an alley" unlike closed off, metafictional experiments such as John Barth's "Lost in the Funhouse" (Barth 85). *Infinite Jest* does have ties to Barth admittedly; for example, Wallace's story does follow quite closely one of Barth's ideas in "Funhouse," so in Wallace's novel, "the plot doesn't rise by meaningful steps but winds upon itself, digresses, retreats, hesitates, sighs, collapses, expires. The climax of the story must be its protagonist's discovery of a way to get through the funhouse. But he has found none, may have ceased to search" (96), and though Marshall Boswell describes *Infinite Jest* as "a funhouse into which the reader is seductively invited," Wallace seems to have determined that it is not the protagonist's responsibility to find the exit but instead the reader's (119). Through the application of Gödelian metalogic, the reader can jump out of Wallace's formal system, and once on the outside, the reader is then able to make connections that are inaccessible to the characters within the novel itself.

Hofstadter believes "It is an inherent property of intelligence that it can jump out of the task which it is performing, and survey what it has done; it is always looking for and often finding, patterns" (37), and he also trusts in the fact that every now and then "a rare individual will have the vision to perceive a system which governs many peoples' lives, a system which had never before even been recognized as a system; then such people often devote their lives to convincing other people that the system really is there, and that it ought to be exited from!" (37). For Hofstadter, Gödel is an example of one of those rare

individuals, and I contend that Wallace is as well. Whereas Gödel creates his (in)famous recursive formula with a copy of itself embedded within itself to convince people to exit from a specific mathematical system, Wallace creates a recursive novel with a copy of itself fixed inside of it as well with the purpose of describing an American system of addiction that Wallace wanted to convince people to exit.

The recursive nature enclosed by Wallace's story is illustrated in how he tells his tale in a fashion similar to "verbal versions of mathematical procedures, in which at least one of the steps of the procedure involves rerunning the whole procedure. And it's *we* who run them. Wallace places us *inside* the process of recursion, and this is why reading him is so often emotionally and intellectually exhausting" (Smith 274). Wallace, in effect, uses mathematics as a type of language in order to communicate narrative ideas in his fiction; consequently, addiction is discussed in *Infinite Jest*, using a prose style based on strange loops. In its various forms throughout the novel, addiction is described as a circular pattern that is often emotionally and intellectually grueling to read. Wallace uses the recursive nature of the addiction continuum he saw harrying American society to create a recursive definition of addiction in *Infinite Jest*. It is likely that many of the characters, on some level, know that their need for or worship of entertainment, sports, drugs, or alcohol is a harmful form of behavior, but regardless of their awareness of the detrimental effects of their obsessions they still cannot quit whatever it is to which they are addicted. It is up to the reader to rise above *Infinite Jest*'s closed fictional system, and in that transcendent

movement, she should not worry about investigating the characters or the specifics of the various plights bedeviling them throughout the narrative but herself outside of the text in relation to those characters, the reason being that Wallace's "stories simply don't investigate character," as Zadie Smith describes them in "*Brief Interview with Hideous Men*: The Difficult Gifts of David Foster Wallace"; "Instead they're turned outward, toward us. It's *our* character that's being investigated" (273), and this is where the Gödelean meta-logical discussion from the previous chapter comes into play.

"Wallace's interviews make clear, mathematics was partly a rhetorical tool . . ." states Roberto Natalini (43); moreover, Natalini argues that Wallace's mastery of infinity and use of mathematics as a kind of language "can be considered [as] comparable attempts to use new forms to pass to another 'level' of understanding that allows the author to share complex feelings with the reader" (46). Natalini also seems to subscribe to Ludwig Wittgenstein's advice to continue looking at the same thing over and again, albeit under different circumstances, and in this particular instance concerning Wallace, Hofstadter, and Gödel the context is mathematics. Wittgenstein argues in *Philosophical Investigations* (*PI*) that one of the major pitfalls concerning our "failure to understand is that we don't have *an overview* of the use of our words. – Our grammar is deficient in surveyability. A surveyable representation produces precisely that kind of understanding which consists in 'seeing connections'. Hence the importance of finding and inventing *intermediate links*" (54[e]). This idea proffered by Wittgenstein relates to what Wallace saw as the fundamental line of

PI, "I don't know my way about [language]" (55[e]), for in Wallace's estimation in

the afterward to David Markson's *Wittgenstein's Mistress*:

> we are now & forever 'down here' in language inside it, on ground-
> level, & thus have no better a view of the Big Picture than someone
> earthbound in contrast to someone aloft who can look down at the
> earth bound guy & the terrain around him discerning patterns
> against backdrops of other bigger patterns, seeing them as *patterns*
> *of something larger* instead of as the -bound man's terrain, maze,
> world, total . . . (271 n. 35)

Such a description of our inability to gain an higher outlook approximates a

Gödelian metalogical approach, a particular case of being able to "step back" to a

different view point or an ability to remove oneself to a "higher" perspective in

order to render "surveyability," to obtain a standpoint from which everything is

laid out before us, and when the reader removes herself to higher level or gains a

new angle, she is guided by the author to a point outside of the book—a different

vantage point from where she can see the connections between E.T.A. and

Ennet House or concerning Hal Incandenza and Don Gately that do not

specifically take place within the novel. To truly understand what happens in

Infinite Jest the reader must change her point of view.

Hofstadter proposes a similar approach in *GEB* in order to understand

consciousness. When you think about the study of the mind or cognition, the

whole process itself is akin to pulling your left eye out of its socket in order to

inspect that now free floating eyeball with the right eye that is normally situated in

the right socket, or, perhaps more accurately stated, turning the dangling eye

toward its vacated socket in order to inspect how the inner workings function with

said floater. Hofstadter marvels at this kind of self-referential play and its intrinsic

interaction to discussions involving how the "I" emerges. If one wants to study

how cognition develops, a paradoxical loop occurs in that one has to use his or

her own brain to think about how it (the mind) came into being. Researchers that

are trying to understand cognition, in effect, use the organ that they are studying

to study that organ, and Hofstadter uses the recursion found in Gödel's

incompleteness theorems, Escher's drawings, and Bach's fugues to illuminate

the intellectual loopiness associated with thinking about the how the brain

operates.

GEB begins with a discussion regarding Johan Sebastian Bach's canons

and fugues,[3] and Hofstadter focuses on one canon in particular, Bach's *Musical*

Offering—also referred to as the "Canon per Tonos." Bach creates this musical

piece as a result of a meeting between him and Frederick the Great during the

eighteenth century. According to Hofstadter, Fredrick II is a huge Bach fan boy,

and when Bach comes to the King's palace to visit his (Bach's) son, the King's

court musician, King Fredrick takes the opportunity to show off his new fortepiano

to the elder Bach. During Bach's visit, the King gives Bach a very long and

complex musical theme on which to improvise a three-voice fugue using the

---

[3] A "for your information" style note: a canon is a musical piece where a single theme is repeated and "played against itself" (*GEB* 8), and a fugue is a type of canon with more flexibility and opportunity for creative cuteness. Hofstadter says that "A fugue is like a canon, in that it is usually based on one theme which gets played in different voices and different keys, and occasionally at different speeds or upside down or backwards" (9).

fortepiano, which Bach easily does, so Fredrick the Great then throws down the

metaphorical gauntlet and dares Bach to improvise a six-voice fugue on the

same theme. Bach tells the King that he cannot extemporize a six-voice fugue on

the spot, so Bach goes home, and two months later Bach publishes and sends to

Fredrick II the *Musical Offering* (*GEB* 3-7).

Hofstadter describes Bach's *Musical Offering* as a "particularly unusual"

canon (10). It has three voices, and the first of the three voices performs a

variant of the "Royal Theme," and beneath the uppermost voice, two voices

deliver canonic harmonizations based upon a second theme. With regard to the

two voices below the uppermost-modified Royal Theme, the lowest of the lower

pair performs its theme in the key of C minor, which is the key of the entire

canon, and the higher voice of the two lower voices delivers the same theme in a

pitch that is just a smidge higher. Hofstadter believes that the "Canon per Tonos"

is exceptional because though it starts off in C minor by the canon's end it

changes keys "right under the listener's nose," and the piece ends—or, "rather,

seems to conclude"—in D minor (10). The uniqueness of the ending is that Bach

constructed it in such a way where the "'ending' ties smoothly onto the beginning

again; thus one can repeat the process and return in the key of E, only to join

again to the beginning" (10), and Bach's canon is Hofstadter's first example of

the notion of strange loops.

We can observe *The Musical Offering*'s distinctive ending making an

appearance in *Infinite Jest* quite effortlessly. The more obvious example of the

influences from Bach's canon on *Infinite Jest* is apparent from the book's

"beginning" and "ending." *Infinite Jest* begins with Hal Incandenza sitting across

from three Deans—Dean of Admissions, Dean of Academic Affairs, and Dean of

Athletic Affairs—in a cold room on the University of Arizona's campus. The

Deans and Hal "need to candidly . . . chat re potential problems with [Hal's]

application" (4), but the plot-related specifics of the scene are not that important

with regard to this thesis. What is important is that the scene takes place during

the Year of Glad.[4] According to Wallace's "Chronology of Organization of North

American Nation's Revenue-Enhancing Subsidized Time^{TM}, By Year," Year of

Glad is actually the most recent of the subsidized years. However, most of

Infinite Jest's action takes place the previous year, the Year of the Depend Adult

Undergarment (YDAU) (223). Marshall Boswell argues that the "novel is circular,

beginning with its ending and ending with its beginning" (174), and similar to the

ending of Bach's canon, Wallace structures *Infinite Jest* in such a way where the

"beginning" of the novel is chronologically the last event to occur, so the reader,

upon reaching *Infinite Jest*'s physical end, rejoins the "beginning," like Joyce's

Finnegans Wake.

