Gaming, Glitching, and the Playerly Text:
Strategies for the Twentieth-Century Novel

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Abstract

Modes of play developed by videogamers reveal alternate methods of textual navigation and critical engagement within complex narratives. These discourses meet in the playerly text, at once a mode of textual encounter, the textual space itself, and an ethics of critical agency, presently (if imperfectly) realized in the gaming webcasts known as Let's Plays, and embedded within communities devoted to mutual encouragement and community care. This movement toward the playerly text is anticipated by major literary works in their own complex reading protocols, elaborated in collaborative performances within various media, and manifested in alternative digital modes of resistance against increasing corporate and state attempts to control story itself. The first chapter examines the playerly as a textual mode, developing new strategies for works such as Vladimir Nabokov's *Pale Fire*, Mark Danielewski's *House of Leaves*, *Super Mario Bros.,* and *Portal*. The second chapter routes movement through the collective textual space of the playerly through collaborative navigations of James Joyce's *Finnegans Wake*, Colson Whitehead's *Zone One*, *Metroid,* and *Mavis Beacon Teaches Typing*. The third chapter explores the battle for control over narrative authority and emergent social agency in texts ranging from Ursula Le Guin's *Tehanu,* Thomas Pynchon's *Bleeding Edge*, *The Legend of Zelda: Ocarina of Time*, and *Pokémon*. A final coda considers, via *Final Fantasy VI* and the novels of David Mitchell, how we might prepare and preserve space for marginal and often excluded perspectives in a broken world.

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Table of Contents

Chapter 1: Strats

Every reader, whether consciously or not, is also a strategist. That is, in approaching and engaging with a text, every reader applies some sort of strategy, sometimes consistently, sometimes haphazardly. Many such strategies are named within literary criticism: close reading, psychoanalysis, deconstruction, queering, repair, critique—methodologies put to myriad uses, alone and in combination. These are the basic "moves" for the scholarly community, a highly flexible toolset allowing for supple readings of a variety of texts. But such academic approaches can function also as limits, delineations of what does and doesn't qualify as interpretation. And even as other strategies—distant reading, surface reading, reception theory—attempt to make room for more idiosyncratic intersections between text and reader, still there is a vast range of practice falling outside their purviews: in particular, readings in which a reader *fails* to engage with the text in any critically productive way—whether that be via misreading, misinterpretation, revulsion, or outright rejection. To get at this fuller range of interpretive practice, the following project draws on strategies derived from videogame play—a medium particularly predicated on failure.[1] I argue that these strategies of misapprehension may be applied within other media formats as well, in order to shed light on these alternate modes of critical engagement and textual navigation, as well as provide new contexts for the aforementioned strategies already familiar to many academic readers—leading ultimately

[1] This is the argument of games scholar Jesper Juul's *The Art of Failure*.

to a model of critical play not merely collaborative, but cohortative, consisting in mutual encouragement to better individual readings, while preserving and expanding the communal range of responses to a given text.

While players have been honing skills on their preferred videogames for decades, the development and dissemination of their discoveries has increased exponentially in the 21st century, as expanding bandwidth has made possible the development and growth of online communities devoted to various games, gathered loosely under the blanket term "Let's Play," or LP.[2] A Let's Play captures the experience of playing through a game, either as a series of screenshots with accompanying text, video capture with a commentary track, or a mix of both.[3] Depending on the style and level of detail, LPs can span months, even years of engagement with a single text—and they can just as easily burn out and be abandoned a session or two in. While originally developed as a means of nostalgically revisiting games experienced in childhood, such as *Oregon Trail*, the form has become a highly varied genre, including everything from collaborative playthroughs to straightforward how-tos and parodies to technical breakdowns. Over time, the format has folded in various other communities of play, including speedrunning, which skips as much as possible of a game in order to finish it quickly; machinima, which uses games as

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[2] For a glossary of Let's Play and speedrunning terms as agreed upon by their communities of play, see the "Speedrunning Glossary" at SpeedRunsLive.com.
[3] A full history of the Let's Play has yet to be written, but the term is generally accepted to have emerged in 2004 on the gaming section of the Something Awful web forums (forums.somethingawful.com), though precedents exist as far back as the early 1980s, when the falling costs of home-video equipment made it possible for players to document their attempts at record arcade scores.

impromptu movie sets; and glitching, which seeks out vulnerabilities within a game's code and exploits them to produce a variety of effects, many with no bearing on "finishing" the game or achieving any of the explicit objectives laid out within it.

An actual application of any of these modes (or many others) within a playthrough is known to LPers as a strategy, or "strats" (the plural form being used even for a singular instance). This encompasses the general aim of the playthrough—such as achieving a personal-best time on a particular game, or defeating a boss without using magic, or even just figuring out the basic rules within a game new to the player—while also making allowance for contingency (often referred to as "backup strats," for when things don't go as expected). I argue that this notion of textual navigation as procedure, as ongoing, fluctuating, continually negotiated process, helps also when considering the interactions between readers and printed texts and, in particular, in seeking to expand our understanding of the range of affordances (the means available for interacting with a given object[4]) offered by those texts.

In this project I will focus on a series of 20th and 21st-century Anglophone novels,[5] often pairing them with videogames to explore procedural parallels between them, with the aim of opening up new spaces and strategies that make use of the

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[4] The term "affordances" was introduced by psychologist James J. Gibson, and explored most fully in his *Ecological Approach to Visual Perception*. It has since been borrowed by theorists of design, especially within gaming, to explore means for interacting with both objects and texts. Cf., respectively, Norman and Pinchbeck.

[5] While this mode of analysis should prove helpful within a variety of genres, I consider the rationale for concentrating on the novel in particular within a discussion of the genre's history in chapter 2.

affordances within both. For the first chapter in particular, I will concentrate on two novels in which the authors seem intent on restricting the interpretive space available to the reader. In Vladimir Nabokov's *Pale Fire*, I find a parallel to a particular glitch in the Nintendo game *Super Mario Bros*., whereby the main character makes a wrong move (as it were) and finds himself trapped in a world he is unable to escape short of suicide. Paradoxically, it's precisely the extreme limitations discovered within this shared moment that open up a notion of a text expanded beyond almost any conceivable boundary. This "playerly text" comprises every possible interaction available to the reader: every interpretation (no matter how outlandish), every affective response, every marginal comment, every touch of finger to page or screen, and so on.

The second book, Mark Z. Danielewski's *House of Leaves*, anticipates the playerly text in the substantial scholarly apparatus that accompanies its narrative, giving the notion of the text as already critically exhausted. How does one formulate strategies for a text where all interpretive possibilities seem preemptively closed off? I draw on a game with its own seemingly closed system, the PC action-puzzler *Portal*; specifically, to speedruns of that title, in which players make use of in-depth knowledge of the text (what I dub "textual velocity") to get "out-of-bounds," outside the apparently strict boundaries set by the system. From this point, the player can not only cut her own paths through the map, but also "soft-lock" the game, preventing the oppressive narrative mechanisms from completing their functions and reproducing the conditions for their own continuance.

In my second chapter, I turn from "strats" and the possibility of opening up the playerly text, to various practices for moving through and acting within that space; in speedrunning parlance, "routing." In this process, an individual player—or, more often, a community of players—seeks to establish best practices for attaining a particular goal within a game. Taking as my example the "Nightgames" section of James Joyce's *Finnegans Wake*, I show how the communal scholarly efforts of the genetic critics plot a route through Joyce's bewildering manuscript pages. Their efforts are paralleled by explorations by players of *Metroid* of enigmatic "secret worlds" within the game, reminiscent of the jumble of puns and portmanteaus comprising the *Wake* text; my own route between the texts makes use of an expansion of discourse analysis via transgender studies. Of course, there is a flip side: if communal navigation can open up a text, it can also close it down; I finish the chapter by looking at the figure of the zombie horde, both generally as it appears and propagates itself as a "shambling signified" throughout the history of the novel as genre, and specifically within the apocalyptically post-racial topographies of Colson Whitehead's *Zone One*. Following a media-archeological thread of education into language from the *Wake*, I investigate the history of typing-machine instruction, from the earliest conflations of human and machine, to later educational games such as the zombie shooter *The Typing of the Dead*, finding within these manipulations of text an ongoing ethical battle between communities of composition and of decomposition.

Chapter 3 takes up the factor that "backup" or "safety strats" attempt to cope with: RNG, or random-number generation. In a speedrun, good or bad (i.e., helpful or unhelpful) RNG often makes the difference between a world record and an abortive attempt; thus "luck manipulation" is one of the crucial operations in almost any videogame playthrough. I explore how these randomized operations mirror contemporary societal discussions of privilege, disability, and lived difficulty, in connection with the Nintendo 64 game *The Legend of Zelda: Ocarina of Time* as well as in Ursula Le Guin's attempt to reshape her world of Earthsea in *Tehanu* by calling attention to those lives well outside the normative logic of the archetypal hero's journey. I then turn the stories that emerge in defiance of alternate, and more sinister, approaches to controlling randomness: first, the search histories gathered in the 2004 America Online database leak, and second in the fictional conspiracies riddling Thomas Pynchon's *Bleeding Edge*, and beyond that the real-life ones of the National Security Agency. The technology used by the NSA aims to let them, in the words of a former director, "collect it all"—both in terms of data and narrative possibility, as they seek to manipulate the randomness of life in order to control all narrative. However, if they had played more *Pokémon*, the NSA operators would know that the impulse toward total collection leads ultimately to data destruction, as a glitch in the game demonstrates the ever-present possibility of radical corruption and total informational failure; whereas Pynchon's novel instead urges an alternate path of curation and care.

What all does this curious mashup of media operations—or for that matter, the humanities more generally—have to offer a species that has perched itself on the edge of catastrophe? In a final coda, I consider the context of the Anthropocene, in light of similarly glitched operations in David Mitchell's recent novels and the role-playing game *Final Fantasy VI*. The former offer hope, albeit in scraps, of what the processes of reading might contribute to a culture desperately in need of maintenance and repair; the latter shows how even in the midst of global devastation, the operations of textual care afford opportunities to aid, to whatever degree possible, the wounded and powerless of a broken world.

I. The Playerly Text

This is the problem facing modern writing: how breach the wall of utterance, the wall of origin, the wall of ownership? — Roland Barthes, S/Z (45)

Vladimir Nabokov opines in one of his *Lectures on Literature* that "one cannot read a book; one can only reread it" (3). His own works of fiction foreground, even fetishize, the process of rereading, with readers or "follow artists" expected to "notice and fondle details," continually revising their interpretations of the narrative in light of the new information doled out by the author. Some readers, understandably, find this hermeneutic troublesome; typical is Zadie Smith, who in a generally admiring essay writes that reading Nabokov "means subsuming your existence in his, until you become, in essence,

Nabokov's double … [in] what amounts to a reader's mimeograph of the Author's creative act" (52–3).

For this reason, Nabokov is regularly placed at one pole of a hermeneutic spectrum, often with Roland Barthes on the other[6]—where the latter posits the death of the author, the former carries out, if not the *death* of the reader, then at least her subjugation, or perhaps conscription. Though this picture is exaggerated,[7] a reader of Nabokov certainly gets the grunt work in the collaborative labor of storytelling:

> When we read a book for the first time the very process of laboriously moving our eyes from left to right, line after line, page after page, this complicated physical work upon the book, the very process of learning in terms of space and time what the book is about, this stands between us and artistic appreciation. (*Lectures* 3)

This is reading as plowing, an arduous preliminary that must be completed if the field is to bear fruit. And yet, this same Nabokov is often regarded as one of the fathers of interactive fiction[8] thanks to his novel *Pale Fire*, which disrupts this row-by-row physical process, leaving the reader to decide which path to forge through the lines of print through a series of parenthetical cross-references providing the option to hop between pages. Here the author seems to cede his prerogative of controlling what information is encountered when. This is to make of the reader not a co-author, but a subsequent editor:

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[6] See, for instance, Rampton vii.
[7] On both sides: see below, as well as Jane Gallop's 2011 study *The Deaths of the Author*, which links Barthes's pronouncement to the author's own physical mortality and the reader's desire for the author now dead.
[8] By, e.g., Aarseth, as well as Hayles and Montfort.

each arranging his or her own *Pale Fire*, all so many distinct instances drawn from the same printed matter—a stance appropriate for a novel in which the central battleground is editorial policy. However, as commentators from Zadie Smith to Mary McCarthy to Brian Boyd have contended, the supposed freedom provided by the cross-references still seems aimed at guiding readers toward an authorized epiphany.

In an effort to reconcile these two figures and their conflicting logics—the Nabokov who graciously permits interaction, and the Nabokov who imperiously demands imitation—I borrow from the language of programming to present *Pale Fire* as a drama of patching and overwriting; moreover, as an experience very near what we can today recognize as a videogame: available to multiple, often conflicting modes of play, and also susceptible to (and indeed conclusively shaped by) programming errors, or glitches. In making this case I set aside the often-made argument for *Pale Fire* as a precursor to hypertext, instead developing parallels with the 1985 Nintendo game *Super Mario Bros.*, before going on to examine approaches to "playing" *Pale Fire*. Ultimately, I sketch out a basis for a hermeneutics of glitching—reading for, and through, errors in texts neither readerly or writerly, but rather *playerly*.

The Critical Edition

Pale Fire takes the form of a critical edition of "Pale Fire," the final poem written in this life by eminent poet John Shade. After a madman murders Shade, enthusiastic incompetent Charles Kinbote appoints himself editor of this posthumous project through

the simple expedient of swiping the manuscript—a stack of handwritten index cards—from Shade's still-cooling corpse. After wheedling permission to publish from Shade's distraught widow, Sybil, Kinbote flees town with his treasure, taking refuge in a faraway cabin retreat in order to write his apparatus without disruption.

Kinbote begins with a descriptive bibliography and calendar of composition; though he does not provide similar materials for his own work, it is possible to piece together much of his schedule.[9] For instance, the bizarre remark on the first page that "There is a very loud amusement park right in front of my present lodgings" (13) must date from his arrival at the cabin, for soon after he will discover that the source is actually a radio belonging to other campers. Other parts of the Foreword, such as his comments on page proofs and galleys, are necessarily emendations; as these precede a later reference to the "carrousel" that he believes to be part of the amusement park, it is clear that the document is patchwork, with blocks of text inserted where necessary; any errors or contradictions are roughly altered or, more often, entirely ignored.