However, this connection, in my mind, is not the most interesting one.

There is also a connection between the three voices of the canon and the three

major plot lines that make up *Infinite Jest*. The plot of the novel, in part, is about

the dysfunctional Incandenza family and E.T.A.; it partially tells the narrative of

---

[4] If you are unfamiliar with *Infinite Jest*, the narrative takes place in a future where numbers no longer reference the year, e.g., 2015. Instead, "Subject to O.N.A.N Dept. of Weights and Measures Oversight Committee ratification of final contract[s] . . ." (999 n. 78), the calendar years are sold to the highest bidder and named after the winner; for example, in *Infinite Jest* there is the Year of the Whopper and the Year of the Tucks Medicated Pad and the Year of the Trial-Size Dove Bar.

Don Gately and a group of recovering addicts at Ennet House, and those two narratives partially revolve around the race between the Organization of North American Nations (O.N.A.N.) and Les Assassins des Fauteuils Rollents, (A.F.R.), a militant Québécois separatiste group, in order to find the missing master copy of James Incandenza's lethally entertaining film cartridge "Infinite Jest," which is referred to in the novel as "the Entertainment" and sometimes as "the samizdat." I stated earlier that in Bach's canon the uppermost voice sings the Royal Theme and that the two lower voices sing variants upon that theme; so I would argue that the part of the book that deals with the race between O.N.A.N. and A.F.R. is isomorphic to the uppermost voice of Bach's canon, and the parts of *Infinite Jest* that relate to the narratives of E.T.A. and Ennet House are isomorphic to the two lower themes of *The Musical Offering*.

In David Lipsky's *Although of Course You End Up Becoming Yourself*, Wallace points out to Lipsky—as the two men are driving down a slushy and crowded I-55 toward Chicago—that *Infinite Jest* is about American society's relationship to entertainment (81). "Entertainment's chief job," Wallace states, "is to make you so riveted by it that you can't tear your eyes away" (79), and the Entertainment within *Infinite Jest* demonstrates this "drive for spectation" (*IJ* 318). When someone watches Incandenza's film, that person becomes absolutely obsessed with viewing the cartridge that he or she cannot stop watching it. The unlucky viewer simply cannot exit that system (the Entertainment) by changing the channel or turning the TV off.

Take the medical attaché, for example. Initially he starts viewing the samizdat at 1927h on 1 April YDAU (37); by 0015h., he is "still viewing the unlabeled cartridge, which he has rewound to the beginning several times and then configured for a recursive loop. He sits there, attached to a congealed supper, watching, at 0020h., having now wet both his pants and the special recliner" in which he is seated (54). The medical attaché's wife returns home just before 0145h., and finds her pissed-stained husband catatonic in front of the TP[5] viewer. Obviously she panics and rushes to his side where "eventually and naturally she—noting that the expression on his rictus of a face nevertheless appeared very positive, ecstatic, even, you could say—she eventually and naturally turning her head and following his line of sight to the cartridge-viewer" is placed under "Infinite Jest's" spell. By the afternoon of 2 April, a total of eight people—of the six new arrivals, four of them were specifically trying to find the attaché (sent by the attaché's boss) and the other two are two hapless Jehovah's Witnesses who happened to catch a glimpse of the TP through a window—are all "watching the recursive loop the medical attaché had rigged on the TP's viewer the night before, sitting and standing there very still and attentive, looking not one bit distressed or in any way displeased, even though the room smelled very bad indeed" (87). Ultimately, Boston police officers have to shut the power off at the medical attaché's house in order to shut off the TP viewer before anyone else could enter the residence.

---

[5] The "Teleputer" (TP) is a hybridized communications/entertainment piece of electronics. Characters in *Infinite Jest* use it as both a phone and a DVD player of sorts.

Though the scenes involving the medical attaché and the Entertainment are admittedly outlandish, those scenes get to the heart of what Wallace is trying to describe about how he saw the relationship between Americans and entertainment. "I think it's [*Infinite Jest*'s] got something to do with, that we're just—we're absolutely dying to give ourselves away to something," Wallace tells Lipsky, "To run, to escape, somehow" (81). Wallace's goal in *Infinite Jest* is to explore how he and others were devoting so much time to sitting around in front of a TV and this "kind of weird, addictive, um . . . wanting to give yourself away to something" feeling he associated with his own binge viewing (82). So if *Infinite Jest*'s "Royal Theme" is about addiction and giving yourself away completely to something like entertainment, the lower voices (E.T.A. and Ennet House) should sing variant versions of that theme, which they do.

E.T.A. is home to high-caliber adolescent tennis players and the prorectors who work as assistant coaches and teach classes based on the arduous Oxbridge Quadrivium-Trivium curricular model. Most of the students at E.T.A. have dreams of making it to the Show, i.e., becoming professional tennis players, and in pursuit of that goal, they work under the intimidating Head Coach Gerhard Schtitt who approaches "competitive tennis more like a pure mathematician than a technician" (81). Schtitt knows that "real tennis was really about not the blend of statistical order and expansive potential that the game's technicians revered, but in fact the opposite—*not*-order, *limit*, the places where things broke down, fragmented into beauty," an approach not akin to our previous discussions of the Mathematician's Credo in the previous chapter (81);

and but so, he (Schtitt) runs his players through grueling practice sessions designed to train his students through constant repetition. Through a seemingly countless number of hours, days, weeks, and months, the players continually repeat specific movements such as how to properly place their feet, how to follow through on a serve, how to hold a stick properly, and, basically, how to train their bodies to react in a sort left-foot-right-foot-robotic-style with regards to playing tennis. Hal Incandenza describes the whole process as "practicing and playing until everything runs on autopilot" (173).

The variant on Wallace's "Royal Theme"—addiction—plays out through how the student-players worship their own bodies and athletic prowess throughout the E.T.A. portions of *Infinite Jest*.[6] The circular addiction that is found in the scenes with the medical attaché and the samizdat are paralleled, for example, in the portion of *Infinite Jest* where Hal is talking to his Little Buddies[7]

---

[6] A lot of the players at E.T.A. are also moderate to heavy drug users to help "manage their internal weathers chemically," and "Much of this is good clean temporary fun, but a traditionally smaller and harder-core set tends to rely on personal chemistry to manage E.T.A.'s special demands . . . to basically short out the whole motherboard and blow out all the circuits and slowly recover and be almost neurologically reborn and start the gradual cycle all over again . . ." (53). However, I am only going to discuss their addictions regarding the Show. Addiction in the form of drugs will be dealt with in the section about Ennet House.

[7] Charles (C. T.) Tavis, E.T.A.'s headmaster, initiates a program at the academy called the Big Buddy System. How it works is that the older, more experienced, 18-and-Unders at E.T.A., whom are trusted by the E.T.A. administration, are given four to six 14-and-Unders that the Big Buddy takes under his or her wing.

It is worth pointing out that the pow-wows that occur between the Big Buddy and his or her Little Buddies works out kind of like a group therapy session. All of the members of the group sit around venting their frustrations and concerns, and the Big Buddy moderates the discussion by prompting questions for the Little Buddies to consider and sort of perform a type of inward self-evaluation. The whole system operates on an isomorphic level akin to an Alcohol Anonymous (AA) or Narcotics

Peter Beak, Kent Blott, Idris Arslanian, and, in effect, Evan Ingersoll—whom Hal

traded Todd ("Postal-Weight") Possalthwaite to Trevor Axford for off the books

because Axford "so despised the Ingersoll kid for some unanalyzable reason that

he was struggling against a horrible compulsion to put Ingersoll's little fingers into

the gap by the hinges of an open door and then very slowly close the door" (98).

Hal and his LBs are sitting on double-width throw-pillows strewn about the floor

of Viewing Room (V.R.) 6 on the second floor of the Comm.-Ad. Building on

E.T.A.'s campus talking about how "The end-of-the-day hatred of all the work is

just part of the work" for the student-players, and Hal tells his 14-and-Unders

that:

> I look at these guys that've been here six, seven years, eight years,
> still suffering, hurt, beat up, so tired, just like I feel tired and suffer, I
> feel this what, dread, this dread, I see seven or eight years of
> unhappiness every day and day after day of tiredness and stress
> and suffering stretching ahead, and for what, for a chance at a like
> a pro career that I'm starting to get this dready feeling a career in
> the Show means even *more* suffering, if I'm skeletally stressed from
> all the grueling here by the time I get there. (109)

Most of E.T.A.'s student's are there because they want to reach the Show when

they matriculate from E.T.A.—"meaning the A.T.P. Tour, travel and cash prizes

and endorsements and appearance fees, match-highlights in video mags, action

---

Anonymous (NA)—as they are described in the Don Gately and Ennet House sections of
Infinite Jest—meeting in which members of a bonafide, unified community come
together in order to support one another.

photos in glossy print-mags" (111). The players, in pursuit of that goal, suffer day

in and day out, and even if they were to actually make it to the Show, that day in

day out suffering from E.T.A. does not go away. It continues at the next level,

and the only true exit is to quit playing tennis altogether. But the worst part for

them is that they are all 100% aware that most of them are not even going to get

to that goal. "But they know and we know one very top junior in twenty even gets

all the way to the Show," Hal points out to his LBs, "Much less survives there

long. The rest slog around on the satellite tours or regional tours or get soft as

club pros. Or become lawyers or academics like everyone else" (111), yet the

E.T.A. players stay and suffer and continually experience the limitless depth of

the P.M. locker room where "they've all been just here before, just like this [bone

tired needing new words to describe their fatigue], just like this, and will be again

tomorrow" (104). It is a day-in-day-out grind that they refuse to exit in a manner

relatable to the eight people sitting and standing in the medical attaché's living

room watching Incandenza's samizdat.

The whole process of addiction as it has thus been described in the

O.N.A.N/A.F.R. and E.T.A. plotlines works like Hofstadter's dialogue "*The Three-*

Part Invention" from *GEB*. In this particular dialogue, Hofstadter introduces his

readers to Achilles—the Greek warrior—and a Tortoise.[8] In "*The Three-Part*

Invention," he introduces the concept of paradox. Achilles and the Tortoise stand

---

[8] The concepts that Hofstadter writes about in the main chapters of *GEB* are introduced in little Dialogues that each star Achilles and the Tortoise. Hofstadter borrows the characters from Lewis Carroll's "What the Tortoise Said to Achilles," and Hofstadter creates little vignettes centering around his two protagonists to provide intuitive examples for the major ideas that appear in the chapter that immediately follows the dialogue.

on a dusty runway, and the Tortoise asks Achilles if he has ever heard of Zeno's

paradox in which Zeno—the Greek mathematician—argues that motion is

inherently impossible. Achilles answers that he has not, which provokes the

following scene. The Tortoise tells Achilles that if he and Achilles were to race,

and Achilles were to give him a head start, Achilles would never be able to catch

him if he (the Tortoise) was already in the lead. Though the argument that a

grown man—not to mention a great warrior—could never run past a talking turtle

sounds fallacious, let us say that the Tortoise gets a head start of eight feet.[9]

First, Achilles would have to cross half that distance in order to catch the

Tortoise, four feet. Then he (Achilles) would have to cross half that distance, 1

foot. Then half of that, half a foot, and so on ad finitum. Achilles can never reach

the Tortoise following this logic because the continuous division of a number and

the subsequent results by two will never yield zero. Zeno's paradox is used to

describe the division of fractions, primarily, but in a real world setting, it implies

that motion is inherently impossible.

Wallace refers to the kind of paradox described by Zeno as a Vicious

Infinite Regress (VIR) in *Everything and More: A Compact History of ∞*. The VIR

is "a vital example for Wallace," states Natalini, "because it is one of the simplest

instances where a philosophical problem was solved using pure mathematical

arguments" (44), and in the case of Hal and his fellow classmates at E.T.A.—or

in the example involving the medical attaché and the Entertainment—the VIR

---

[9] Here is another for your information style note. The eight feet is completely arbitrary. This is a selfish decision on my part to make the calculations easier.

encapsulates the infinite circularity of their addictions. Wallace explains that the

dichotomy of Zeno's paradox is laid bare in how "the task of moving from point A

to point B involves not a ∞ of necessary subtasks, but rather a single task whose

'1' can be validly approximated by a convergent infinite series" (195). Plainly

stated, the infinite becomes an unending procedure.

Circling back to the relationship between *Infinite Jest* and *The Musical*

Offering, the recursive process of addiction can finally be seen working through

the various characters that reside at Ennet House. Wallace writes in *Infinite Jest*

that there is a little-known paradox with regard to substance addiction that often

goes unmentioned:

> once you are sufficiently enslaved by a Substance to need to quit
>
> the Substance in order to save your life, the enslaving Substance
>
> has become so deeply important to you that you will all but lose
>
> your mind when it is taken that you all but lose your mind when it is
>
> taken away from you. Or that sometime after your Substance of
>
> choice has just been taken away from you in order to save your life,
>
> as you hunker down for required A.M. and P.M. prayers, you will
>
> find yourself beginning to pray to be allowed literally to lose your
>
> mind, to be able to wrap your mind in an old newspaper or
>
> something and leave it in an alley to shift for itself, without you.
>
> (201)

The enslaving substances for the men and women at Ennet House are types of vicious infinite regresses.[10] For residents such as Ken Erdedy, it is not hard for them to recognize that they need to drop their habits—put an end to the malicious, convoluted succession of events that bolster themselves through VIR—but the fact of the matter is that it is almost more painful to become clean and "well-adjusted" than it is to continue using.

Keeping with Erdedy for the moment, at the beginning of *Infinite Jest* he tries to kick his marijuana habit through excess, averaging about 200 – 300 bong hits every day until his "last"[11] stash of 200 grams of high grade dope is gone. The plan is to "use discipline and persistence and will and make the whole experience so unpleasant, so debased and debauched and unpleasant that his

---

[10] N.b., not all of the residents at Ennet are there for a specific kind of substance addiction. Tenants such as Kate Gompert and Joelle Van Dyne[a] are living at the half-way house predominantly because of caldera voids caused by clinical depression, for example. Despite the fact that not all of the denizens of Ennet are substance abusers (current or reformed or reforming), the descriptions of how depression works for these characters are very similar to the descriptions of the addicts across all of the plot lines. Both (the depressed and the addicted) are suffering from a type of VIR. The feeling of depression, Kate tells a doctor, is "All *over*. My head, throat, butt. In my stomach. It's all over everywhere. I don't know what I could call it. It's like I can't get enough outside it to call it anything. It's like horror more than sadness" (73), and it is horrible because "there's the feeling that there's something you have to do right away to stop it but you don't know what it is you have to do, and then it's happening, too, the whole horrible time, it's about to happen and also it's happening, all at the same time" (73). The horror that is depression works like a complex chain of events that reinforce themselves through a vicious feedback loop, just like the addictions to drugs, entertainment, or sports in *Infinite Jest*. There is no way Kate can survey her own depression, and as a result, she is locked inside of it without any egress.

    [a] Joelle does fiend for coke in addition to her depression, though. In fact, a botched suicide attempt via an ingestion of a massive amount of crack is what landed her at Ennet.

[11] Erdedy mentions that he is currently on either his seventieth or eightieth attempt at quitting his drug habit.

behavior would be henceforth modified" (22); however, the irony of Erdedy's paradoxical situation is that he already sees his dependence on pot as already debased and debauched and unpleasant. As Erdedy pathetically waits for a woman to drop off the aforementioned 200 grams of unusually strong weed, "He began to grow disgusted with himself for waiting so anxiously for the promised arrival of something that had stopped being fun anyway" (21). In truth, he hates the stuff, but after a week or two, or a day or two, the old need inevitably crops back up.

The above is the case for many of the denizens of Ennet House; however, even in their attempts to find help through AA programs or NA programs, the recovery programs often become just another form of addiction. Former addicts, every single night in Boston (or in any city for that matter), pile into cars "full of totally sober people, wall-eyed from caffeine and trying to read illegibly scrawled directions by the dashboard lights, crisscross the city" (343). They are headed toward church basements or bingo halls or nursing-home cafeterias in search of support. AA becomes a drug of sorts in which the members of the groups who appear "clean" are actually addicted to AA/NA. In a weird twist, "The process is the neat reverse of what brought you down and In here" (350). Swilling cheap, poorly made coffee and munching on stale cookies or doughnuts, they listen to each other recount the personal horrors they have each experienced first hand.

The primary and secondary actors in each of these stories vary from tale to tale, but in a similar fashion to how Wallace copies the same theme of addiction in the different story lines, the message in each of the tales relayed by

the AA/NA members is always the same: "You are behind bars; you are in a cage and can see only bars in every direction. You are in the kind of a hell of a mess that either ends lives or turns them around" in terms of your addiction (347). At its root, Boston AA/NA turns out to be "this same resigned, miserable, brainwash-and-exploit-me-if that's-what-it-takes-type desperation [that] has been the jumping-off place for just about every AA you meet" (349). And what is quickly learned is that "You are not unique, they'll say: this initial hopelessness unites every soul in this broad cold salad-bar'd hall" (349). Everyone at AA/NA depends on the AA/NA system so much that they will seek out meetings every night; unfortunately, "without the protection of meetings or a Group, in time—oh there's always plenty of time, the Disease is fiendishly patient" an AWOL member will inevitably fall off the metaphorical horse, and within "a month or six months or a year they have to Come *Back* In, back to the Boston AA halls and their old Group, tottering, D.T.ing, with their faces hanging down around their knees all over again . . ." (355).