This writing practice reflects Kinbote's perpetually evolving framework of paranoid delusion, at the core of which is his secret identity: Charles Xavier, beloved king-in-exile of Zembla, a far northern land. During his few months of acquaintance with Shade, this fantasy metastasizes into obsession, to the point that he believes Shade is actually writing this story (296). Though at first devastated to discover the poem makes no reference to Charles of Zembla, or indeed to exiled kings from any land, Kinbote soon

[9] For a timeline, see Jerry Friedman's work, building on Kevin Pilon's earlier chronology.

begins overwriting Shade's text with his own, using the Commentary to detail the circumstances of his overthrow and exile, while also tracking the progress of the dimwitted assassin, Jakob Gradus, charged with murdering the king.

Yet according to Kinbote, it's this same Gradus who kills Shade—meaning that, as Brian Boyd points out, the entire assassination arc must be a later addition to Kinbote's increasingly complex mythology. An upgrade, perhaps, or at least a software patch, such as one might undertake with an operating system or the apps on a smartphone—an attempt to paper over the gaps that have been revealed within the previous version. Further investigation reveals the marks of other, earlier patches made to explain the ridicule Kinbote endures at the hands of faculty and students, with each tormentor revealed as an agent of his ongoing persecution (Boyd *PF* 99–102).

In undertaking this process of patching, Kinbote foregrounds his own experience of reading and rereading Shade's "Pale Fire," while attempting to control the response of the readers and rereaders to follow. His revisions mirror the ones undertaken by readers of *Pale Fire*: as Kinbote continually undermines the image of the confident, caring martyr-scholar that he wishes to project, he also provides unintentional insights into his own character—that he is a peeping-Tom, a sexual predator, a future suicide. Eventually the well-ordered, regal depiction collapses amid the crystalline delusions of the commentator's increasingly obvious madness; out of the chaos of his fantasies a new

conceptual framework emerges—that of Kinbote as creepy paranoid outcast—that provides another patch over the entire narrative.[10]

But while the Zemblan narrative proves woefully inadequate as an interpretive framework for the poem, it is nonetheless a measure of Kinbote's success (and Nabokov's sleight-of-hand) that readers must still enter the text by way of his Foreword[11]—even if few follow his directive "to consult [my notes] first and then study the poem with their help, rereading them of course as [you go] through its text, and perhaps, after having done with the poem, consulting them a third time so as to complete the picture" (28). Rather, readers find themselves confronted with a still earlier choice occasioned by another round of Kinbotean overwriting: whether or not to follow a cross-reference given in the Foreword. The choice seems slight but is momentous: while following the reference may at first appear to reaffirm Kinbote's control of the text, as it connects to the story of how he came into possession of the manuscript, it also begins to destabilize the narrative, in Kinbote's description of his approach to Shade's house as "resembl[ing] a lean wary lover taking advantage of a young husband's being alone" (287). The comment links further to that on lines 47–48, which reveals the pattern of trespassing and voyeurism by which Kinbote terrorizes the Shades. Through the nonlinear juxtaposition of these two comments, that description transmutes into the

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[10] The 2011 pseudo-documentary Gingko Press edition of Shade's poem "Pale Fire" would in these terms be an attempt at reverting to a "stable build"—undoing all of Kinbote's would-be upgrades of Shade's poem and his own mythology.

[11] At least, until the Gingko edition.

horrific prospect of sexual predation and degradation, as Kinbote by his own admission "indulge[s] in an orgy of spying which no considerations of pride could stop" (87).

A citation directing the reader back to the Foreword seems to mark off a circular loop, balancing the depiction of Kinbote between eager scholar and creepy neighbor. But the note on lines 47–48 opens onto two others, line 62 and line 691: the former detailing Kinbote's paranoia and persecution mania; the latter revealing his secret identity through a "slip" into the first-person (247). These notes are further interlinked, with line 62's note calling back to the note on 47–48, and pointing also to 691, so that the only exit from the recursive cross-references is into the recognition scene. Kinbote's apparent purpose in setting out these links is to provide a shortcut through his text, enabling the reader to swiftly reach that revelation of his disguised kinghood. But the effect on the reader is instead to crystallize the notion that Kinbote is a madman; those who follow the chain of cross-references through each note in turn find awaiting them upon their return to the Foreword a darker Kinbote, less jovial and more threatening—the patch that would have been provided nearly at the end of a linear experience of *Pale Fire* instead being supplied almost at the beginning.

The Warp Zone

The videogame parallel here is to the "warp," defined here as any movement by the player from one position to another without traversing the space between. Warps have been part of videogames from their earliest days; the first game widely recognized as

such, *Spacewar!*, included a warp (or "hyperspace") button as one of the options available to pilots of the battling spaceships. When deployed, the button moved the ship from its position to another, randomized spot on the single-screen battlefield (Kent 19). The warp *zone*, meanwhile—as a specific spot on the game map that activates a warp effect—became prominent in arcade games during the early 1980s, with the open side tunnels on *Pac Man* clearing the way for later, grander warps such as those in *Crystal Castles*, which allowed expert players to skip entire levels.

Likely the best-known of these warp zones is that found in Level 1-2 of the 1985 Nintendo game *Super Mario Bros*., in which a plumber named Mario falls down a pipe and finds himself in the Mushroom Kingdom, where he is called upon to confront the evil lizard-king Bowser in order to rescue Princess Toadstool. This quest would normally require the traversal of eight different "worlds," with four levels apiece (designated World 1-1, 1-2,[…], 8-3, 8-4). By judicious use of the warp zones, though, Mario need only go through parts of 3 different worlds, and 8 levels in all[12]—thus skipping all the intermediate fortress stages that end in the famously disappointing message: "Thank You Mario! But our Princess is in another castle!"

This procedure—short-circuiting the scenic route, as it were—is exactly what Kinbote attempts to do via the cross-references in his Foreword and Notes. Where his initial overwriting of Shade's poem provides the reader with a leisurely, lingering account of intrigue and movement across a variety of settings—including the would-be

[12] Specifically, Worlds 1-1, 1-2, 4-1, 4-2 (where a further warp zone awaits), 8-1, 8-2, 8-3, and 8-4.

monarch's life and romances from youth to the present day, his travel to the United States and residence at Wordsmith College, and his erstwhile assassin's progress in carrying out his murder—the cross-reference patch allows the reader, should he choose, to skip directly to the climactic confrontation with the villainous king. The warp becomes, in Ian Bogost's term, a "unit operation" of *Pale Fire*—each cross-reference a "general instance of procedural expression," which taken together form "a configurative system, an arrangement of discrete, interlocking units of expressive meaning" (ix).

But with the implementation of this procedural expression comes also added uncertainty, not limited solely to whether or not the reader will make use of the warps. From its first use, the warp as unit operation has proven perilous because of the element of randomization it introduces to gameplay, and beyond that, into the code itself. In *Spacewar!*, while the warp button *could* leave a player's ship in an advantageous position, it could also dump it into the sun at the middle of the screen (Kent 19). In *Super Mario Bros*, the warp zones provide a route straight to the heart of the game, vastly reducing the time necessary to defeat Bowser and save the princess.[13] But the warps also open an area of instability within the game's code, revealing a corresponding instability in the narrative. If Mario enters the warp zone not by going over one particular wall, but rather by walking through it, then goes down the pipe that formerly led to World 4, he will find himself instead in the "Minus World,"[14] so named because it appears not as

[13] As of this writing (August 2016), the record times for the game are 4 minutes 57.24 seconds using the warps, and 19:05.9 without them (Speedrun.com, "Super Mario Bros.")
[14] A GIF of the process is available at "Minus_World" on the *Super Mario Wiki*.

World 1-1, or World 8-1, but rather as World -1.[15] It seems to be a standard level, even using the map familiar to players as World 2-2. But the pipe at the end, instead of leading to any exit, deposits Mario back at the beginning again. To escape, the player must either sacrifice all her lives, or reset the system. This loop parallels the structure of the game as a whole: even after Mario defeats Bowser and rescues the Princess, the game dumps Mario back at World 1-1 to start all over again.[16] Whether Minus World, or Mushroom Kingdom, the only available exit is suicide.

So, too, with Charles Kinbote and the mirror world of Zembla. The writing and overwriting of his ever-more-elaborate narrative of paranoid delusion is an exercise in prolonging the inevitable—while readers are never far from a passage tracking the progress of the would-be assassin, the more plausible threat of suicide, and the overwhelming loneliness leading Kinbote in that direction, can get lost amid the adventure. The series of warps strips the narrative down to its essential affective arc: from elation at grasping the completed "Pale Fire" manuscript—"I was holding all Zembla pressed to my heart" (289)—to the despair and loneliness of exile and unrequited homosexual desire—"Dear Jesus, do something" (93); and from there opening the cycle into "I cannot describe the depths of my loneliness and distress" (95), and the germ of the

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[15] Actually World 36-1, but because of how the game renders maps and in particular blank tiles, "36" is blanked out on the level start screen. For a fuller explanation, see smcgamer's "Deconstructing the Minus World"; for the hex code, and why *Super Mario Bros*. can actually recognize up to 256 worlds, see Marionaire.

[16] Those who have beaten the game once are offered the option of a "hard mode" in which any level may be selected. But the objective is unchanged—as will be the case for the vast majority of Mario games in successive decades.

delusive structure, "Your majesty will have to be quite careful from now on." The effect of funneling readers toward the kinghood revelation is to make them party to a very long suicide note—just as Mario will, eventually, be left to die, whether by neglect, or just having the world turned off around him, so too will Kinbote eventually face his fate, and enter the uncertain reprieve of death.

Let's Play

Death is "uncertain" in *Pale Fire* not least because Kinbote's reprieve lasts only so long as the reader of the book waits to return to it. Just as Mario, after plummeting down a bottomless pit, finds himself back at square one, so too even as Kinbote is plummeting toward the earth *sans* parachute, he is already being prepared to, in Shade's words, "live on, fly on, in the reflected sky" (33). While it may seem that suicide will release him from the loops of his own delusions, it ultimately just returns him to the start, to await another reader (or the same reader *as* another) to activate the narrative loop.

Given this central mechanism, and Nabokov's own insistence on the importance of rereading, it's unsurprising that many critics have documented, sometimes exhaustively, their actual experiences of going through the book—a form of captured experience quite similar to the videogamers' "Let's Plays." However, many contemporary critics of *Pale Fire* chose to document, not their struggles to come to grips with the challenges of the text, nor their increasing mastery over it, but rather their frustration with what quite a few regarded as a literary failure—led by Dwight

Macdonald's assertion in *Partisan Review* that the novel was "the most unreadable I've attempted this season" (Page 25). Macdonald's language is telling: to read is to "attempt," perhaps to fail—but any failure is the author's fault, not the critic's.[17]

Macdonald's panning of *Pale Fire* was in part a retort to Mary McCarthy's rapturous review-essay on the book in *The New Republic*, in which she asserted the existence of multiple story "levels" within the novel, beginning with the tale Kinbote tells, and the "real, real story, the story underneath" of Kinbote's madness—and, furthermore, that neither level can be accepted as definitive. In this it functions as a "trap for reviewers" (McCarthy), or at least those reviewers who, like Macdonald, could not extract themselves from Nabokov's narrative structure. While McCarthy did not herself entirely avoid Nabokov's traps,[18] by identifying multiple experiences available within

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[17] This formulation echoes in, e.g., Philip Toynbee's *Observer* review, which found the novel failed as a story, as well as Alfred Chester's judgment in *Commentary* that it was "a total wreck" because unfunny; other critiques assumed the novel was intended as parody, in order to note how it failed on those grounds (Page 27–29). Not all negative reviewers sealed themselves off to other experiences: Laurence Lerner, for one, in *The Listener*, at least entertained the possibility when writing that "[Nabokov] can go and play his cryptographic games on someone else, not on me" (Page 28). Meanwhile, even the most admiring critics could produce a dictatorial reading: in Richard Rorty's introduction to the Everyman's Library edition, Rorty not only gave away the plot of the book, but also—as an editorial note warns—"presumed to describe the reader's reactions in the course of a first reading of the book — reactions which will not occur if the Introduction is read first" (vii).

[18] In particular—and in a way that would likely delight Nabokov—she fell for one of the most drawn-out jokes in the book: Kinbote's inadequate, fruitless hunt for the source of Shade's title. McCarthy notes, "I have not been able to find, in Shakespeare or anywhere else, the source of 'pale fire'." Thanks to web searches, we can today quickly find the source in *Timon of Athens*, but even without the search it would be a strong candidate; Kinbote refers to himself as "Timon," and it's the only other book he takes with him into exile—however, he still can't identify that as the site of Shade's borrowing because the

Pale Fire, she did begin the process of opening the book up to be explored in a variety of modes. Her own method was to assemble the separate parts "according to the manufacturer's directions, and fitted together with the help of clues and crossreferences, which must be hunted down as in a paper-chase" (McCarthy). But here already several inexorable choices have been made—first, to follow the directions of any of the possible "manufacturers" of the text; and second, to make use of the cross-references. Several authors—most notably Brian Boyd in his study *Pale Fire: The Magic of Artistic Discovery*—begin with the recognition that such choices as these are there to be made, and will be made whether or not the reader is aware of them. Where McCarthy provides something like an introductory manual—mapping out the basic shape of the book, pointing out a few potential paths for further investigation—Boyd provides a full strategic walkthrough[19]: not one, but *three* trips through the text, covering the main narrative arc, as well as several "sidequests"—content (such as finding the hiding place of the Zemblan Crown Jewels: cf. Boyd *PF* 99–102) that does not bear on the main narrative, but which may be deciphered by explorers looking for additional challenges.

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copy he has is translated, ineptly, into Zemblan. Which lends credence to McCarthy's central finding: if the "real story" of Kinbote's madness has precedence, and Zembla is entirely a function of his delusion, where did this translation come from? What else could it be?