The way that Wallace spreads out addiction in all three of the major plot lines within *Infinite Jest* suggests the idea that everyone in this book is addicted to something, whether that something is a drug, alcohol, sports, a group, and the list goes on. Addiction is *Infinite Jest*'s "Royal Theme" that is played out continually in the text and its various voices, or plot lines, and that theme is copied in the various chapters and subchapters that make up the narrative in a recursive, strange loop fashion. Stephen J. Burn explains in *David Foster Wallace's* Infinite Jest*: A Reader's Guide* that the three major plot arcs are

"designed to suggestively interact" (29). The three narratives follow a similar looped structure as the voices in Bach's *Musical Offering*, and addiction thus takes the form of a tangled hierarchy which Wallace presents in the style of a fractal, or a self similar shape in which a replication of a pattern—copies within copies—are the exact same at every level.

    "The 'Strange Loop' phenomenon," states Hofstadter, "occurs whenever, by moving upwards (or downwards) through the levels of some hierarchical system, we unexpectedly find ourselves right back where we started" (10). Couched in the concept of strange loops is the notion of infinity, and Hofstadter recognizes that in Bach's endlessly rising fugue or in the drawings M. C. Escher creates "Copies of one single theme often fit into each other" (15). For example, in Escher's *Metamorphosis* (See Figure Four) a similar process of moving further and further from its starting point occurs, but it suddenly loops back on itself.
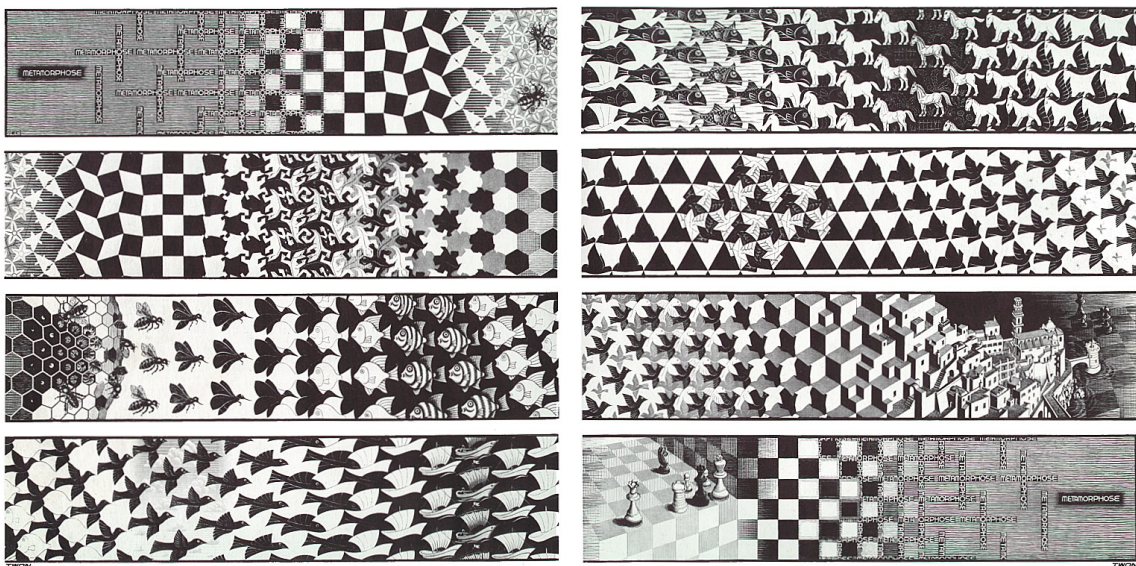

Figure 4: *Metamorphosis*; Taken from wikiart.org

"In the tiled panes of *Metamorphosis* and other pictures, there are already suggestions of infinity," observes Hofstadter, "But wilder visions of infinity appear in other drawings by Escher. In some of his drawings, one single theme can appear on different levels of reality" (15). Likewise, Wallace creates an implied string of levels, where "for any one level, there is always another level above it of greater 'reality', and likewise, there is always a level below, 'more imaginary' than it is" (Hofstadter 15), in which addiction is described in its various forms, but the dominant method Wallace employs is to create a paradoxical, strange loop of addiction for the reader to enter—a tangled hierarchy if you will.

The tangled hierarchy of *Infinite Jest* illuminates "the concerns of human loneliness and obsession and indecision," states Greg Carlisle in *Nature's Nightmare: Analyzing David Foster Wallace's* Oblivion; furthermore, Carlisle conveys the idea that "Wallace's texts serve as analogues to the way these concerns can get lost in the various novelties we encounter in our own lives" (30). *Infinite Jest* acts as a representation of addiction presenting different copies of it throughout different levels of *Infinite Jest*. It is not a big deal, notes Hofstadter, if the duplicates are not *exact*. The replicas can be upside down, backwards, shrunken, or expanded, so "the 'copies' of itself inside itself involve size changes, skewings, reflections, and more" (146); what is important is that "a skeletal identity" remains (146), or in other words, a mapping of functional part onto functional part. This is all just to say that the addictions present in the three major plot lines are not exact duplicates of each other, but the three outlooks on addiction all function in the same recursive fashion. Taken together, the three

most prominent narrative arcs establish a working definition of addiction as Wallace saw it in American culture. However, if Wallace wants to create a recursive definition for addiction, his definition cannot lead to a VIR. "This is because," Hofstadter explains, "a recursive definition never defines something in terms of itself, but always in terms of *simpler versions* of itself" (127). I contend that Incandenza's "Infinite Jest" is the *simpler version* of *Infinite Jest* that bottoms out the recursive definition; thus, the reader is able to exit *Infinite Jest* and rise above that system in order to survey it.

In the previous chapter, Gödel's formula ϕ was described as a recursive definition with a smaller version of itself embedded inside of it thus turning the formula into a meta-mathematical statement. In an analogous fashion, Wallace creates a smaller version of *Infinite Jest* and places it inside the novel. Not only does "Infinite Jest" act as a stand-in for what Wallace identifies as one of the novel's central themes, Incandenza's film also bears an isomorphic relationship to the overall narrative structure of the novel. Burn explains in his reader's guide to *Infinite Jest* that the novel is divided up into ninety distinct sections. In order to make this determination, Burn looked at Wallace's use of "three distinct methods to mark these divisions" (27). The most obvious divisions Wallace uses are the twenty-eight circles, such as the one present on page three. In addition, Burn also cites Wallace's insertion of a bolded and capitalized heading—which often appear as either a date or a title—and clear breaks between different narrative sections. When Burn applies these divisions, he is then able to determine that the novel is comprised of ninety distinctive sections. "One of the most suggestive

occurrences of the number [ninety] is revealed toward the end of the book," Burn

points out, "when the ghost of James Incandenza explains that he 'spent the

whole sober last ninety days of his animate life' (p. 838) creating the film *Infinite*

Jest. So the structure of the novel, far from being random, seems to be subtly

arranged to parallel the composition of the film that it is about" (27). Incandenza's

"Infinite Jest," therefore, mirrors Wallace's *Infinite Jest* both thematically and

structurally.

The filmic "Infinite Jest" "propels viewers into a regressive feedback loop

of incessant viewing until the viewer simply dies," states Ryan David Mullins in

his essay "Theories of Everything and More: Infinity is Not the End"; moreover,

"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" (241). Mullins believes that Wallace's work is an

emancipation from "bad" infinities—VIRs that consist "in the higher-order act of

choosing what one does and doesn't pay attention to within the operative

domains in which we're participating"—in favor of "good" infinities. Bad infinity is

represented by the Entertainment, and the novel itself denotes good infinity.

Following, the answers to the fundamental questions of *Infinite Jest* "take place

outside the temporal boundaries of the novel and force the Reader to enter the

space of reasons and connect the dots" (241), and in order to make that jump

outside of the system, Wallace terminates the process of good infinity by placing

the bad infinity inside it.

Wallace, analogously to the demonstration of Gödel's creation of his recursive formula in the previous chapter, created a "subjectless formula fragment" by which I mean a narrative device in the novel *Infinite Jest* that is not about anything specific. The subjectless formula fragment in Gödel's formula was about some unspecified variable x, and similarly in *Infinite Jest*, the Entertainment's plot is never actually described. Boswell notes "Wallace deliberately shrouds it ["Infinite Jest"] in tantalizing mystery. We get glimpses of people watching the film, as well as a number of sometimes conflicting accounts of the film's content, yet we never get to see the film directly" (126). The film is "unfinished, unseen" (*IJ* 993 n.24). So Wallace, making a move analogous to feeding Quine's Quasi-Quip into itself or Gödel feeding the formula fragment into his recursive formula, takes the thematic representations of Incandenza's "Infinite Jest" (which is a specific feeling that "the things that ended up for [Wallace] being most distinctively *American* right now, around the millennium, had to do with both entertainment and about some kind of weird, addictive, um . . . wanting to give yourself away to something") and replaced the plot elements of "Infinite Jest" by it, thus producing a recursively defined novel that makes a claim about a much larger theme, jumping outside of a system to gain a level of surveyability.

I introduced the Sierpinski gasket in the introduction, and I described it as a self-similar shape or a fractal, and David Herring's essay "*Infinite Jest*: Triangles, Cycles, Choices & Chases" explores how the triangular structure of Wallace's novel "physically resembles the geometric schema for the overall narrative" (91). Though Herring does a marvelous job in true Borgesian fashion

of tracing out the paths of various characters within *Infinite Jest* on a map of the real deal Boston to investigate the relationship between the geography of *Infinite Jest* and Boston, for this thesis, Herring's comments and discussion about how the gasket shape affects the characters and narrative devices is much more *apropos*.

Herring writes that "Many of the novel's principal characters are addicts, both lapsed and recovering, mediating between awareness and denial that they are trapped within a cycle of addictive behavior, and in some instances the addicts have been through the cycle of addiction and recovery many times before" (93). What is truly interesting about Herring's observations is the connection that he makes not between the characters and the Sierpinski gasket but between the characters and the negative space of the gasket shape. "The 'absences' in the Sierpinski gasket," Herring remarks, "in addition to representing the absence of key episodes within the narratives of protagonists, also relate to the depictions of psychological oblivion either willed or unwilled, that pervade the novel" (93). Herring makes a connection between his statement and N. Katherine Hayles's reference to "recursive feedback loops" in her analysis of *Infinite Jest* (qtd. in Herring 94), and he concludes that this is indicative of the characters' inabilities to "be aware of their imprisonment while unable to free themselves under their own power, going continuously around and around the cycle of addictive and self-destructive behavior" (94). The hope is that these literary characters can point toward a cure through their own diagnoses, i.e., a scotopic

revelation of the iron bars of an imprisoning cage that would lead to personal freedom.

The idea of the absences in the triangle is interesting, indeed, but I am a more interested in how those "gaps" affect the reader as opposed to the characters. Herring uses circular language that invokes ideas of cycles in order to describe the characters' self-centered or solipsistic addictive behaviors, and he believes that the "circular or cyclical motion can also anticipate unification rather than disorientation" (94). For example, in the preceding paragraphs a lengthy discussion was developed with the purpose of showing how in each of the three major plot lines a copy of addiction is present, and that the depictions of addiction resemble what Hofstadter describes as strange loops—circular routines of drug and alcohol abuse or tennis practices and drills or television consumption. However, the gaps represented in the gasket structure of *Infinite Jest* also seem to call for a particular case of stepping back by the reader of the novel.

In *The Implied Reader*, Wolfgang Iser introduces the concept of narrative gaps, and he argues that "one text is potentially capable of several different realizations, and no reading can ever exhaust the full potential, for each individual reader will fill in the gaps in his own way, thereby excluding the various other possibilities; as he reads he will make his own decision as to how the gap is to be filled" (280). Iser goes on to say that in making a decision about how to interpret the absence of information in the text the reader "implicitly acknowledges the inexhaustibility of the text" (280), and, paradoxically, it is the infinite number of interpretations for the text that forces the reader to make her

choice regarding how to read the material. It is admittedly a terrifying prospect that there is a possibility that there are an infinite number of interpretations for a text, but this idea circles us back to Gödel's conclusions from "On Formally Undecidable Propositions."

Gödel believes that in terms of number theory 1) if the system is consistent, it cannot be complete, and 2) the consistency of the axioms cannot be proven within the system. Wallace appears to believe the same in terms of literature. For Wallace, postmodernism's real end, especially evidenced in metafiction, "has always been Armageddon" (qtd. in Burn 30). It has a "terminal reflection," in other words (qtd. in Burn 30). But in Wallace's mind one of fiction's more inimitably magical aspects is that a piece of fiction works like a conversation where "There's a relationship set up between the reader and the writer that's very strange and very complicated and hard to talk about" (qtd. in Burn 62), and sometimes when reading a short story or a poem or a novel the reader has a moment where she feels "human and unalone and . . . in a deep, significant conversation with another consciousness in fiction and poetry . . ." (62). The conversation between the author and the reader cannot take place within the actual text but on a different level; moreover, the conversation is not limited to just the author and the reader but also between multiple readers.

With *Infinite Jest* working as a formal calculus exploring addiction, it is kind of like its own version of AA. It operates similarly to a tenet of AA where the member becomes involved in—what Wallace describes in *Infinite Jest* as— "spreading the message" (344). Readers of Wallace's complex and demanding

novel form a community bound by the common experience of reading *Infinite Jest*. Kathleen Fitzpatrick emphasizes Wallace's reader/author connection via fiction in "Infinite Summer: Reading, Empathy, and the Social Network" when she argues that *Infinite Jest* is able to create connections and open up the possibilities for real human interactions in spaces such as an "online group reading project that . . . instantiates this potential in the act of reading by creating pathways for ethical, empathic connections not just between reader and writer, or between reader and text, but among readers" (183).[12] Readers of Wallace tend to be incredibly passionate about the intimate connections they experience between themselves and his writing, and one can easily see this playing out in the current boom of scholarship being published about Wallace or in the numerous conferences that are starting to be held around the world that are devoted solely to discussion regarding Wallace and his work.

Though Wallace himself is no longer an active participant in the conversations, those discussions that he started continue to blossom and grow immeasurably—hypothetically spreading infinitely. Boswell describes the

---

[12] Wallace was well aware of the irony inherent in the formation of a fan culture surrounding *Infinite Jest*: "Exquisite irony, because a lot of the book is about hype and spin and position. So it's really an enormous cosmic joke" (qtd. in Burn 77). However, Wallace never viewed himself as a traditionalist "who regard[s] TV as some malignancy visited on an innocent populace, sapping IQs and compromising SAT scores while we all sit there on ever fatter bottoms with little mesmerized spirals revolving in our eyes" (*A Supposedly Fun Thing* 36). Wallace is not "saying there's something sinister or horrible or wrong with entertainment"; rather, he explores our relationship to it in *Infinite Jest* and is saying "it's a continuum" (*Although of Course* 81). *Infinite Jest*, thus, is Wallace working through "a sort of texture of *feeling*" with regards to entertainment (*Although of Course* 81), and the novel's ironic popularity is more akin, I think, to a large readership sharing Wallace's view that as a society we need to evaluate our positions on that continuum.

relationship between a text and a reader as a liaison "fraught with ambiguity and misunderstanding, since there are so many choices for interpretation, it is nevertheless the vital energizing force that keeps the story alive. Interpretation is open and never complete, yet that is also the very source of its vitality" (61). Take this thesis for example. My argument began with *Infinite Jest*, and then I started to look at different works published about Wallace and *Infinite Jest*. Building on those pre-existing conversations, or lack there of, I have added my own voice, and hopefully someone might take the ideas that I have proffered and build upon them. Just like how Gödel said a final systematization of every true meta-mathematical statement about number cannot be established, Wallace's *oeuvre*, or any writer's for that matter, is potentially unbounded. For any new interpretation or new suggestion for the meaning of *Infinite Jest*, a new interpretation can be created based upon the pre-existing ones—very much like the Chinese-buffet-restaurant-tubular-style-drop-in-plate-rack-equipped-with-a-self-leveling-dispenser back in the first chapter. If new theorems can be engendered from pre-existing axioms (primary source material) and theorems (theories developed from the source material, e.g., David Herring's interpretation of *Infinite Jest*), new theorems or new interpretations of the text can be continuously propagated from the pre-existing theorems. All the newly published material on Wallace and *Infinite Jest* is "undoubtedly changing what and how we read, and perhaps even why," argues Fitzpatrick; moreover, "Understanding those changes—and understanding that, as Korhonen indicates, the 'literary community' extends far beyond the 'spatially and temporally determined group of

authors, readers, [etc.] . . . with which we have continually associated the term—

presents a profound ethical imperative for the future of literary studies" (202-203).

The interpretation for *Infinite Jest* does not take place solely within the text;

instead, the really fun and interesting discussions about what the text means or

might mean take place at a much higher level "outside" of *Infinite Jest*. Outside of

the system. We can get wrapped up in a paradoxical loop like Hal Incandenza or

Don Gately, or we can find an exit from the text and go outside of the text to join

the community of readers and scholars and actually take Wallace's advice to

"dare somehow to back away from ironic watching" and actually engage in

something that will make us feel, if even only a little, less alone ("E Unibus

Pluram" 81).

CONCLUSION: A BORED CONFESSION ON PERSPECTIVES

[T]here are [. . .] philosophers who now criticize their guild's failure
to grasp the stubborn presence of the absurd in our lives. As
Robert Solomon insists, the absurd "poisons our everydayness and
gives our every experience a tinge of futility. . . . We find ourselves
desperately trying to move more quickly, to nowhere; or we try to
'entertain ourselves.'" In terms less dramatic, but equally emphatic,
Thomas Nagel compares absurdity with what he calls "the view
from nowhere." This view tears us from our everyday subjective
experiences and forces us to assume an external viewpoint—a
perspective that rattles the conceits and assumptions we hold
about our lives. This view forces upon us truths that are both
prosaic and paralyzing—that we need never have lived or that the
world will continue without the faintest shudders when we die. In
seeing ourselves from the outside, Nagel notes, "we find it difficult
to take our lives seriously." At such moments, we confront
absurdity—a "genuine problem which we cannot ignore."