[19] James Newman extensively covers the form of the "walkthrough"—a step-by-step exploration of a game text—in his *Playing With Videogames* (91–122; cf. also Consalvo 41–64). Though originally and often still entirely text based, many grew to incorporate screenshots and even web video, thus playing an important part in the development of the Let's Play.

In revisiting the text beyond the "end" of the book, beyond even the deaths of its two main principals, Boyd also delves deep into what videogamers would call "postgame content," material that only opens up for exploration once the main objective has been achieved. This often involves an additional end boss, who appears only once the first is destroyed—sometimes as part of the main storyline of the game and sometimes as an additional challenge—a "superboss."[20] And so, each successive pass through the text of *Pale Fire* ends with a confrontation against an authorial and authoritarian figure—first Kinbote, then Shade, and then, finally, Nabokov himself. But each also features an attempt to find a different exit point, to avoid the Minus World loop in which Kinbote (as well as the reader) finds himself trapped. In his initial readthrough, Boyd takes the cross-reference warp in the Foreword (cf. 19–24), obtaining the knowledge of the "ultimate truth [and] extraordinary secret" (215) of Kinbote's regal identity before moving forward through the remainder of the text, continuing to take the warps where possible, noting along the way wherever events or words seem somehow wrong, or inconsistent with the project at hand. Boyd reads, as it were, for the *errors*; if Kinbote's project is, as I have argued, akin to that of a programmer patching buggy code, then Boyd is a playtester, seeking out the bugs that remain, the errors that cannot be patched over. The greatest of these is that there never was a Jakob Gradus: Shade's killer was instead Jack Grey, a

[20] See, for instance, the "Superboss" article on the *Final Fantasy Wiki*. For more on sidequests, 100% gameplay, and alternate modes of gaming completion generally, see Newman, 104–13. Of particular interest is Boyd's material on "challenges" carved out of extant games, meant to up the difficulty for expert players. If Boyd *is* imposing a framework on *Pale Fire*, he is nonetheless doing so in a way that enhances its ludic qualities.

criminally insane asylum escapee who fires on the poet by mistake. With this, Kinbote's madness is confirmed beyond any doubt, and readers see "through the mirages of his madness glimpses of unexpected inadmissible truths, not only that he is mad, but that he is invented" (Boyd *PF* 61). And at this point, having confronted and exposed the villainous king, Boyd takes the exit, prepared for another pass through the terrain of the text.

If, like the assassin and the regicide plot, Kinbote himself is manufactured, the questions dominating a rereading must be what else might also be, and—as McCarthy anticipated—who is the manufacturer. The question of authorship within *Pale Fire* is a vexed one, dating back nearly as far as the book itself.[21] Initially, most readers trust the textual provenance given by Kinbote in the Foreword: Shade is responsible for the poem, and Kinbote for all other material; the latter even inserts a disclaimer to that effect early on to absolve his publisher of liability for any error in the book (immediately before an editorial error, a signal to the reader about the work's patchwork instability [18]). But as further errors are exposed, and the disparity between Kinbote's Zemblan delusions and the "real" world of Shade and Wordsmith College grows ever wider, a new symmetry seems to emerge: points of correspondence between apparatus and poem that lead many

[21]Boyd provides a summary of the dispute up through the heated wars on the NABOKV-L online mailing list in late 1997 and early 1998; cf. 114–16. A more recent summary (2009) may be found in the Shadean account of DeRewal and Roth, though others have provided alternate answers to the question since, such as René Alladaye's 2012 Sybilline theory.

critics to surmise that Shade (or, far less often, Kinbote))[22] must be the author of the entire work. What presence lurks beyond the supposedly final confrontation?

The question is of particular importance for Boyd because when his biography *Vladimir Nabokov: The American Years* was published, he was one of the leading proponents of the Shadean theory. But in his later book he reverses position or, rather, navigates through it, finding a new strategy for reading Nabokov's work—one that preserves Kinbote's output, while still allowing Shade some influence over the words the troubled professor puts to page. In short, Boyd proposes that Shade, after his murder, helps Kinbote craft the assassination narrative that will make sense of the slaying within the latter's structure of delusion—a structure already heavily shaped by another "shade," John's daughter Hazel, who provides Kinbote with the initial idea of Zembla as a means of communicating with her father following her suicide.[23] The not-so-departed bring to bear on Kinbote's writing their wisdom and experiences—and also a limited knowledge of future events: herself a suicide, Hazel expresses sympathy with Kinbote's future course of action by building into the Zemblan fantasy a valorization of death by one's own hand (Boyd *PF* 169). This curiously hybridized method of textual transmission will allow Kinbote to embrace the only escape from his delusory loops—but it will also provide the reader a way to move beyond Nabokov's seemingly enclosed narrative.

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[22] In *Worlds in Regression*, D. Barton Johnson attributes authorship not to Kinbote, but to Kinbote's "real" identity: a scarcely mentioned background character, V. Botkin (70). Another alternative is that Nabokov troubles the dual-author model while leaving the true authorship fundamentally indeterminate; see in particular McHale, 18–9.

[23] Cf. 149–87; note the "other routes" Boyd charts as alternate means of hitting on this strategy—it isn't necessary to follow his specific playthrough in order to reach this point.

Ex Ponto

This development emerges from a passage Boyd once regarded, and recorded in *Vladimir Nabokov: The American Years,* as indisputable proof of the Shadean theory:

> When he drafted the foreword to the revised *Speak, Memory*, Nabokov concluded with a comment on the new index to his autobiography. He added as an envoi: "As John Shade says somewhere: 'Nobody will heed my index, I suppose, / But through it a gentle wind *ex Ponto* blows.'" (445)

Boyd only fleetingly revisits this passage in *The Magic of Artistic Discovery*, but following his argument there, one wouldn't begrudge Shade his status as Kinbote's collaborator; given the playful, dry humor pervading the Index, there is a possibility that Shade could be responsible for nearly all of it.

But in this case the envoi would also be postmortem, with the "somewhere" taking on an additional meaning, that of Shade in a sort of limbo. This sense is heightened in his allusion to "*ex Ponto*"— a phrase proverbial for "in exile," derived from epistolary verse composed by Ovid during his forced relocation to Scythia on the Black Sea in which he simultaneously bewails the crudity of his surroundings and brags of writing poetry in the "barbarian" Scythian tongue. The Shade depicted in *Pale Fire* might have come by *Epistulae ex Ponto* in the original; Nabokov, however, would certainly have had it via Pushkin, who wrote a verse response, "To Ovid," while himself exiled by the Black Sea. Nabokov spent the majority of his life in exile from his homeland, exile which began on the Black Sea, in the Crimean village of Livadiya;

though he never wrote an epistolary appendix to the conversation between Ovid and Pushkin, he did produce in his lifetime a celebrated English translation of and commentary on Pushkin's verse-novel *Eugene Onegin*—the structure of which, down to the ratio of commentary to verse, is reflected in *Pale Fire*—laying out a complex web of association by which the great sages of the language might guide the steps and words of another "exile," Charles Kinbote.

Is *Pale Fire* Nabokov's own "gentle breeze *ex Ponto*," dedicated to his literary hero Pushkin, emerging out of his extended American exile? Perhaps—but at the very least Nabokov's deployment of Shade's allusion would seem to locate it in the tradition by which Pushkin can talk to Ovid, Nabokov to Pushkin, Shade to Nabokov: a mirror-reversal of the usual flow of poetic influence, made possible through the applications of a succession of reader-rewriters. "Nabokov determines the patterns of [his characters'] worlds," Boyd writes (and though he is referring to the characters of *Pale Fire* it might as well apply to the author's entire corpus), "precisely because he in turn suspects that something beyond him shapes his world and ours" (Boyd *PF* 242). The process of authorship is never one-sided, never just the caricatures of the Barthesian reader or the Nabokovian writer. But neither is it just a two-fold partnership between these parties; authorship is manifold, a shifting flux that is at once the entire network, past, present, and future, of contributors and consumers of any given text, as well as the particular cross-section of that network brought to bear at a particular moment by a particular reader—as

Jerome McGann reminds editors and readers alike in *The Textual Condition*, "[A]uthorship is a social, and not a solitary act or set of acts" (64).

John Shade in his final poem recorded similar suspicions, writing of cosmically distant beings, "aloof and mute, / Playing a game of worlds" (*PF* 63). Who can these be but players of Shade's text, of Kinbote's, of Nabokov's, enacting and extinguishing these lives, being enacted and extinguished in turn? Even without being particularly aloof, Shade as a reader of Kinbote's output playfully draws attention to worlds beyond by reaching out through the "Pale Fire" critical edition, using textual alterations to gloss his own lines despite his editor's dedicated misinterpretations. In fact, it's Kinbote's egregious errors that open up for Shade (and Nabokov, and all subsequent readers) this game of the beyond—something Shade unknowingly anticipated in finding his poem's "real point, [its] contrapuntal theme" in a typo (62).

The poet devotes most of his poem's third section to this discovery. Following a near-death experience in which he glimpsed a vision of a white *fountain*, he is astonished to read a newspaper account of a woman who has apparently seen the same thing in similar circumstances—only to discover later that it was a typographic error: the woman had seen a white *mountain*. "Life Everlasting—based on a misprint!" he muses, as he considers whether or not to "stop investigating my abyss" (62). Only later will this become apparent as an echo of Kinbote's situation, yet the solution Shade hits on here is valid across all narrative levels: to read for such "topsy-turvical coincidence[s]," seeking "some kind of correlated pattern in the game" (63). This marks a shift in hermeneutic

strategy, from reading for identity and confirmation, to reading for *error*—then coordinating or otherwise repurposing these misbegotten revelations. Or, as Shade puts it, "Making ornaments / Of accidents and possibilities."

The Glitch

Approaching a text this way, however, turns reading into something like *glitching*: a term used by videogamers to describe a mode of gameplay in which the player actively seeks out and exploits programming errors and oversights. This play can be carried out in a variety of ways—some, like the Minus World glitch, triggered from within the game world; others by altering the software or hardware—but all can be recognized within Nabokov's own definition of reading in his *Lectures on Literature* (3). Whether the lines are those of code, or of the pixels on the display, the glitcher laboriously moves her eyes through screen after screen, undertaking complicated physical work in order to learn, in terms of space and time, what the game is about—and more importantly (for game and book alike), what it is about to *do*.[24]

[24] For instance, in *Super Mario Bros*., in addition to getting stuck in Minus World, a glitcher can also fashion an escape from the inescapable. The reason Minus World cannot end is because a normal (non-castle) level is completed only when Mario touches the flagpole at the finish, and in World -1 the pipe meant to take him to that flag takes him back to the level's beginning instead. But though the proper flag is forever unreachable, one can use a level editor —a software tool able to alter the characteristics of a given world-stage—and insert a flagpole prior to that final pipe. Then Mario is able to "finish" the level and move on to World -2 and then -3; cf. Chozoth's video explaining the process.

This recalls the hermeneutics of Roland Barthes, or at least the Barthes of *S/Z*, for whom reading was affirmative forgetting—forgetting not as "defect" or "error" but an assertion of plurality and multiplicity, "play which is the return of the different" (11, 16).[25] Like Nabokov, Barthes insists on rereading: "those who fail to reread are obliged to read the same story everywhere"; like him too, glibly denying the possibility of "reading" alone, "as if everything were not already read: there is no *first* reading, even if the text is concerned to give us that illusion" (16). Barthes also insists the rereading is undertaken not "for some intellectual advantage"—"to understand better, to analyze on good grounds"—but "actually and invariably for a ludic advantage": to play the game better (165).[26]

Barthes's suggested approach—cutting a story (here, Balzac's "Sarrasine") into "brief, contiguous fragments" he calls *lexias*—produces a text that shares a physical resemblance with *Pale Fire*, and especially to Kinbote's labors.[27] And while Barthes's bracketed numbers do not warp or cross-reference the same way Kinbote's do, nonetheless his description of meaning-making processes such as the Antithesis proceeds in glitchy terms: "every passage through the wall of the Antithesis […] thus constitutes a transgression," which the narrative maps onto the mediating body (27, 28).

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[25] All future citations of Barthes, unless otherwise noted, will be to *S/Z*.
[26] There's a clear continuity here between Barthes and McGann's textualities, not only in expansiveness but also the centrality of the ludic; see in particular the latter's account of IVANHOE, which is nothing if not a tool to help play texts better (*Radiant Textuality* 224–31).
[27] A resemblance noted by several scholars, most perceptively by Yannicke Chupin in "The poetics of re-reading in Nabokov's *Pale Fire* and Barthes' *S/Z*."

Movement through a seemingly solid wall is one of the most common and most desirable glitches to trigger,[28] as it holds out the promise of shortcuts or access to otherwise unreachable territory. But this literal transgression can mark not only the character, but also the world itself, posing a threat to the integrity of the game's code—in extreme cases, even potentially rendering the game unplayable.[29] Which, Barthes would note, is the same risk posed by attempts to breach or leap over that "wall without a doorway," antithesis (65). When two antithetical elements are brought into contact, "there is an explosive shock, a paradigmatic conflagration" that results in the destruction and scattering of the "excess"—the meaning itself (66). The punishment for this transgression is, of course, death—but a death deferred, inevitable, looming.

Nabokov's Kinbote and Balzac's (or Barthes's) Sarrasine find themselves in similar predicaments: while only the latter faces the specific contagion of castration, both are caught in a looping process continually reinscribed upon text and body alike. For Barthes,[30] this marks the "readerly" mode of textual engagement; he counters with a "writerly" mode that proceeds from *evaluation* rather than reiterative demonstration (3). As Leslie Hill points out, the distinction between the two modes is never as sharp after the study's opening statement, amounting ultimately to a moment of "hesitation" when approaching a text, an evaluation of the need for evaluation:

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[28] Cf. Bainbridge and Bainbridge, who catalogued many gaming glitches and compiled figures on the "mean excitement" of each of 23 subcategories.
[29] Such as the "Missing NO." glitch in *Pokémon Red/Blue*, which can render a game cartridge inoperable (cf. Newman 116–120, as well as Chapter 3 below).
[30] At least the Barthes of *S/Z*; in later years he would move toward ever less final expressions of textual engagement. Cf. Hill 120–37.