—Robert Zaretsky

"There is but one truly serious philosophical problem, and that is suicide.
Judging whether life is or is not worth living amounts to answering the
fundamental question of philosophy" (Camus 3). In the opening lines to Albert
Camus's *The Myth of Sisyphus*, Camus is not speaking about suicide, per se.
Instead, Camus is really talking about the absurd—that which, in the words of

Robert Solomon, "poisons our everydayness" (qtd. in Zaretsky 12). The absurd is

the discordance between the search for some kind of inherent meaning in life

and the futility of such a search for meaning—relatable to the uncertainty with

regard to the postmodern condition. Consequently, Robert Zaretsky in *A Life*

Worth Living describes *The Myth of Sisyphus* as Camus's pursuit into "the

perennial prey of philosophy—the questions of who we are, where and whether

we can find meaning, and what we can truly know about ourselves and the

world—less with the intention of capturing them than continuing the chase" (12).

Staring into the toxic absurd, we have three choices according to Camus.

One of them is suicide—a declaration that life is not worth living. The individual

"is left powerless to realize the transcendent, incapable of plumbing the depth of

experience and conscious of that universe upset by failure. . . . He contributes

nothing new. He has found nothing in experience but the confession of his own

impotence . . ." in a suicidal state (Camus 32), but "the truth is," Wallace tells the

2008 class of Kenyon College graduates, "that most of these suicides are

actually dead long before they pull the trigger" (59). Similar to a Heideggerean

descent into *Angst*, we find ourselves anxiously existing in a mood of radical

insecurity that we are moving toward nothing when confronted by the absurd. We

are left with Thomas Nagel's "view from nowhere" (qtd. in Zaretsky 12), and, as a

result, we have a tendency to try and ignore or forget that human truth is always

penetrated by untruth. In the late twentieth century and the twenty-first century,

the preferred escape for many seems to be "entertaining ourselves"—a sort of

"traumatic expulsion-from-Eden feeling" in which we detach ourselves from

human consciousness through a pre-occupation with the world in the present through TV, movies, recreational drugs, or whatever you classify as your own personal "escape" or "break" from reality (*Infinite Jest* 146). Engaged with unlimited distractions, we lie away from ourselves in a disowned existence torn "from our everyday subjective experiences" (Zaretsky 12). Alternatively, we could recognize that there is more to a rational life and take a Kierkegaardian, transcendental leap of faith into an aesthetic or ethical mode of existence. However, Camus quickly dismisses such a divine bound because it defies rationality. A leap into the aesthetic or ethical is merely another escape from personal experience and into abstraction. The only viable option Camus can think of is an embracement of the absurd. To embrace the absurd is to revolt against it, and "That revolt gives life its value" (55), for "this view forces upon us truths that are both prosaic and paralyzing" (Zaretsky 13). Revolt is the subtle beauty of Sisyphus's recursive process of rolling a rock to the top of a mountain, only to have to return to the mountain's foot when the rock rolls back down to the bottom under its own weight to roll the rock back to the top. Sisyphus's absurd revolt is to continue to endure his ceaseless punishment. He is well aware of "the whole extent of his wretched condition . . .," and that vivid awareness "crowns his victory" (121), because for Camus, "The struggle itself toward the heights is enough to fill a man's heart" (123). Camus's external perspective of Sisyphus's involute resoluteness does not result in an image of a man moving nowhere; instead, the outward viewpoint creates a picture of man's confrontation between the meaning of his own individual life and that of the absurd reality of things.

Camus is neither nihilistic nor is he promoting some kind of paradoxical

Sartrean freedom, however. In *A Life Worth Living*, Zaretsky discusses Camus's

reviews of Jean-Paul Sartre's *The Wall* and *Nausea*, and he notes "Camus

concluded that they [*The Wall* and *Nausea*] offered little more than a kind of

existential solipsism" (16). "Camus marveled at Sartre's depiction of the world's

oppressive density," Zaretsky clarifies, "but [Camus] insisted it was wrong to

conclude 'life is tragic because it is miserable.' Instead, our tragic sense of life

lies in the world's 'overwhelming and beautiful' nature—without beauty, without

love, and without risk 'life would be almost too easy" (17). Collectively, we would

probably all agree that the general outlook on our contemporary society is pretty

bleak. Everything seems dark and stupid, which is reflected in the most popular

stories on my local news's website. This morning WSMVL cites the following as

the most viewed and commented on stories: "Congressman Cooper Calls for

Nathan Bedford Forrest Bust to be Moved [from the Tennessee State Capitol

Building]," "Police: Ongoing Feud Between Neighbors Led Up to Stabbing,"

"Niagara Bottled Water Voluntarily Recalled Due to E. coli," "Endangered Child

Alert Issued for 16-Year-Old La Vergne Girl," "Walmart, Other Retailers to

Discontinue Confederate Flag Merchandise," "Judge Expected to Make Ruling

Today on Mistrial in Vanderbilt Rape Case."[1] Amid the racism, violence, disease,

---

[1] In the spirit of fairness and full disclosure, I will admit that I took the worst headlines and excluded the feel good ones, which means I excluded two articles (one about a viral video depicting a police officer doing the "Wobble"[a] and one praising Taylor Swift for changing Apple's streaming music policy) from the eight listed.

[a] To give a little context, this thesis is being written during the Summer of 2015, and it has been a Summer marked by an increasingly widening gap of trust

endangerment, and rape weighing down on my community this morning, it is way too easy to slip into a state of mind in which we view the world as completely absurd and pointless and violent and scary, but what is becoming increasingly harder and harder to do is question what it means to be a real human being during these dark times.

Involvement is necessary, and action within our own time and place is needed. Human freedom, in a Camusian sense, involves attention, awareness, discipline, and effort. The individual creates his or her own meaning and purpose; "The only thing that's capital-T True is that you get to *decide* how you're going to try to see it" (*This is Water* 94). The real freedom is in the search for meaning and consciously deciding on your own what has meaning and what does not. Camus avows "To observe that life is absurd cannot be an end, but only a beginning. . . . What interests me is not this discovery of [life's absurd character], but the consequences and rules of action we must draw from it" (qtd. in Zaretsky 17). There is a sense of hope and optimism in Camus's words. The absurd does not need to result in some eschatological-the-end-is-nigh panic; rather, the recognition of the absurd is a starting point—a genesis, a commencement. Fittingly, David Foster Wallace delivered a commencement address to the 2008 graduating class from Kenyon College with the deployment of some edifying remarks about new beginnings and "the day-to-day trenches of adult existence" replete with allusions to the absurd and external perspectives (9).

---

between authorities, allegedly in some cases and blatantly in others, abusing their powers and the general public. None of which I am going to touch with a ten-foot pole in this thesis. No point, really.

There is "something about dullness, information, and irrelevant complexity. About negotiating boredom as one would a terrain, its levels and forests and endless wastes" (*The Pale King* 85), and a fair portion of Wallace's 2008 commencement speech warns the fresh faced and wild-eyed graduates about the petty, miasmic turpitudes associated with the daily struggle we call life (e.g., grocery shopping, standing in lines, and sitting in traffic jams) and the dangers "of getting hypnotized by the constant monologue inside your head" during these mundane activities (*This is Water* 50). Wallace uses boredom in his commencement address; whereas, Camus uses suicide in *The Myth of Sisyphus*. Though their means or crafts differ, boredom and suicide seem to function in a similar fashion for Wallace and Camus.

Ralph Clare observes in his essay "The Politics of Boredom and the Boredom of Politics in *The Pale King*" that "the more personal existential angst of *Infinite Jest* is subtly critiqued and recontextualized, and broadened in *The Pale King*" by blending it with the notion of boredom (195). Similarly, in *This is Water*, Wallace also ravels notions of an existential death (suicide) with the concept of boredom, and such an entanglement, according to Clare, allows him (Wallace) "to open 'outward' onto the world, as it were, instead of shrinking 'inward' to the individual" (195); so Wallace proposes in *This is Water* that "the real, no-shit value" of a humanities education is "How to keep from going through your comfortable, prosperous, respectable adult life dead, unconscious, a slave to your head and to your natural default setting being uniquely, completely, imperially alone, day in and day out" (60). Like Camus, Wallace recognizes the

absurd nature of the world, and each points us toward an outward perspective that allows us to investigate the default assumptions and narcissisms we revert to when faced with our absurd condition.

"'Learning how to think,'" Wallace stresses, "really means learning how to exercise some control over *how* and *what* you think" (53). In the boredom, routine, and petty frustrations of fighting amongst the throngs of people in an overcrowded grocery store "infused with soul-killing Muzak or corporate pop" or the knuckle-whitening irritation from the end-of-the-day traffic jam, we can easily bemoan about "how spoiled and stupid and selfish and disgusting we all are, and how it all just *sucks*, and so on and so forth . . ." (80, ellipsis original), but that "easy and automatic" approach "doesn't *have* to be a choice" (81). We do not have to agonize about being poisoned by some sort of existential solipsistic state in the face of the absurd.

Wallace describes his contemporary world as "dark times and stupid ones" in an interview with Larry McCaffery, and he goes on to tell McCaffery that "Really good fiction could have as dark a worldview as it wished, but it'd find a way both to depict this dark world *and* to illuminate the possibilities for being alive and human in it" (qtd. in Burn 26). Wallace's point is that it is all-well-and-good to create an image of the seemingly lonely struggle in an anomic world, but Wallace is not "talking about conventionally political or social-action-type solutions. That's not what fiction's about. Fiction's about what it is to be a fucking *human being*" (qtd. in Burn 26). Fiction can provide opinions and, believe it or not, direction, and those insights and guides to morality do not have to be accidental. Reading

fiction sustains a sense of connectedness, and good fiction—really mind blowingly good fiction—is a simulacrum of our experiences ("our" referring to *both* the reader and the writer); moreover, first-rate works of fiction simultaneously engage life in all of its rich diversity thus illuminating the possibilities of being human against an enveloping sense of darkness inevitably created by a glittering world. Fiction, borrowing a line from Oedipa Maas in Thomas Pynchon's *The Crying of Lot 49*, in a sense "projects a world" (82).