> Indecision not only precedes evaluation; it also renders it perpetually provisional. Evaluation … is paradoxically never an original, found act; it is always separated from itself, deferred and divided, always therefore a transvaluation, which, as such, contains at least two distinct moments: a pause and a gesture, an effacement and an inscription, an interval and an act. (108)

In order to separate itself from the readerly's endless loop of self-reinscription, the writerly must also reinscribe itself endlessly. Both modes are thus akin to Kinbote's situation, to the Minus World: they are inextricably glitched. The distinction between the two modes can only *mean* (something, anything) if they are already grounded in a more expansive mode of textual engagement, one suited to the exploration of "the plurality of entrances, the opening of networks, the infinity of langagues": a mode suited to "the infinite play of the world" (5). Call it the *playerly*; or, to map back onto Barthes's terminology, the *texte jouable*.

In a 2009 blog post, game designer Jason Lee proposed the "playerly text" as a parallel to the Barthesian writerly text, or to the "producerly text" of John Fiske (filtered here through fan critic Henry Jenkins's transmedia storytelling), arguing for the autonomy of the gamer in rewriting the game by means of "modding, rule bending, and resistance through art," and hence co-opting the "hegemony of play" represented by the videogame narrative and its drive toward completion or mastery.[31] While admirable for

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[31] In this respect, Lee's playerly texts have much in common with Espen Aarseth's "cybertexts"—a body (or "broad textual media category") of *ergodic literature*; texts for which "nontrivial effort [i.e., beyond eye movement, or flipping pages] is required to

its emphasis on the gameplay of resistance, this formulation is nonetheless subject to the same problem of evaluation: that necessary moment of hesitation while deciding whether or how to resist, the moment in which the text itself resists, and must be broken if it is to be rewritten. I would argue that the playerly mode of textual engagement begins before this point, prior to the decision to accept or resist a text, at the moment of hesitation in the face of infinite possibility. From this moment, the readerly and the writerly are but two of the innumerable modes of play available to the reader—and pursuing one does not foreclose upon the others.[32] This is the sort of playful reading that *Pale Fire* encourages and dramatizes—a point that may be proved by any classroom of students given the book to read. Some will opt to read the book straight through, cover to cover, accepting Kinbote's Zembla narrative at face value even after the so-called revelation. Others will take the cross-reference warps, in a more or less dedicated fashion. Others still will fashion their own warps, riffling the pages, skipping around haphazardly.[33] Some will fail to finish it, or to open the book at all. Though some of these textual encounters will likely prove more pedagogically productive than others, nonetheless they are all valid modes of engaging with the playerly text—which, if it is to cohere at all, can only do so as the sum total of all such interactions, even (or especially) those which seem failed or abortive.

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allow the reader to traverse the text" (1). *Pale Fire*, since it can be read either as linear or as discontinuous, serves Aarseth as a "limit text" positioned between the ergodic labyrinth, and the non-ergodic narrative (8).

[32] For a non-Barthesian "Play-Text," see Bohman-Kalaja.

[33] As Barthes notes, this radical method of textual navigation—*tmesis*, or "skipping"—was not just available to readers of "classic texts," but was ubiquitous and perhaps unavoidable (*Pleasure* 10–11).

After all, no misinterpretation of Shade's text that emerges from this hypothetical classroom is likely to be as wildly mistaken as Kinbote's—yet it's his reading which provides the occasion for the book we know as *Pale Fire*; including, if we play along with Boyd, the opportunity for John Shade to further the misinterpretation of his own work from beyond the grave.

In his lectures toward a sociology of texts, D.W. McKenzie says that "any history of the book—subject as books are to typographic and material change—must be a history of misreadings" (25). At any given moment the book (or the text more broadly construed) is an anticipation of misreadings, fertile ground for the errors that will shape the thought of future generations—and in turn the ornaments they make "of accidents and possibilities," as Shade says of the aloof, mute players of the game of worlds (63). This, ultimately, is why the hypertextual model of *Pale Fire*[34] is of limited use in exploring the novel—not because it's erroneous in any way, but rather because it's unnecessarily static, and because it does not take error into account. Recent research on *Pale Fire* and hypertextuality, such as Simon Rowberry's, has usefully mapped the *design* of Nabokov's fiction, yet produces a *Pale Fire* already tied to a particular mode of play. While the book can certainly be read as a collection of interlinked lexia, it can also be

[34] The "*Pale Fire* as proto-hypertext" model may actually get things backwards—given that Ted Nelson, the inventor of hypertext, sought and received permission from Putnam in 1969 to use the novel as a demonstration of his invention's potential, one might as easily speak of hypertext as post-*Pale Fire*. Additionally, the notion of "hypertext" commonly used today distorts Nelson's original vision for digital textuality, encapsulated in the OpenXanadu project released in 2014, more than half a century after Nelson began formulating it.

read front to back; it can also be read—borrowing from common alternate objectives in videogame Let's Plays—for maximum speed, or for 100% completion (completing all sidequests), or as a basis for further creative endeavor.[35]

Additionally, the novel can be *glitched*: exploited by a reader looking for places in the text where the walls of utterance may be breached. This is to read along with John Shade, who develops out of a typographical error a hermeneutics targeting "not text, but texture; not the dream / But topsy-turvical coincidence, / Not flimsy nonsense, but a web of sense" (63). The greatest revelations may come not from any personal vision or sage counsel, but through errors: a typo here, a misreading there leading to wild flights of imaginative and critical play. There may be, as Derrida concedes, guardrails to interpretation, but that does not preclude the possibility of plunging headlong through them, and plummeting to the earth below. *Pale Fire* not only dramatizes this sort of fatal misinterpretation, but also shows how readers continue on afterwards, how they live on, fly on in the reflected sky.

Despite the authoritarian reputation Nabokov cultivated, *Pale Fire* is a book that, built in and on error, radically undermines the writing of *any* text, including Barthes's writerly. Writing opens up spaces beyond control, where readers are susceptible to both the "gentle wind *ex Ponto*" from previous generations and the interventions of future rewriters (including our own rewritings of texts: those we have

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[35] Cf. the timeline of the Twitter account "@CharlesXKinbote"—especially during July 2011, when the adopted persona was followed by a "@JakobGradus", who reenacted the assassination narrative from the book.

written and those we have read). They are *at* play in our texts, just as their interpretations—however erroneous—are *in* play. To read, or to write, whether for the first time or the hundredth, is to take a cross-section of this multiplicity of meaning. It is impossible to *re*read, because the text is never the same twice[36]; it is impossible to read anew, because the text has already been read and rewritten and will be ad infinitum. This disconnect marks a glitch in our own processing routines, both entry into and potential exit from a Minus World that Nabokov and Barthes play and replay in their own ways—as all readers do also in their own. Oddly, it is these seeming procedural dead-ends that will point the way toward alternate modes of textual navigation and engagement.

II. Out-of-Bounds

The game always wants to pull you back into the game, its intention is to bring you back in. —Znernicus, ("Portal [PC]" Awesome Games Done Quick 2014)

In *Pale Fire*, Nabokov (at least in Boyd's reading) attempts to exercise control over the narrative by providing the reader the illusion of choice. Paradoxical though that may seem, it is a pattern that holds true for many works foregrounding interactive elements:

[36] McGann again: "[N]o text, no book, no social event is self-identical" (*New Republic* 123). Further, in a statement that encapsulates much of his thought on textuality and transmission, he suggests that the scholarly edition properly "support further (re)mediation, (re)construction, and (re)mix in the advancement of scholarship," even to the point of "allow[ing], for example, the construction of other editions that may explore alternative hypotheses or challenge notions of authorial intention and editorial authority" ("Considering the Scholarly Edition"). The text always contains its own negation; and this should be highlighted and celebrated, rather than suppressed.

by laying out several options and allowing the reader to decide from among them, the text privileges those particular choices, denigrating all other potential interactions by comparison.

Consider a comparatively simpler example: the Choose Your Own Adventure (CYOA) series of children's books, by Edward Packard.[37] In these volumes, readers are given a scenario and an initial choice to make, each with a page number that will lead either to further choices, or to an ending, happy or (more often) otherwise. While the existence of alternate endings might seem to highlight the differing reading experiences available within the book, the choices nonetheless funnel readers toward those predetermined ends, discouraging other modes of navigation including, oddly enough, a linear reading proceeding from first page to last.[38] Moreover, since the choices made are largely arbitrary, and since happy or even neutral endings are relatively scarce amid a panoply of grim and gory ones, the CYOAs tacitly encourage a sort of tmetic resistance, with readers flipping through the pages to find the best endings, then working backwards to see which paths they were "supposed" to take.

But even there, the scope of playerly agency is narrowed within a number of the works, such as CYOA #12: *Inside UFO 54-40*. In that volume, "You" (the second-person-narrated protagonist) has been abducted by aliens to be exhibited at a galactic zoo.

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[37] Nick Montfort (*Twisty* 71) and Anastaia Salter (15) each make a case for the Choose Your Own Adventure format as derived from early forms of digital interactive fiction; however, Packard attributes the device to open-ended bedtime stories told to his own children—an origin more oral than digital (Rossen).

[38] See Michael Niggel's chart of the grim futures available within CYOA #2: *Journey Under the Sea*, or any of the further examples collected by Mark Sample ("A History").

The bad endings include death by depression and teleporter accident, while even one of the "good" endings involves crashing the ship into the Nebraskan countryside. Ostensibly the best ending is a safe return home, but this ends up as a disappointment in light of the prospect, raised throughout the book, of a paradisiacal planet called Ultima. And there is indeed an ending that takes "you" to this utopia—but no path within the book that leads to that happiest of endings. "No one can *choose* to visit *Ultima*," says one Ultiman. "Nor can you get here by following directions. It is a miracle you got here, but that is perfectly logical, for *Ultima* is a miracle itself" (quoted in Jamieson, emphasis in original). The section flaunts its own narrative logic, holding out the promise of a miraculous escape from the strictures placed on the reader, while simultaneously ensuring that that miracle is, in fact, folded into the text itself, militating against any potential escape into wider interpretive territory. "You" might reach the fields of Ultima, but the reader remains as trapped as ever.

CYOAs in general, and *Inside UFO 54-40* in particular, sit near one extremity of a spectrum that could be drawn charting the extent to which a work defines its own interpretive range—and hence, attempts to control access to its own playerly text. On the other extreme are radically open texts such as Joyce's *Finnegans Wake*,[39] or Marc

[39] Cf. Umberto Eco's reading of *Finnegans Wake* as an ultimate example of the "open work" in *The Role of the Reader*; though even there Eco, influenced perhaps by Joseph Campbell, grants that Joyce may "introduce some keys into the text … because he wants the work to be read in a certain sense" (54–5; see further Eco's *Aesthetics of Chaosmos*).

Saporta's *Composition No. 1*,[40] where language, structure, and basic narrative relationships must be gathered, assembled, and reassembled by each reader, leaving nearly the full field of the playerly text open to exploration. The vast bulk of stories would fall somewhere in the middle, managing interpretation more or less overtly through plot mechanics—taking detective stories as an example, toward the more open end would be stories such as Edgar Allan Poe's "The Purloined Letter," used as an interpretive lever by everyone from Jacques Lacan and Jacques Derrida to Barbara Johnson and Slavoj Žižek[41]; while on the more closed end would be, for instance, the Golden Age murder mystery as codified by Ronald Knox, which posits multiple interpretations before paring down relentlessly to a single "correct" whodunit. However, while such works do retroactively impose interpretive guardrails, they do not, unlike *Inside UFO 54-40* and *Pale Fire*, seek to entrap even readers who burst through those guardrails in defiance of narrative protocol. These latter works take the form of

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[40] See Montfort's *Twisty Little Passages* 71–2, as well as the fuller readthrough in the "Reading Notes" at his website. For a videogame parallel, see the cross-platform construction game *Minecraft*, which provides the player only with raw materials and a paper-thin quest that most ignore entirely in order to concentrate on building grand edifices (often in collaboration with many others).

[41] The first three are collected in *The Purloined Poe*; Žižek's response is in *Enjoy Your Symptom!*, which extends his own peculiar Lacanian analysis into various pop cultural domains. As an example of the unpredictability of the playerly-textual terrain, the frame Žižek develops first with respect to Lacan's reading of Poe, then later expands in *The Parallax View*, is deployed by Ian Bogost to illustrate how McDonald's McRib sandwich is emblematic of the unbridgeable gap between knowledge of our desires and knowledge of their causes. For Žižek, such a parallax gap requires a reconfiguration of the Hegelian dialectic, such that the synthesis represents, not the joining of the thesis and antithesis, but rather the "shift" required to recognize the gap between them: for Žižek, the dialectic itself is glitched.

labyrinths, where each potential exit from the text is revealed as already contained: not just a dead end, but a dead end deceptively constructed to look like an exit.[42] Among works of this type, perhaps the most mazelike—and certainly the most self-consciously so—is Mark Z. Danielewski's 2000 novel, *House of Leaves*.

The Labyrinth

House of Leaves takes the form of a multiply wrapped envelope narrative, presenting (at a minimum) the following layers:

1. First, the account of a photojournalist, Will Navidson, discovering that his house measures larger on the inside than on the outside, exploring the impossible spaces and chambers of the house with family and friends, and documenting these expeditions and their tragic consequences in a film, *The Navidson Record*;
2. Second, the ruminations on this film by an aged scholar, Zampanò, who marshals material from a wide range of sources to add to his own obsessive musings;
3. Third, the collection of and commentary on Zampanò's papers by societal margin-dweller Johnny Truant, forming a supposed "first edition" with

[42] No aesthetic judgment should be inferred from this very rough schematic: the authorial exercise of control over reader choices can be used to great effect, as in the works discussed here—or more directly still, in games such as *Depression Quest*, a digitized CYOA on the Twine format which simulates the experience of depression by presenting choices to the player, such as seeking therapy or connecting with a support network, only to put those choices off limits. Cf. Toni Pizza's playthrough in *Videogames for Humans*.

introduction, appendices, and notes, many of them not even of tangential relevance to the above; and

4. Fourth, the republication of Truant's edition with additional commentary and documentary material by "The Editors," who are otherwise unnamed, and who play no direct role in the events depicted.[43]

Even this list oversimplifies the narrative; as a number of additional layers (which will be discussed further below) become more or less clear over the course of one or more readthroughs—and more still when taking into account also the enigmatic content and fan forums hosted on a website, houseofleaves.com, linked from the book itself; the CD *Haunted* and related singles by Danielewski's sister Poe; and *The Whalestoe Letters*, an expanded version of an appendix in the book collecting dispatches from to Johnny from his psychiatrically confined mother, Pelafina Lièvre.

But even limiting consideration to the printed text (at least initially) affords little help. *House of Leaves* was published simultaneously in a limited and now rarely seen hardcover edition, as well as the much more common paperback edition. Both indicate on the title page that they are "Second Editions"—referring to their relationship to Johnny Truant's tattered manuscript, rather than the mysterious "badly bundled heap of paper" mentioned on the jacket flap (itself often sought in vain by would-be collectors).

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[43] Even here, I'm oversimplifying: there are distinctions to be made at each level between the events and their inscription, as well as to the subsequent reception by the levels higher up—including both the audience written into the book who read Truant's text as it circulates on Internet newsgroups, and also Danielewski's actual readership, taking in early portions of the book as they circulate on Internet newsgroups, and then forming intense discussion communities at the houseofleaves.com website. Cf. Downey 39.

However, only the hardcover is considered a true first, and is listed as such on its copyright page. The rest of that page, though, compounds the problem in the guise of assistance by listing five separate versions of the text: full-color, two separate two-color, black and white, and "incomplete."[44] While the vast majority of readers will only ever encounter the black and white version (if in the UK), or the two-color version in which the word "House" is always printed in blue (if in the US), the existence of the others is testament to the instability of the text, making even such a comparatively straightforward task as descriptive bibliography a difficult undertaking.[45]

The muddled publication history is far from the only way that *House of Leaves* preempts its own critical reception; often, the book provides its own criticism in advance, such as in Zampanò's collection of sources, which ranges from Harold Bloom to Jacques Derrida to Camille Paglia. The book is so heavily larded with quotations and vocabulary from theorists, in fact, that it presents itself as already comprehensively studied, with every hermeneutic move already anticipated and accounted for.

In this way, *House of Leaves* attempts to pass itself off as its own playerly text. As Mark Sample writes, "with its layers of footnotes, metacommentary, and self-conscious invocation of literary theory, the novel seems to preemptively foreclose any and all possible interpretive moves" ("Renetworking"), further citing Danielewski's provocation:

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[44] This last designation attempts to account for versions printed from the text serialized online at iUniverse.com—it's characteristic of *House of Leaves* that it makes allowance even for its own bootlegged editions.

[45] See Rossa and Biondi for further bibliographic information; the blue two-color version will be the one referred to throughout this study.

"I have yet to hear an interpretation of *House of Leaves* that I had not anticipated" (McCaffery and Gregory 106).[46] Specific passages in the book seem designed to militate against the application of various interpretive schools and practices. For instance, New Critical close reading—or in Cleanth Brooks's formulation, "adequate reading" (600–1)—falters when confronted by catalogues running multiple pages, such as a list of documentary filmmakers (Danielewski, *House* 139–41) or documentary films (140–44); or, contrariwise, features *not* found in the House (120–42); buildings that the House does *not* resemble (120–34); and architects whose works are *not* relevant to describing the space being explored (135–21).[47] Even beyond these lists of exclusion, which attempt to place their many, many individual items beyond critical consideration, there is a further list of photographers (64–7) admittedly chosen "entirely at random" (67)—a process which would militate against the use of any particular one in the course of "a microscopic study of the text" (601).

Structuralist or mythographic criticism—which might seem well suited to explicating a labyrinthine book drawing heavily on the myth of Theseus and the Minotaur[48]—is rebuffed in a section on "Eta Ruccalla's treatment of Will [Navidson and brother] Tom as contemporary Esau & Jacob," which has supposedly "become the

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[46] One suspects that Danielewski would find at least a few surprises in the crowdsourced interpretive site *A Million Blue Pages*; cf. Whalen.

[47] This catalog, itself a footnote to the previous listed footnote on buildings not relevant to the text, is printed upside down in columns on the recto pages, and hence runs backwards.

[48] For a contrary view, however, see Frank Lentricchia's *After the New Criticism*, which draws on Northrop Frye's horror of "an endless labyrinth without an outlet" to posit that mythological figure as what cannot be countenanced within structuralist criticism (166).

academic standard" and is exhaustively reproduced, although subsequent scholars can't even agree on the small detail of which brother fills which role (247)—and if even so fundamental a point cannot be established, what hope is there for any further analysis to build on it? Psychoanalytic criticism, meanwhile, fares worse still, as in the mention of "Dr. Iben Van Pollit[, who] in his book *The Incident* claims the entire house is a physical incarnation of Navidson's psychological pain." Zampanò cites this book as "a remarkable example of brilliant scholarship and exemplary synthesis of research and thought"—before bluntly dismissing it with the footnoted aside, "Unfortunately almost everything he concludes is wrong" (21).

Poststructuralist criticism gets a more sympathetic hearing, with Zampanò quoting extensive passages from Derrida's *Writing and Difference* on the decenteredness of play, only to chide him for neglecting the effects of the actual physical world on the body: "Gravity … applies specifically to the earth's effect on other bodies and has had as much to say about humanity's sense of centre as Derrida" (113)—and it is this gravity alone that will continue to act on Will Navidson after nearly everything else, even language, has been stripped away from him. Johnny Truant, reading over the assembled writings on Navidson's ordeals, despairs of the usefulness of deconstructive activity: "What's the difference, especially in difference, what's read what's left in what's left out what's invented what's remembered what's forgotten what's written what's found what's lost what's done?" (515). What use is a mode of interpretation revealing the radical unreliability of language to a work that trumpets its own radical unreliability? Johnny

cannot even make it through his own Introduction before disclosing that *The Navidson Record*, the film to which Zampanò and many hundreds of other critics have devoted so much attention, doesn't actually exist—yet still he insists that "it makes no difference … what's real or isn't real doesn't matter here. The consequences are still the same" (xx). Thus it should make no difference to the reader that many of those critics cited—Eta Ruccalla and Iben Van Pollit among them—are themselves inventions, and thus beyond any scholarly intervention.

Nor, perhaps, does it matter that the character of Johnny Truant is likely himself an invention—not just by Danielewski, but also inside the frame narrative, as the projection by Pelafina Lièvre of the young son she killed, leading to her confinement. This possibility preempts yet another mode of interpretive engagement, a subset of paranoid reading most commonly referred to as "fan theory." The fan theory posits a "What if?" event just outside a given narrative that forces the entire narrative to be reconsidered from a new vantage point—for example, in *Ferris Bueller's Day Off*, what if Ferris Bueller was actually Cameron's imaginary friend?; or, in *My Neighbor Totoro*, what if Totoro is actually the god of death and both of the young girl characters are actually ghosts?[49] Like urban legends, these theories can prove as difficult to trace back to their origins as they are to debunk, even when—as with the *Totoro* example—they are explicitly disavowed by the work's creators. While similar plot twists have featured in works ranging from Ambrose Bierce's "An Occurrence at Owl Creek Bridge" to M.

[49] See Cool Papa Bell and Ashcraft, respectively.

Night Shyamalan's *The Sixth Sense*, their deployment allows readers and audiences to intervene within texts apart from any of the tools more familiar to traditional literary critics or scholars—engaging in a practice of deformance (Samuels and McGann 28).[50] In many ways *House of Leaves*, overwhelmingly concerned as it is with questions of interpretation and death, seems to lend itself to extensive fan theorizing, and the forums originally established at houseofleaves.com (and later ported over to markzdanielewski.com) teem with hypotheses about the book's mysteries. But, as one might surmise from the discussion forum being set up and maintained on the author's own webspace, this mode of engagement is yet another that Danielewski has foreseen and co-opted—though not through the sudden certainty of a twist ending. Rather, Danielewski lays out a set of mysteries for readers to investigate, thereby channeling fan-theorist efforts toward those "what if" scenarios, rather than alternative ones that might cede agency to the reader.

The Network

[50] Samuels and McGann's language of deformance as a "short-circuit" of the text (30) would render it another instance of a glitched reading practice—this time in the older sense of the glitch as an unpredictable voltage spike capable of bringing down an electrical circuit and, with it, the entire surrounding system. Long thought to have entered English as astronautic slang (see Glenn, *Into Orbit* 245), the word has since been found circulating among the radio hobbyist community at least as early as 1940; Fred Shapiro cites it in the *Washington Post*, thus: "When the radio-talkers make a little mistake, they call it a 'fluff,' and when they make a bad one they call it a 'glitch'"—even at this early stage, glitches affect language as well as circuitry.

The question of Pelafina Lièvre's authorship is instructive: the entire section with the "Whalestoe Letters" is relegated to an appendix, to which The Editors direct those seeking "a better understanding of [Johnny Truant's] past," while "The reader who wishes to interpret Mr. Truant on his or her own may disregard this note" (72). Those who do consult the appendix—or the expanded version released separately as *The Whalestoe Letters*, with further editorial commentary from Institute employee Walden D. Wyrhta—will discover similarities between Lièvre and Zampanò beyond just the grave accent. Both are deeply read across a variety of traditions and languages; both employ nonstandard typography; both detail their paranoid struggles within oppressive environments: for the fan theorist, this already suffices as an invitation to speculate about Pelafina's authorial role. This is intensified by a lengthy secret message Pelafina embeds in one letter, after instructing Johnny in a previous one on how to read it (619–23). The code is hardly difficult though: it's an acrostic, with the first letter of each word spelling out the message; it even calls attention to itself as encoded by capitalizing letters within words as needed to complete the message. But this is not the first time she has made use of such ciphers: a few letters earlier, she encodes the message "my dear Zampano who did you lose?" This intimacy, however disguised, is startling: Pelafina is noted as passing away in 1989, still in captivity (643); she could not have learned of Zampanò through her son, as Johnny did not come into possession of the papers until the latter's death in 1997 (xiii). Unless they had met previously in another capacity,[51] Zampanò must like Navidson

[51] Naturally, theories proliferate: that Zampanò is Pelafina's father, or Johnny's father, or

be an invention—and either Johnny's narrative or Pelafina's letters must also be fabrications by the other.

Whichever side debaters choose[52]—or even if they, like Brian McHale with respect to *Pale Fire*, consider the question fundamentally indeterminate—they are likely to cite further instances of Pelafina's acrostics in the text. As Johnny points out when describing a conversation with fans of the "first edition"; the name of the Greek poet Thamyris is embedded in page 387, and on 117, the phrase "a woman who will love my ironies"; Johnny notes that "it takes some pretty impressive close-reading to catch that one" (514).[53] This "close-reading" that Johnny seizes on to describe a kind of literary detection, though, is far removed from the aforementioned practice of Cleanth Brooks or any other New Critic.[54] It instead valorizes a Gnostic sort of meaning-making, an endless prowling of the text in search of a key to all its mythologies.

For his own part, Johnny refuses to prescribe any particular method: "The way I figure it, if there's anything you find irksome—go ahead and skip it. I couldn't care less how you read any of this" (31). But while this gesture of openness may seem

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the twin of Johnny's father Donnie and hence his uncle ("Zampano---Johnny's Father?").

[52] Pressman presents perhaps the strongest case for Pelafina's authorship (115–7), although innumerable arguments on either side (and many more beyond that) may be perused at the forums hosted on Danielewski's site.

[53] A thread on the *House of Leaves* forums on acrostics and various other codes in the book (anagrams, Morse, Braille etc.) has provoked 24 pages of further potential finds, complete with the squabbling and namecalling often attendant on such online endeavors ("Codes for Dummies").

[54] There is, however, a curious parallel to the late career of Ferdinand de Saussure, whose work as detailed in Starobinski's *Words Upon Words* focuses on his hunt for acronyms within lines of Latin poetry. Cf. also Young.

diametrically opposed to Kinbote's presciptions, it is nonetheless embedded within an extensive network of narrative control, one which extends well beyond any particular printed form of the work itself. Any attempt at reading the book thus becomes parallel to Navidson's attempts at exploring the spaces of his house, with each new expedition presenting almost wholly unfamiliar features, obliterating what was known before. *House of Leaves* troubles playerly interpretation by disturbing our sense of the spatial—where Gaston Bachelard in *The Poetics of Space* writes of the poetic imagination as a house to inhabit, a familiar space allowing us to get our bearings before being "cast into the world" (6–7), Danielewski looks to make both imagination and space itself horrific.

Much of the criticism on the book comments obliquely if at all on such matters; many scholars prefer to focus instead on the book's reflexive awareness of itself as physical object, such as those moments in which ink becomes darkness (144), and white space the blankness of the void (490), or the contrary moments when the print artifact nonetheless calls attention to itself as embedded within a multimedia ecology, as in the blue text on "house" evoking a hypertext link.[55] But while commentators from Jessica Pressman to Mark B.N. Hansen to Katherine Hayles are right to point out how *House of Leaves* opens up new possibilities for the print novel in a multimedial age—to the point

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[55] Thus both Hansen (598) and Pressman (108); Hayles however sees the blue text and design elements as "an evocation of the blue screen of a movie backdrop onto which anything can be projected" and hence a blank space which emphasizes the house's emptiness by absorbing every possible attempt at signification (*Writing Machines* 123); Danielewski himself leans toward the latter view, q.v. Cottrell. UK readers, of course, would miss whatever it was Danielewski was evoking, as the British edition printed all blue elements as gray.

of Pressman coining the term "networked novel" for the way it "not only mimics the Internet's infrastructure, it actually links up to it through the URLs on its covers" (108)—they all seem to underestimate just how ruthlessly Danielewski forecloses on those possibilities. For instance, though the blue hyperlink text seems to point to dynamic elements, the link is always to the same content, the house itself—a recursivity modeled in the enigmatic footnote mark/ornament K (109),[56] which at several points directs the reader back to Chapter IX, "The Labyrinth." Likewise, though *House of Leaves* extends its network across multiple media, those other channels are subsumed by the text, as when Johnny encounters a bar band playing Poe's song "Five and a Half Minute Hallway," named after Navidson's first abortive exploration of the house (512). The song, though, is not a cover; it's an original, inspired by Johnny's own "First Edition" of Zampanò's work. Pressman writes that in its "connection to the multimedia network of which it is the central node … *House of Leaves* forges a way for the print novel to remain "novel" in the digital age (109). However, the role the novel assumes is nearer to Hayles's formulation, when she writes that "*House of Leaves* in a frenzy of remediation attempts to eat all other media" (112).[57]

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[56] A chart provided in the appended materials provides one clue to this mark: a Ground-Air Emergency Code list, in which "K" is listed alongside the meaning, "Indicate direction to proceed" (582). But this again shows Danielewski co-opting the system: in using the code as a footnote, he is indicating that direction, and it is always back into the Labyrinth.