Wallace's fiction is marked with a pulsing desire to create a "meaningful connection" between literature and the physical world in all of its day-in-day-out-boredom-routine-and-petty-frustration glory, none of which is in and of itself a big revelation with regard to Wallace scholarship (*A Supposedly Fun Thing* 33). In fact, it has almost become a cliché in Wallace criticism to state that he (Wallace) sought to "aggravate this sense of entrapment and loneliness and death in people, to move people to countenance it" (qtd. in Burn 32), and that it was his goal to write "morally passionate, passionately moral fiction" that was also "ingenious and radiantly human" (*Consider the Lobster* 274); however, "It starts to turn out that the vapider the . . . cliché, the sharper the canines of the real truth it covers" (*Infinite Jest* 446). There are occasions when the cliché is a truism, and Wallace's writing does display a desire to emphasize sincerity over the fatuous cynicism of 1980s postmodernism.

Infinite Jest, to a certain extent, probes Robert Solomon's insistence that the absurd *"poisons our everydayness and gives our every experience a tinge of futility. . . . We find ourselves desperately trying to move more quickly, to*

nowhere; or we try to 'entertain ourselves'" (qtd. in Zaretsky 12). Dave Eggers, in

an attempt to persuade someone to read *Infinite Jest*, says in *Infinite Jest's*

Foreword that the novel is "a very quiet but very sturdy and constant tragic

undercurrent that concerns a people who are completely lost, who are lost within

their families and lost within their nation, and lost within their time, and who only

want some sort of direction or purpose or sense of community or love" (xv). The

novel, written by a man whom Eggers describes as "normal, and regular, and

ordinary, and this is his extraordinary, and irregular, and not-normal

achievement, a thing that will outlast him and you and me, but will help future

people understand us – how we felt, how we lived, what we gave to each other

and why" (xvi), urges its readers to exit its fictional system or take on an alternate

viewpoint—"a perspective that rattles the conceits and assumptions we hold

about our lives" (qtd. in Zaretsky 12). This outward perspective impels us to

recognize that many of the conceptually derived straitjacket truths are both banal

and crippling. When we investigate ourselves from an outward perspective,

Nagel notes, "we find it difficult to take our lives seriously" (qtd. in Zaretsky 12),

and Wallace seems to look for the solution to this problem in the community of

others.

One of the key concepts in Wallace's addiction continuum from *Infinite*

Jest and his notion of boredom in *The Pale King* is his belief that everyone is

terrifically alone. "Not me!" you might say, "I've got tons of friends and a family

that loves me unflinchingly." But, Wallace's version of loneliness is of a particular

breed. Regardless of how many people you know or whom you call your friends,

there is a level of intimacy that can never be attained. Wallace tries to explain his angle on loneliness in a 1993 interview with Hugh Kennedy and Geoffrey Polk, and he tells Kennedy and Polk that, for him, good writing is that which "addresses the concern of and acts as an anodyne against loneliness" (qtd. in Burn 16). "We're all terribly, terribly lonely," Wallace believes, and our loneliness stems from an inability to truly know one another. Wallace states, for example:

> there's a way, at least in prose fiction, that can allow you to be intimate with the world and with a mind and with characters that you just can't be in the real world. I don't know what you're [Kennedy and Polk] thinking. I don't know that much about you as I don't know that much about my parents or my lover or my sister, but a piece of fiction that's really true allows you to be intimate with . . . a world that resembles our own in enough emotional particulars so that the way different things must feel is carried out with us into the real world. I think what I would like my stuff to do is make people less lonely. Or really to affect people. (16)

Inherently, a boundary arises in the above quote. Fiction allows for a sense of intimacy with a "world that resembles our own," according to Wallace, but how does a reader take that feeling of intimacy from fiction and transfer it into the real world? Wallace would claim that it occurs through a bond between the author and the reader.

Mary Holland states in her keynote address that "the author is precisely the thing whose presence must be invoked in order also to imply the reader, the

reader's sense of the real, and the empathetic relationship between reader and writer that allows the still proliferative poststructural narrative to be in the service of things that matter" (13). Her example uses Wallace's short story "Octet," and "How you feel about 'Octet' will make or break you as a reader of Wallace," writes Zadie Smith in "*Brief Interviews with Hideous Men*: The Difficult Gifts of David Foster Wallace, "because what he's really asking is for you to have faith in something he cannot possibly ever finally determine in language: 'the agenda of the consciousness behind the text'" (287). In an attempt to convey that which escapes language in "Octet," Wallace takes advantage of an implied author's ability to be a literary wellspring of the text's whole *raison d'être*, "the origin of its meaning, the embodiment of 'the moral and emotional content of each bit of action and suffering of all the characters" (Nünning 240); however, Wallace, as the implied author, does not just imply "Octet"'s purpose in Pop Quiz 9. True to Wallace's modus operandi to author works designed to make people feel less alone and affect his readers, when Wallace inserts himself into "Octet" as the implied author he adopts a second-person identification that works to create a state of empathy between the author and his (Wallace's) reader.

According to Wayne C. Booth, the implied author technique[2] can be a vehicle for the author to get his/her reader to the heart of the text, or, in other words, the implied author "satisfies 'the reader's need to know where, in the

---

[2] Ansgar Nünning makes it abundantly clear in his entry on the implied author from the *Routledge Encyclopedia of Narrative Theory* that the implied author is neither a "device" nor a "technique;" however, he does not provide an easily deployable alternative word choice after taking away "device" and "technique," so I will continue to use either "device" or "technique" *coram populo*.

world of values, he stands—that is, to know where the author *wants* him to stand'" (qtd. in Nünning 239). Wallace's opening gambit in Pop Quiz 9 places his reader in his authorial shoes: "*You* are, unfortunately, a fiction writer" (123, italics added for emphasis). The unfortunate reader becomes the fiction writer of "Octet," and for the next fourteen pages, the reader's identity merges with the identity of David Foster Wallace as the reader experiences the self-consciousness, frustration, and anxiety that Wallace experienced when he wrote "Octet." Once the synthesis of the implied author and the reader is complete, the amalgamated Wallace/reader delivers the purpose of "Octet":

> in which you try your naked best to describe the conundrum and potential fiasco of the semi-octet and your own feeling that the surviving semiworkable pieces all seem to be trying to demonstrate some sort of weird ambient *sameness* in different kinds of human relationships, some nameless but inescapable '*price*' that all human beings are faced with having to pay at some point if they ever want truly 'to be with' another person instead of just using that person somehow…. (131-32, single quotation marks original)

As the implied author, the reader knows exactly where s/he stands with regards to the text. "Octet"'s whole *raison* is to form an empathetic relationship between the author of the text and the reader of the text, and Wallace highlights the text's goal by placing his reader directly in his position as the writer. Mary Holland notes that the metafictive narrative strategy Wallace brings into play in "Octet"—a self-conscious implied author represented with the second-person "you"—sculpts

"a powerful human *presence* whose insistent engagement with the reader makes her feel, in her own life, less alone" (13).[3] As a human presence, Wallace reveals his concerns about the clichéd nature of the late 1990's pinchbeck capitalization of metafictional self-reference and the negative affect(s) that that profiteering might have on "Octet," his horror of treating reality linguistically instead of ontologically, the resulting fiasco that is "Octet," etc., and in so doing, he creates a moment where he presents himself as being 100% honest and nakedly sincere.

Though Wallace's presence is not as blatantly obvious in *Infinite Jest*, Wallace does subtly to make his presence known to his reader in other ways other than deliberately addressing his reader. The endnotes, for example, "disrupt the narrative; simultaneously, they call attention to the fact that the book we are reading is a construct, that the world of the book is a mediated world," states Boswell (120). When a reader of *Infinite Jest* comes across one of its (in)famous endnotes, presumably, she pauses in reading the main narrative, marks her place, flips ahead to endnote whatever, reads that note, and then returns to reading the main narrative. The process is a metafictional device used by Wallace to "prohibit the reader from forgetting that she's receiving heavily mediated data, that this process is a relationship between the writer's

---

[3] Holland's discussion of "Octet" makes the argument that Wallace, through the postmodern tradition of John Barth, attempts to revise realism by "creating the feeling of reality not by allowing the reader to absorb herself into another world through the illusion of verisimilitude, but by creating a world so obviously false, constructed, and *written*, that the voice responsible for writing that world, the man behind the curtain, seems to be sitting next to us here, in our world" (13). It is not the intention of this essay to support or declaim her argument regarding realism.

consciousness and her own . . ." (qtd. in 121). The implication being that the reader—in the process of breaking out of the narrative—garners a cognizance of the real and the empathetic relationship between herself and the writer; moreover, the process of reading the notes is somewhat recursive.