[57] It may be true, as Hayles continues, that this is an "imitat[ion of] the computer's omnivorous appetite," or that this "bing[e] leaves traces on the text's body," but such ravenousness has been a mark of the novel since its "rise"—see chapter 2, below.

As a sign of this metaleptic appetite, within the deepest depths of the house the novel attempts and nearly succeeds in devouring itself. All the separate layers of the novel completely collapse during Navidson's final venture into the house, when after days of journeying he finds himself stranded on a platform, out of supplies, forced to burn his final provision, a book, page by page to supply the basics of heat and light. That book, of course, is *House of Leaves* itself (468)—and once that identity is revealed, the platform disappears, Navidson plummets into space, and the film he is still recording as he dies of exposure gives way to minutes of utter blackness (or, as in the text, utter whiteness), punctuated only by a last, faint, illusory light, a will o' the wisp, and the inevitable typographic mark "K" (488). Yet Navidson, at least within his own fictional level, survives; *must* survive, if he is to compile and edit the footage that will beguile Zampanò and elude Johnny Truant. To address that weird survival, and its implications for interpretive strategy both within and without *House of Leaves*, I will reach outside the space of the text (however much it resists) and pull in an external source: the 2007 videogame *Portal*.

Playing With Portals

Portal was released by the Valve Corporation, makers of, among others, the alien apocalypse game *Half Life*. It's a first-person shooter like *Half Life*, but instead of using a variety of weapons to kill aliens, the player uses one very specific weapon to solve puzzles—or at least, that's what the game wants the player to think. The player fills the

role of Chell, woken up from stasis by the artificial intelligence GLaDOS in order to run through test chambers at a facility run by Aperture Science, with the promise of cake upon successful completion. The weapon Chell wields, a "portal gun," has the ability to link discontinuous spots in space: shoot it first at one wall, then the other, and you can step freely between the two points. As Chell runs through the tests, GLaDOS provides snippets of encouragement and exposition; however, the player will notice the tests becoming more dangerous over time, until at the end realizing that GLaDOS intends to incinerate her. Suddenly the portal gun becomes a vital tool of resistance, a means of penetrating to the inner chambers of the Aperture compound (tagged with graffiti from previous victims of the machine noting that "the cake is a lie") and disabling the malevolent AI. In the original release of the game, once this task is accomplished, Chell's world, like Navidson's, fades out. But later Valve released a patch that added a scene to the game's ending her being taken off by institute personnel, presumably to be incinerated.[58] Whatever her fate though, Chell's ending is no escape; she is bound by the confines of her text. The game's final image is of GLaDOS's mechanical arm disconsolately extinguishing the candle on a cake that was not, after all, a lie, even if the rest of the setup was.

To this point, the game offers a close parallel to the process of reading in general. Every reader comes equipped with the equivalent of a portal gun, able to link together

[58] A later revision to the series mythos showed Chell being placed into suspended animation, where she would remain until the events of *Portal 2*, in which she again deposes GLADoS, only to end up fighting to reinstall the AI to counteract another, still more malevolent programmed personality (Valve).

points of the text that are spatially discontinuous, and travel freely between them—in hyperlinked works like *House of Leaves*, such transit is continuously asked of the reader, in order to join together disparate sections, materials, and media. Like *Portal* as well, there are also multiple paths that can be taken to certain parts of the text—such as The Editors' footnote about Pelafina's letters and Johnny's past (72). But while these choices may be presented as consequential, they ultimately prove not so: whether one regards Pelafina, like GLaDOS, as a dangerous female intelligence that must be confronted at novel's end, any such confrontation is configured to lead back into the narrative: the portal gun as interpretive tool is still placed in the service of narrative authority, within a text that attempts to stand in for all experiences of its medium. In the *Portal* online comic, when a cast-off, captive researcher refers to the Aperture testing facility as "a metastasized amalgam of add-ons, additions and appropriations, building itself out of itself" (Valve 6), it establishes the laboratory as a grotesque mass, fully capable of containing and incorporating itself as well as all its contradictions—reminiscent of Hayles's comment on *House of Leaves*'s textual voraciousness. But the researcher's description of the gamespace also applies to the code that creates it: *Portal* is a notoriously buggy game, with a patch history reflecting the developer's attempts to mitigate its instabilities.[59] The game, like the House, is continually in flux, but its fluctuations always seek to reinforce authorial control over the text's affordances. So

[59] The patch history is preserved at the Portal Wiki, though in many cases the notes released with each patch are unhelpful in determining the actual effects the patches will have on gameplay. Some updates lack notes entirely: the process of authorial revision placing itself under erasure ("Patches").

long as the game is played within these constraints, the player—like Kinbote, like Navidson, like Mario—is trapped within one area of the playerly text, a section of narrative walled off from myriad alternate possibilities while at the same time presenting itself as the entire range of what is possible.

This is the pitfall that ensnares Brian Upton's attempt to establish gameplay as a critical imperative in his recent *The Aesthetic of Play*, which attempts to show how "analysis of games can provide us with a radically different perspective on how we navigate *all media*" (112, emphasis in original). Upton, a game designer by trade, approaches the practice of interpretation from a designer's perspective. On its face, this should prove liberating; after all, as Upton himself points out, designers must make allowance for a wide range of play strategies and styles. Yet Upton consistently confuses this (admittedly) vastly expanded spectrum of potential interaction with the entirety of the playerly text. His take on *Portal* is characteristic, as he uses the game to illustrate his own definition of play as "free movement within a system of constraints" (15). For Upton, this is typified by a mechanic in *Portal* whereby

> [T]he player periodically passes through a 'material emancipation grid' [*sic* for "Grill"] that vaporizes any object that he happens to be carrying. The purpose of the grid in the system of constraints that defines *Portal's* play space is to control the resources available to the player as he moves from puzzle to puzzle. By not allowing objects to be carried over from one puzzle to the next, the game makes it clear to the player that he will always have all the tools he needs to complete the

> current level. He need not worry that he is stuck because he forgot to pick up a crate when he left the previous level. The purpose of the material emancipation grid isn't to forbid possession of certain objects, but to enforce tight bounds on the scope of the puzzles. (19)[60]

Where Upton sees reassuringly absolute constraints, many players instead saw an inviting challenge. And it didn't take them long to figure out how to evade the stricture of the Material Emancipation Grill; not only to preserve knickknacks such as radios or gun turrets, but also plot-critical items such as the Companion Cube, which GLADoS requires Chell to incinerate at the end of one level (10criz). When Upton returns to *Portal*, it is to this scenario, illustrating how meaning can emerge from gameplay via the player's attachment to the Companion Cube, and the "unexpected twinge of sadness" when forced to part with it (268). While he is likely correct that the developers intended this "twinge" as a cue towards Chell's position within the morality of the in-game universe—foreshadowing as it does the moment several levels later when she must disobey the order to incinerate herself—he neglects those players who address that sadness through direct action rather than passive acceptance, through transcendence rather than constraint.

Time and again, Upton gestures in the direction of the possibilities inherent in playerly interaction, only to foreclose on them in favor of an artificially narrowed, authorially constrained range. It's a limitation that scales: for instance, in misrepresenting

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[60] Upton's relentlessly masculine pronoun usage likewise speaks to a certain set of assumptions about not only allowable practice within gameplay, but also the possibilites inherent within language itself.

even so simple a thing as a wall, he manages to infect his entire model of interpretation. Acknowledging that "we" (a shorthand used for all players of a given text) "don't understand a wall the way the game does," he nonetheless asserts that "We understand the walls *functionally* [as] something that blocks movement." Thus since "We know that we can't walk through walls [] we don't try to" (127). But as the example of Mario shows, not every player understands the walls as "external constraints [that] have become internalized." Some instead see them as the game does: "a series of triangles" with more-or-less precise collision detection. For these players, such walls are not constraints, but rather invitations; functionally, as something which may allow movement as easily as block it. If indeed "this notion of functional understanding is central to the aesthetic of play," allowance must be made for the myriad ways that understanding can *fail* to function as apparently intended, or how it can function utterly differently.

Upton's internalization of constraints is embedded within the process of signification itself: "[*S*]*igns are a technology for the manipulation of internal constraints*. Words and symbols give us a way to bring particular constraints into play" (170, italics in original). The operations of language themselves discipline the mind to accept a limited horizon of what is possible; given this, it is little surprise that, for Upton, "assigning meaning to a work is always an act of closure" and "the end of play" (283), rather than an invitation to pursue further possibilities or intersections of meaning.

The "critical play" that Upton espouses would thus, paradoxically enough, make him an ideal reader of *House of Leaves*, at least from the House's point of view. As the

walls shift from a quarter-inch anomaly, to a five-and-a-half-minute hallway, to vast and seemingly endless chambers, it would appear in Upton's terms to represent a relaxation of an internalized constraint, freeing up room for a much wider range of play. But instead, it shows that his faith in a shared "understanding of walls" (127) is misplaced—as evidenced later in the book by those same walls, along with the ceiling and the floor, vanishing abruptly. A similar fate befalls the analyses of Pressman, Hansen, and Hayles, as the networks, topographies, and processes of remediation they respectively track vanish as well.[61]

Go Fast

A different approach is required to get outside the network of Valve's game or Danielewski's novel, one that may be found within the community of *Portal* speedrunners. In a videogame speedrun, the player attempts to finish the game quickly by skipping as much of it as possible, often in ways unintended or unforeseen by the game's programmers. Players of videogames have competed for high scores almost as long as the medium has existed, often jealously guarding their strategies for racking up points. The speedrun community on the other hand is noteworthy for being precisely that: a community demonstrating "manifest collective knowledge," in which "the gameplay

[61] One important contrary approach is provided by Marc Ruppel, who uses *House of Leaves* as an example of an object that, as a "cross-sited narrative," working across "convergent networks of media platforms," resists digitization (282). For Ruppel, this adds urgency to any archival attempt; the article is at root a plea for curation as critical practice, documenting "interplay between [media] site and interpreter"—a description similar to the aims of many an LPer.

performance is always situated within the context of the group" (Newman 130). Originally these groups coalesced around certain games, in particular the first-person shooter *Doom* and its follow-up *Quake*, both of which allowed players to record short video clips of in-game play that could be posted online for viewing and discussion.[62] In the decade since, speedrunning has come to accommodate communities for thousands of games, with players most often now performing on live internet streams, for audiences that interact with the runners via online chat windows. At their most basic, speedruns may look like much faster versions of games as non-runners (or "casual" players) might play them. But following the imperative to "go fast," many runners employ practices such as glitching, damage-boosting (taking damage in order to maintain speed), death-warping (killing off the character so that the next life or "respawn" moves them to a more advantageous location), and sequence-breaking (omitting portions of game narrative), so that speedruns often look nothing like casual play of the same game.[63] Even something so basic as movement may look radically different—for instance, to move forward in *The Legend of Zelda: Ocarina of Time*, a speedrunner will not make his character walk or jog normally, but rather will perform a series of forward somersaults, because each somersault takes fractions of a second less to complete than normal jogging.[64] The

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[62] These two games were so central to early speedrunning that the file format for the gameplay clips, .DEM, was incorporated into the name of the largest repository of speedrun clips, the Speed Demos Archive or SDA (Newman 133; also see the *Quake* Done Quick archive at SDA).

[63] For a recent exploration of speedrunning as critical practice, see Scully-Baker.

[64] Time and space in videogame speedrunning is measured in terms of *frames* and *pixels*, respectively. Each game runs at a rate of *frames per second* (fps), representing the

resulting textual navigation may look odd or even haphazard to the casual player, but every movement is carefully considered and calibrated to produce results otherwise impossible to obtain.

Portal has proven particularly enticing to many speedrunners because of the odd glitches made possible by the portal gun. While the portals are meant to be stable links between two locations, their very existence disturbs the fabric of the gameworld, leading to irregularities such as the Save Glitch, in which Chell's vision and firing arm become disassociated from one another, so that subsequent shots fired come from a sort of astral or "ghost body" projection well removed from her first-person camera eye; or the Edge Glitch, in which the game's faulty collision detection is exploited to allow Chell to get "stuck" in walls and open portals in surfaces she would otherwise not be able to access. Certain motions, meanwhile, make demands on the game's physics engine that it is not able to process: for instance, if Chell shoots one portal into the floor, and one into the ceiling right above it, she can jump into the lower one and they act as a bottomless pit, so that she continues to build velocity as she falls between them. If she then shoots another portal into the floor, so that she comes up out of it, she will find herself catapulted to great heights. By combining these techniques with other movement tricks, such as

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number of times each second that the system updates the game state, and hence the smallest possible window for controller inputs to be entered. Likewise, each game is programmed to display a given number of pixels, dependent on monitor settings. The most precise maneuvers in speedruns are thus said to be frame- or pixel-perfect.
The language of precision and optimization employed by speedrunners has led several scholars to regard the practice as neo-Taylorist: see for instance Pedercini as well as Wall. Others find in speedrunning a "creativity that is against both algorithmic limitations and programmed obsolescence" (Franklin).