We have our reader slogging through her copy of *Infinite Jest*, and she is inevitably going to come across many endnotes reading Wallace's novel. She is reading along on page eighty-nine, and reaches the thirty-ninth note. So, she pauses her reading, drops her bookmark between pages eighty-two and eighty-three, and flips ahead to page 994. Now she starts reading the endnote; that is until she reaches a footnote to endnote thirty-nine, which causes her to pause her reading of the endnote, so she can drop down to footnote "a." The process of footnotes relates to some of the basic terminology of recursion: push, pop, and stack. When you push, you pause whatever task on which you are currently working—remembering exactly what you were doing so you can resume later (which is stacking)—so you can take up another task. Popping is the reverse of pushing, so, for example, when you are doing reading the endnote, you pop back up to the narrative and resume reading where you left off.

Infinite Jest is chockfull of recursion and strange loops, and the main goal of this thesis was to show how Wallace's structuring of *Infinite Jest* based on the recursive mathematical formula created by Gödel bottoms out the novel, which, in turn, forces the reader to assume an external perspective outside of Wallace's fictional system. What the reader does outside of the system—feels a connection to the author or feels a connection with other readers or thinks the book is waste

of time—is up to the reader, entirely. The fact of the matter is that Wallace strove to write fiction that affects its reader in some shape or fashion, but his methods are not entirely prosaic. His metafictional techniques to extend himself beyond the text toward the reader also lie in how he structures his work. At both a sentential and structural level, Wallace works towards creating fictional representation of this world and focuses on "what it is to be a fucking *human being*" (qtd. in Burn 26). His analysis of the lonely individual trying to make sense of an absurd world turns to his background in philosophy and literature; and in so doing, breathes new life into the works of thinkers, writers, and philosophers that have been forgotten in the wake of Bieber fever, the "Mother Monster" madness of Lady Gaga, *American Idol* zealotry, or the general insipid baseness in the wake of contemporary entertainment's clench upon us. David Foster Wallace is a diamond in the rough trying to "dramatize the fact that we still *are* human beings, now" (qtd. in Burn 26). He falls within an idea William Barrett pursues in *Irrational Man*: "if man is to be given meaning it must be the here and now not in the worship of the idol of progress" (275). Whereas Barrett saw "the idol of progress" in technology in general, DFW saw it in our abandonment to visual stimuli at the cost of our complex interconnections with each other.

WORKS CITED

Barth, John. *The Friday Book: Essays and Other Non-Fiction*. London: John

    Hopkins UP, 1984. Print.

Boswell, Marshall. *Understanding David Foster Wallace*. 2003. Columbia: U of

    South Carolina P, 2009. Print.

Burn, Stephen J., ed. *Conversations with David Foster Wallace*. Jackson: UP of

    Mississippi, 2012. Print.

---. *David Foster Wallace's* Infinite Jest*: A Reader's Guide*. New York:

    Continuum, 2011. Print.

Camus, Albert. *The Myth of Sisyphus and Other Essays*. 1955. Trans. Justin

    O'Brien. New York: Vintage, 1991. Print.

Carlisle, Greg. *Elegant Complexity: A Study of David Foster Wallace's* Infinite

    Jest. Los Angeles: Sideshow, 2007. Print.

---. *Nature's Nightmare: Analyzing David Foster Wallace's* Oblivion. Los Angeles:

    Sideshow, 2013. Print.

Clare, Ralph. "The Politics of Boredom and the Boredom of Politics in *The Pale

    King*." *David Foster Wallace and "The Long Thing": New Essays on the

    Novels*. Ed. Marshall Boswell. New York: Bloomsbury, 2014. 187-207.

    Print.

Eggers, Dave. Foreword. *Infinite Jest*. By Wallace. New York: Back Bay, 2006.

    xi-xvi. Print.

Fitzpatrick, Kathleen. "Infinite Summer: Reading, Empathy, and the Social

   Network." *[The Legacy of] David Foster Wallace*. Eds. Samuel Cohen and

   Lee Konstantinou. Iowa City: U of Iowa P, 2012. 182-207. Print.

Franzen, Jonathan. "David Foster Wallace." *Farther Away*. New York: Farrar,

   2012. 161-68. Print.

Franzén, Torkel. *Gödel's Theorem: An Incomplete Guide to Its Use and Abuse*.

   Wellesley: Peters, 2005. Print.

Gödel, Kurt. *Collected Works of Kurt Gödel*. Eds. Solomon Feferman et al. Vol. 1.

   New York: Oxford UP, 1986. Print.

Gossett, Eric. *Discrete Mathematics with Proof*. 2nd ed. Hoboken: Wilkey, 2009.

   Print.

Herring, David. "*Infinite Jest*: Triangles, Cycles, Choices & Chases." *Consider

   David Foster Wallace*. Ed. David Herring. Los Angeles: Sideshow, 2010.

   89-100. Print.

Hofstadter, Douglas R. *I am a Strange Loop*. New York: Basic, 2007. Print.

---. *Gödel, Escher, Bach: An Eternal Golden Braid*. 20th anniversary ed. New

   York: Basic, 1999. Print.

Holland, Mary. "'Divid[ing] by zero': David Foster Wallace and the Future of

   (Meta)Fiction." The First Annual David Foster Wallace Conference.

   Marriott Hotel and Conference Center, Normal, IL. 28 May 2014. Keynote

   Address. PDF file.

Iser, Wolfgang. *The Implied Reader: Patterns of Communication in Prose Fiction

   from Bunyan to Beckett*. Baltimore: John Hopkins UP, 1974. Print.

Kakutani, Michiko. "Books of the Times: Gold Cards, Parties and Late Rent." *The New York Times*. The New York Times Co., 20 Aug. 1988. Web. 1 May 2015.

Konstantinou, Lee. "No Bull: David Foster Wallace and Postironic Belief." *The Legacy of David Foster Wallace*. Eds. Samuel Cohen and Lee Konstantinou. Iowa City: U of Iowa P, 2012. 83-112. Print.

Lipsky, David. *Although of Course You End Up Becoming Yourself: A Road Trip with David Foster Wallace*. New York: Broadway, 2010. Print.

Max, D. T. *Every Love Story is a Ghost Story: A Life of David Foster Wallace*. New York: Viking, 2012. Print.

McCaffery, Larry. "An Expanded Interview with David Foster Wallace." *Conversations with David Foster Wallace*. Ed. Stephen J. Burn. Jackson: UP of Mississippi, 2012. 21-52. Print.

"Most Popular Stories." *WSMV Channel 4*. Merideth Corporation and WorldNow, 23 June 2015. Web. 23 June 2015.

Mullins, Ryan David. "Theories of Everything and More: Infinity is Not the End." *Gesturing Toward Reality: David Foster Wallace and Philosophy*. Eds. Robert K. Bolger and Scott Korb. New York: Bloomsbury, 2014. 221-43. Print.

Nagel, Ernest and James R. Newman. *Gödel's Proof*. 1958. New York: New York UP, 1960. Print.

Natalini, Roberto. "The Mathematics of Infinity." *A Companion to David Foster Wallace Studies*. Eds. Marshall Boswell and Stephen J. Burn. New York: Palgrave, 2013. Print.

Nünning, Ansgar. "Implied Author." *Routledge Encyclopedia of Narrative Theory*. Eds. David Herman, Manfred Jahn, and Marie-Laure Ryan. 2008. Print.

Pynchon, Thomas. *The Crying of Lot 49*. 1966. New York: Perrenial, 1990. Print.

Quinn, Paul. "'Location's Location': Placing David Foster Wallace." *A Companion to David Foster Wallace Studies*. Eds. Marshall Boswell and Stephen J. Burn. New York: Palgrave, 2013. Print.

Quine, W. V. "The Ways of Paradox." *The Ways of Paradox and Other Essays*. Cambridge: Harvard UP, 1976. 1-18. Print.

Smith, Zadie. "*Brief Interviews with Hideous Men*: The Difficult Gifts of David Foster Wallace." *Changing My Mind: Occasional Essays*. New York: Penguin, 2009. 237-97. Print.

Wallace, David Foster. Afterword. *Wittgenstein's Mistress*. By David Markson. Champaign: Dalkey, 2012. 243-75. Print.

---. *A Supposedly Fun Thing I'll Never Do Again: Essays and Arguments*. New York: Little, 1997. Print.

---. *Brief Interviews with Hideous Men*. New York: Little, 1999. Print.

---. *Consider the Lobster*. 2005. New York: Back Bay, 2007. Print.

---. *Everything and More: A Compact History of* ∞. New York: Norton, 2003. Print.

---. *Girl with Curious Hair*. 1989. New York: Norton, 1996. Print.

---. *Infinite Jest*. 1996. New York: Back Bay, 2006. Print.

---. *The Pale King*. 2011. New York: Back Bay, 2012. Print.

---. *This Is Water: Some Thoughts, Delivered on a Significant Occasion, about Living a Compassionate Life*. New York: Little, 2009. Print.

Willis, Clyde E. "The Rules Thirteen An Essay for Students." Middle Tennessee State U, 6 June 2011. Web. 18 October 2014.

Zaretsky, Robert. *A Life Worth Living: Albert Camus and the Quest for Meaning*. Cambridge: Belknap, 2013. Print.