"Accelerated Back Hopping,"[65] speedrunners can move through the test chambers at tremendous speed, finishing some levels in seconds and bypassing others completely. This display of skill finds parallels in academic literary criticism, the basic moves of which often appear inexplicable to other readers; given the constraints of their texts, the results produced would seem impossible were they not publicly documented. Speedrunning and criticism both gather and make use of what I call "textual velocity": an intense familiarity with the space of a text that allows reader or player to make nearly any movement through that space deemed useful, whether or not that move is "intended" or expected by the author or already extent interpretive communities. Additionally, this affords access to areas that are "out of bounds"—those marginal and in-between spaces of the game map, which the designers did not intend to be playable. Within a game such as *Portal* (or a novel such as *House of Leaves*), these are the areas that offer an external vantage point, a space from which to plan and enact resistance against the hostile intelligence attempting to pull players back in and keep them trapped.[66]

In *Portal*, Chell can use these tricks to destroy the system underlying the one oppressing her, in a way more final than simply disabling GLaDOS. In both casual and

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[65] In *Quake* (and thus also *Half-Life*, which is built on the same engine), players found they could gather great speed by "bunnyhopping" repeatedly instead of running, because this prevented the game from applying friction to slow the player down. Attempting to prevent this in *Half-Life 2* (and thus also *Portal*), the developers set a speed limit—essentially, a negative velocity factor that would decelerate the player upon reaching a certain speed. However, the same factor is applied to jumps backward, so that it greatly augments velocity when such jumps are chained together. Hence, "accelerated back hopping."

[66] Cf. the "Portal [PC]" out-of-bounds race at AGDQ 2014, quoted from above.

speedrun play, the fight begins with the play rebelling against the AI's orders to incinerate themselves, instead using the portal gun to blast out of the test chambers and into the testing facility itself—leading ultimately to the ending in which Chell is either incinerated or put into narrative stasis. However, after GLaDOS is defeated, the player can, instead of escaping the compound, use a combination of glitches and precise, velocity-aided jumps in order to skip out-of-bounds and reach the cake room, where the final scene will play out. As it turns out, the actual snuffing-out of the cake candle is the trigger for the game to exit to the main menu, to run Chell through the torments of the portals once more. But if the player places an object over top of the cake before escaping, then the candle cannot be extinguished, and the game soft-locks—that is, it freezes up upon encountering an unexpected input that it cannot resolve, and it will remain locked until the program is shut off.[67]

Will Navidson undergoes a similar process in the terminal moments after his book is burned and his platform vanishes. As he "fall[s] or float[s] or I don't know what" (470), the text flips around the page, seemingly to imitate his tumbling descent; a few pages later, what looks like motion lines appear, turning on the next page into a musical staff, as he sings to himself while falling (478–9). But even this gives way to a "wordless stanza" (485)—"Except this stanza does not remain entirely empty" (487), as a lone asterisk appears amid the void. Navidson sees it as light; Zampanò speculates it is an "Ignis fatuus?", which The Editors dutifully translate as "Foolish fire. Will of the wisp."

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[67] This process may be seen at the end of the AGDQ 2014 *Portal* race.

These speculations are marked with the K that heads back to the labyrinth (488). Yet the asterisk remains—a lone exception, a glitched pixel, "a tiny fleck of blue crying light into the void"—and with that the film shuts off. But the asterisk remains: at the bottom of the page, linking one page further to the name of the processing lab: Yale [Film & Video in Valencia, CA] (490).

This is the soft-lock state: with Navidson dead, there would be no footage, no film, no occasion for the book in which Johnny Truant informs the reader that there never was any Navidson or footage or film. But it's also escape. In *The Poetics of Space*, Bachelard writes about that simplest of buildings, the hermit's hut, that "[t]he image leads us on towards extreme solitude. The hermit is *alone* before God. … And there radiates about this centralized solitude a universe of meditation and prayer, a universe outside the universe" (32). Having along the way lost all the possessions he brought with him into the house, all the friends that had aided him in exploring it, and, finally, all the physical characteristics necessary to the definition of a "house"—walls, ceiling, floor—Navidson has certainly entered into the "intense poverty [and] destitution" that is the hermit's lot. But Navidson goes one further, committing *House of Leaves* to the fire, and with it his own identity and existence. In this supremely metaleptic act, he accesses, before the God or at least Author of his being, a universe outside the universe in which he has been stranded: which is to say, he gets *out of bounds*. And what he discovers there, oddly enough, is the intimacy of home that Bachelard founded his study on, and which Danielewski set outs so stringently to deny. For that lone asterisk, whatever else it might

be, is also a flashlight beam shined into the darkness by his wife, Karen, who out of love conquers her own fears to bring Navidson out of the abyss. Navidson, meanwhile, emerges because he finds that his own love for her is the one thing he possesses that no narrative mechanism can ever strip away—and it is, ultimately, that love which he documents in *The Navidson Record*, and Zampanò picks up, and so on down the line.

As mentioned above, Danielewski claims never to have been "surprised" by an interpretation of the work; in fact, he rarely mentions specifics of anyone's reading. One exception is from an early interview: "I had one woman come up to me in a bookstore and say, 'You know, everyone told me it was a horror book, but when I finished it, I realized that it was a love story.' And she's absolutely right" (Wittmershaus). But it is not only the (quite thoroughly tested) love of Will and Karen Navidson for each other, or the love Johnny Truant seeks but cannot find in his long string of hookups, or the love of Pelafina Lièvre for the son she may have killed: as with the exploration of the house itself, it is a love that is thoroughly metatextual: the kind of love that makes us go back over and over into the darkness, gathering velocity, taking unexpected routes, searching for new possibilities to bring back out. It may only be temporary—from a cosmic standpoint alone, the poetic imagination is but the briefest of flashes in the referential void—yet it must be insisted upon: that insistence is what will allow to the network of the novel to be broken—and then immediately re-networked, linked into the wider, truer network of love and play which we all build together.

At such extremes, it becomes clear that speedrunning, like interpretation itself, is not ultimately about mastery, but rather survival—and not primarily in the sense of any immediate reading or playthrough, but rather for the perpetuation of the practice.

If *House of Leaves* represents, as Pressman writes, a new way forward for the novel in a networked age, it also poses new challenges for a networked reading practice. How we navigate texts in the present obviously affects how others will in the future, but in ways radically unpredictable, and in no way reducible to any linear metanarrative. In particular, what seems out-of-bounds today may prove standard operating procedure tomorrow, and what is out-of-bounds in the further future simply unimaginable now. This places a twinned ethical burden on any contemporary practice of interepretation: first, to push relentlessly against the perceived constraints of a text, trying to discover what previously unsuspected areas of the playerly text might lie beyond; and second, to preserve space for others' explorations—even (perhaps especially) when they appear beyond the pale—by holding off those who would foreclose upon them and reinstate the old constraints. These principles mirror the ideal of communal textual experimentation that the LP and speedrunning communities strive for[68]—and will be borne in mind throughout what follows. In chapter 2, I will consider several types of movement across these communally negotiated spaces; in chapter 3, methods for opening up and

[68] An ideal, of course, rarely being the same as the reality—as shown by the misogynistic "GamerGate" movement, which claims among its numbers several LPers and speedrunners. For a primer on the movement and the ongoing difficulties faced by women in gaming both as industry and hobby, see Wu, and the many links therein. For sexism in the LP community specifically, see Emily G.

maintaining that space against the random happenstances of life; and, in the coda, an extrapolation on what such practices have to offer an Anthropocenic world rapidly moving toward catastrophe.

Chapter 2: Routing

The previous chapter dealt largely with strategies for reading as individuals within the vastly expanded scope provided within the playerly text. In speedrunning parlance, this would fall under the somewhat confusing umbrella term *strats*, which can also refer to specific sets of strategies that serve as a contingency against unexpected happenings within a playthrough.[1] I will discuss this latter sense in detail in Chapter 3; here, however, my focus will be on "routing," the process through which a player determines which strategies to employ, and when.

Whereas strategies may often be developed on the fly, or discovered by players who are attempting to work through the game straightforwardly, routing requires concerted effort over an extended period of time, often involving a community of players, in order to settle on a workable route—and even then, the route is subject to complete overhaul as new strats are discovered and put into practice. Much of this labor is done off-screen, and not only figuratively: the repetitive actions and constant resets that make up the bulk of routing don't draw in viewers and ad revenue on broadcast platforms like YouTube or Twitch. But without this tedious practice and exploration, none of the flashy tricks or world-record attempts would be possible.

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[1] This also represents a shift in usage since the early days of speedrunning, when *strats* more generally referred to a comprehensive approach to a particular game. This meaning has now been appropriated to "route," as discussed in this chapter. See "Strategy," from a wiki site last updated in 2006.

In physical space, the parallel is to the preparations carried out by urban "freerunners," practitioners of parkour: every risky feat they carry out in plotting alternate paths up and over city spaces, rather than around them, is one that has been intensely practiced and prepared. In textual (though no less material) space, the parallel is to the training and research that precedes and informs every scholarly statement. Players, scholars, freerunners: all these investigate and implement various routes for traversing the space in front of them. In parkour, the one planning and implementing such a route is called a "traceur," both one who hurries, but also literally one who leaves a trace—the mark of a reader traversing the terrain of the text. Both Jacques Derrida and Paul Ricoeur, in differing ways, made use of this concept of the trace (in the context of *parcours*, or a "pathway") in laying out their models of interpretation.[2] Such textual navigation is at the heart of any exegesis, as the reader acrobatically leaps from one textual block to another—making use of the "textual velocity" built up during study of the work, as shown in the preceding chapter—in order to forge connections between seemingly disparate parts of a work.

In this chapter, I will demonstrate this practice of scholarly routing by charting paths through two very different novels. The first, James Joyce's *Finnegans Wake*, was already the subject of collective, collaborative study years before its 1939 publication; in

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[2] In her translation, Spivak prefers "track" for *trace*; though Christopher D. Morris objects that this may make Derrida's sense too linear: while it is spatial ("an outline, impression, or sketch), it remains potentially discontinuous. Cf. Derrida, *Of Grammatology* 61, and Morris 98. Ricoeur's *parcours*, in evidence as served as subject for an entire book, *Parcours de la Reconnaissance,* translated into English as *The Course of Recognition*.

the decades since, it has sustained and resisted attempted readings in equal measure. My chosen route enters through the games of children at play and carries into technologies of inscription and transgender studies via the Nintendo game *Metroid*. These threads carry into a discussion of zombified language and gendered, racialized labor in Colson Whitehead's *Zone One* and instructional typing games such as *Mavis Beacon Teaches Typing*, with the two brought together in the edutainment-horror game *The Typing of the Dead*.

I. Let's Play the Wake

"In play there are two pleasures for your choosing:

The one is winning, the other losing." —*Byron,* Don Juan *14.12*

Whatever else *Finnegans Wake* might be (and there is nothing it might not be), James Joyce's final novel is a playful book, in its language, with all its puns, portmanteaus, and thunderwords; in its structure, with its overall circularity, and formal gambits such as the quiz in I.6, or the annotated lesson in II.2[3]; and in its relationship to its readers, with its encouragement to chart one's own path through the book. It is even, perhaps especially, a

[3] Critical convention among *Finnegans Wake* (henceforth *FW)* commentators is to reference first by "book" (I–IV), then by chapter within that book, then by line number on the individual page.

book of play in Derrida's sense, in its looseness, in the room for negotiation in all its terms.[4]

As such it is less a book to be read than it is to be played. And it has been so since its earliest fragments were being published as "A New Unnamed Work" in *Two Worlds* or "Work In Progress" in *transition*: in particular, Joyce made a game of having readers guess what the title of the finished volume would be (and was crestfallen, not to mention badly out of pocket, when *transition* editor Eugene Jolas supplied the correct answer). This play is often collaborative: the reading history of the Wake is filled with examples of readers working together to better their collective understanding of the book, from the initial volume *Our Exagmination Round His Factification for Incamination of Work in Progress* compiled by Samuel Beckett, to the letters exchanged by Thornton Wilder and Adeline Glasheen that led to the latter's Census volumes, to the Finnegans Wake Newslitters circulating potential advances in interpretation, to the Finnegans Wiki or the *Finnegans Wake* Extensible Elucidation Treasury of the present day aiming to annotate and elucidate the entire work. Likewise, perhaps no other novel is so conducive to being read or even play-acted in a group setting; some such groups, such as the Wake group hosted by Fritz Senn at the Zurich James Joyce Foundation, have met regularly for several decades now. In his article "*Finnegans Wake* for Dummies," Sebastian Knowles even suggests that beginners approach the Wake as if it learning a sport; specifically, a "ski-slope" method (100) starting on the bunny slopes of the comparatively easy chapter

[4] As in the "free play" in "Structure, Sign, and Play" (294).

I.5, and working one's way up to the black diamond, "the dark heart of the *Wake*," chapter II.3.

As noted in chapter 1, there is significant overlap between the processes of *Finnegans Wake* scholarship and the Let's Play video format. More specifically, there are firm parallels between different approaches to the *Wake*, and different LP types; for instance, the impulse behind the speedrun, which attempts to strip a game down to only those elements absolutely required for completion, leads in *Finnegans Wake* to supposed plot summaries and attempts at "shorter versions" or "skeleton keys," a la Joseph Campbell.[5] On the other end, there are 100% completion runs where the player attempts to defeat every single level or collect every item. While this is surely impossible in Wakean terms, there are nonetheless attempts at exhaustive explication such as the *Finnegans Wake Extensible Elucidation Treasurey* (FWEET) or the *Manual for the Advanced Study of James Joyce's Finnegans Wake in one hundred volumes* organized by George Sandulescu and Lidia Vianu. (Naturally they found that, even at 26,000 pages, it wasn't enough, so they have since pushed on to 126 volumes). On the other hand are such practices as the "developer's walkthrough," a sort of feasibility demonstration theorized by Nathan Altice, in which the designer plays a very few select minutes of a work in progress for an elite trade-show audience who are likely to buy the full product when it is

[5] An antidote of sorts would be John Bishop's *Joyce's Book of the Dark*, which goes through the novel showing at each turn how it doesn't cohere, how it cannot reduce to any set of monomythic bullet points, and ultimately how it can never be completed.

completed and released—very similar to Joyce's strategy in circulating fragments from the Wake up to 15 years before publication of the novel.

But there is another relevant practice rarely seen on LP video streams or gaming convention floors, and much more often the province of the router: glitch hunting, a sort of bug testing after the fact. Those who hunt glitches repeatedly, even obsessively, pore over data from both in-game and metagame play, using emulators that allow them to operate a frame at a time, testing inputs by using a code visualizer to observe how the game's state changes on a frame-by-frame basis.[6] Such efforts can result in hundred of hours of not much at all, but can also provide major new skips for speedrun use, or reveal unused content left in the game by the developers; they can even cause the game to break down entirely. Glitch hunting revises and expands the concept of "play," because it reveals the instability of the terrain beneath one's feet. It's more a form of meta-play: as deconstruction does with the *logos*, glitching foregrounds the gaps in the code that produces the video-game environment, radically destabilizing the game text, leading to effects such as walking through walls, short-circuiting plot events, even entering spaces where the game's normal ontological conditions are suspended.

Finnegans Wake, where all spaces are permeable, all plots may be skipped entirely, and all ontologies are in flux, proves quite amenable to scholarly modes akin to glitch hunting—not least those studies that dwell on single phrases or even words in the

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[6] See the excellent interview of *Paper Mario* player aldelaro5 by PushDustin in *SourceGaming* for a rundown of glitch hunting practice, as well as examples of the practice.

work, teasing out multilayered meanings that then change how to handle everything else around.[7] Genetic critics of the *Wake* look at preliminary materials such as Joyce's notebooks both to identify their remnants in the finished book, and also to track down the original sources from which Joyce took the phrases that would appear, much mutated, in his final novel. And when games themselves are represented within the novel, they are already strangely corrupted; the "quiz" chapter, I.6—which Sean Latham argues "marks the point where [Joyce] stops writing a novel and begins crafting a game" (92)—follows a seemingly mundane structure of questions and answers, somewhat akin to the catechistic approach in the "Ithaca" episode of *Ulysses*. But where that episode breaks down at its end, with Bloom falling asleep, there's something off about the *Wake* quiz from the start, a radical disjunction such that question 1 is a single sentence 13 pages long, with the answer "Finn MacCool!", and question 11, a "mere" paragraph in length, draws an answer of some 19 pages, including the interpolation of a previously separate fable, "The Mookse and the Gripes," drawn weirdly into the orbit of the quiz. Even the less verbose questions seem broken in some way; knowing question 12 in its entirety:

12. *Sacer esto?*

Answer: *Semus sumus*! (Joyce, *FW* 168.12–13)

provides little help for those playing along at home, and is cryptic even for readers with an extensive knowledge of the rest of the book. In fact, the knowledge that the quiz is

[7] As one example, each chapter of Finn Fordham's *Lots of Fun at Finnegans Wake* takes a single word or two—"cyclewheeling history"; "I shuttm!"; "nircississies"—as its genesis.

meant to provide, as R.J. Schork writes, an "expansive introduction" to "the principal characters and primary precincts of the action" (125) may actually incite the reader: introductions are meant to clarify, or at least to provide context, yet in a book notorious for its obscurity, this introductory quiz makes matters murkier, while also asking readers to join in the absurd exercise of an impossible guessing game.

Latham recasts the quiz in videogaming terms, comparing the experience of the quiz to the acquisition of items, such as keys or ships, that make the text easier to navigate. This is literally true in the case of the sigla that Joyce used to denote character or idea complexes in his work: HCE, Anna Livia, Shem, Shaun, Issy, and all the rest.[8]

Genetic critics have shown how often Joyce used these sigla separately or in combination as prompts for further composition, with the twins Shem and Shaun, for instance, sometimes shown combined, as if two aspects of the same figure, or perhaps both facets of the encompassing HCE, while their sister Issy is sometimes twinned by her own reflection, allowing her to play dual or further multiple roles throughout the novel. Considered in terms of its sigla, the book has remarkably few characters; however, the boundaries and alliances between them are always in flux: at a fundamental level they too are glitched.

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[8] The classic text on these sigla, which would incidentally work quite well as a sequence of videogame powerup symbols, is Roland McHugh's *The Sigla of Finnegans Wake*, which provided the technical name for what Joyce called "signs." However, see as well Jonathan McCreedy's article in *Genetic Joyce Studies* for a fuller sense of how they developed and why they look as they do.

In II.1, the "Nightgames" chapter, the three children play another doomed guessing game, with Shem (playing the role of "Glugg") required to guess the color of Issy's underpants while she and her friends jeer him for every wrong guess, and shower praise on Shaun (or "Chuff"). Shem finds himself in a position familiar to many a player of the *Wake*: trying to pin down a single answer within the swirl of hundreds or millions of possibilities. And the confusion of characters doesn't help matters: "He was feeling so funny and floored for the cue, all over which girls as he don't know whose hue. … no geste reveals the unconnouth. They're all odds against him, the beasties. Scratch. Start." (*FW* 227.23–28). If he can't even identify which one is Issy, how can he hope to seize upon her color—much less such an obscure color as the apparent answer, heliotrope?

As he laments later on, pleading for them to "Lift the blank ve veered as heil!," he can see that color only as absence, as a "sight most deletious" (247.20; 30–1). There *are* clues to this "true" answer sprinkled throughout the text, as when the gaggle of girls are addressed as "O holytroopers" (223.11) or when ritual ablution is referred to as "the holiodrops" (235.5). But even if, as Sam Slote says, "Shem is surrounded by the name of the color that he is blind to in his guesses" ("Blanks" 189), that doesn't help unless he is able to read the text in which he himself is constituted—and even so, it would be possible, highly likely even, to read through and be unaware that such portmanteaus were clues to the chapter's answer. If he, or any reader of the *Wake*, is to have any success, he must leave off the attempt to "finish" this game; after all, that would only loop him back

around to the beginning again. Instead, Shem must seek out alternate methods of playing the game—specifically, he must hunt down the glitches in the text.

Issy points toward this in terms that echo later computing terminology, when she sends Shem a message at once castigating and encouraging him:

> Is you zealous of mes, brother? Did you boo moiety lowd? You suppoted to be the on conditiously reejected? Satanly, lade! Can that sobstuff, whingeywilly! Stop up, mavrone, and sit in my lap, Pepette, though I'd much rather not. Like things are m. ds. is all in vincibles. Decoded. (232.21–26).

That parting shot "decoded"/"decode it" is a taunt for a brother who has no hope of doing so; but beyond that it points to the deeper task: to "decode" not as in decipher, figuring out the one meaning of a message, but rather to take apart the code. "[H]olytroopers" or "heliodrops" can act as hints for "heliotrope"—outer garments that, once removed, afford a glimpse of what's beneath. But that inner layer is "a sight most deletious"; to reduce the portmanteaus solely to index fingers pointing at heliotrope is to delete most of the information embedded within them, and to close off any possibility of further linguistic emergence. It's rather "heliotrope" that is the index, a repository of other phonic possibilities (and, as Slote points out, heliotrope is not just a purplish color, it is also a stone, a flower, and a movement towards the sun ["Blanks" 189]).[9] The particular code being enacted has resulted in this particular game, but once that is de-coded, there is revealed the continual process of becoming out of which all such games emerge. As if to

[9] Margot Norris cites many further meanings in her drama-essay "Joyce's Heliotrope."

signal this, the game ends not with any one guess—though Shem is still without success—but with an instance of absolute linguistic possibility, the thunderword: "Lukkedoerendunandurraskewdylooshoofermoyportertooryzooysphalnabortansporthaoka nsakroidverjkapakkapuk." (*FW* 257.27–28).

Mother Brain

But this thunderword signals further complications within the children's game and the novel more generally; contradictions which I will approach via parallels between the procedures of this chapter, and a mode of glitched gameplay in the 1986 Nintendo game *Metroid*. In that game you play an intergalactic bounty hunter, Samus Aran, who must infiltrate a planetary pirate hideout and destroy biological weapons called "metroids"; this task required destroying the pirate boss Mother Brain and then escaping before the self-destruct timer runs out. The game was notable for many technical advances, in particular the possibility of scrolling not just to the right, as in *Super Mario Bros*., but also to the left.[10] *Metroid* also featured a large, nonlinear world without any obvious timer pushing the gamer forward. This left time for players to explore the games' many areas, as distinct as NES technology would allow: fiery Norfair, sleek Tourian, etc. But long after everything about the game was thought to have been discovered, gamers using a glitching trick called the "Door Jump" that allowed the character to move inside the walls and into the spaces between rooms found entirely new and never-before-seen chambers,

[10] For details, see Altice 181; the book is a testament to the importance of platform studies to a variety of disciplines, not just game studies alone.

which were immediately dubbed the "secret worlds."[11] Unlike other rooms in the game, these new chambers mixed graphical and gameplay elements from various areas, leading to theories about a hidden or never finished "hard mode" of the game. As the *Metroid Database* writes,

> For a long time, nobody knew why the secret worlds were there—were they intentional? Was the game meant to be longer? Was it released in an unfinished state? Or were the areas nothing more than graphical glitches? … [they] turned out to be nothing more than extraneous map data left outside the normal "playing area." ("Secret Worlds")

That is, the game usually keeps track of where the player is with a numerical counter to ensure that rooms are consistent within areas; however, using the Door Jump interferes with that check, so the data the game is trying to draw on is no longer valid. It is, like Shem should be, reading a blank—and this de-coded absence opens up data that, I would argue, are not "extraneous," but rather essential. The "secret worlds" show *Metroid* in the process of becoming; they are the stuff out of which the actual game map emerges.

Given the memory and hardware limitations of the Nintendo, only so many permutations were possible; Joyce, on the other hand, is working with the entirety of human language and narrative. When Beckett wrote of the *Wake* that "Here form *is* content, content *is* form. You complain that this stuff is not written in English. It is not

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[11] There is no one definitive resource on these worlds and their history, but the "Secret World" article at *Wikitroid* provides a solid overview across the series. See also the YouTube video playlist posted by the user VD.

written at all. It is not to be read—or rather it is not only to be read. It is to be looked at and listened to. His writing is not *about* something; *it is that something itself*" (14), that something is a game continually in flux, so that in one guise the *Wake* is a great jumbled "secret world" of characters and places and language, out of which emerges all of the stories we tell about such things.

The *Wake* as secret world is foregrounded in the nearest thing the novel gives as an introduction to itself, not the I.6 quiz but rather the I.5 chapter often called the "mamafesta," describing the work as a sort of Book of Kells *manqué*, giving a parodic provenance of the volume from its discovery and its many alternate titles through to its physical characteristics and speculations about its author. Just before that penman is revealed to be none other than Shem, the ersatz commentary takes up the "paper wounds" marking the text (*FW* 124.3), similar to the red dots punctuating and decorating many early Irish manuscripts.[12] These "stabs" and "gashes" are "accentuated by bi tso fb rok engl a ssan dspl itch ina" (124.2, 7–8). It's not only glass and china that get smashed here: it's the very language that makes possible the conveyance of such concepts. The overtone of "broken English" amid the word shards shows the syllables not just being broken up, but also suggesting new meanings potentially available within the components; the letters themselves analogous to the graphic resources *Metroid* draws on to cobble together spontaneous rooms for the player to explore. The process of reading

[12] Joyce derived much of the material from this section from a facsimile edition of Sir Edward Sullivan's 1920 introductory volume to *The Book of Kells*. (See Slote, "Imposture Book," which also brings Mallarmé's *Un coup de des* into the equation.)

itself—picking these bits out of the midden heap, considering them in new configurations—opens up new and unpredictable (and, thus, not always beneficial) possibilities.

The thunderword in II.1, however, poses a problem that cannot be resolved merely by breaking it down into component elements: as a summons to leave off the game, it seems to place a patriarchal, disciplinary boundary on how it might be played. The "brok engl" passage itself is situated within chauvinist arrogations of space: it originates within a "singleminded men's asylum" (124.7) and the dots poked through it come not from the reader-explorer, but rather the life-in-death throes of the expiring patriarch HCE, who "introduce[s] a notion of time … by pùnct! Ingh oles (sic) in iSpace?!" (124.10–12). Ciaran McMorran glosses the passage as the body of HCE becoming a "cosmic and typological black hole," his "developing demise accommodat[ing] the implosion of multiple spaces within the singular context of his body's soon-to-be absent space" (184): HCE is mapped onto the space of world and text alike; in his abnihilisation of etym as well as atom, he destroys everything even as he becomes everything. Furthermore, the process through which these dots or cosmic punctures were made is violently sexual: not just by being stabs and gashes,[13] but also each cluster of punctuation representing stages of sexual aggression: "These paper wounds, four in type, were gradually and correctly understood to mean stop, please stop, do please stop, and O do please stop respectively" (*FW* 124.3–5). In the joke that Joyce

[13] "Gash" in this case being primarily an ornamental flourish, however blunt the double entendre.

draws on here, in which "a young lady is being petted by a man and exclaiming," there are three more stages: "O do please!!," "O do!!!," "O!!!!" (FWEET). By cutting out before the elision of the woman's repeated refusals, Joyce shows the subtext of the joke as an attempted rape: the woman's own words are erased, and with them any ability to deny consent. It's far from the only instance of that pattern in the *Wake*: much later on, for instance, the characters (and through them, the readers) are implored to "Shop! Please shop! Shop ado please! O ado please shop!" (560.15–16). It's an advertisement of sorts delivered from within an ongoing stage play or television broadcast, this time encouraging consumption as means of participation within the show, which in Wakean fashion is also the world. Here and elsewhere, a woman's voice sounds only to reinforce a societal status quo, further backed up by a twinned threat either of erasure (if the voice speaks other than what is bidden) or overwriting via thunderword (if the response to the words risks getting out of hand).

In many ways, these thunderwords embody what Friedrich Kittler would come later to characterize as "Discourse Network 1800": an education into language and citizenship via the syllables cooed and the penstrokes (like the sigla, perhaps) trained through the voice of a mother relegated solely to domestic duties and child-rearing. Such a network is, or attempts to be, self-perpetuating: as one generation inculcates the next, it controls the language through which the latter might attempt to mount any resistance. The procedure is similar to *Metroid* where, however open the game, still there is the pull of

the final objective: defeating the Mother Brain and escaping its hideout before the *Metroid*'s only explicit clock, a planetary self-destruct "time bomb," runs out.[14]

Samus Sumus

However, *Metroid* has been running another clock in the background all along, one measuring the player's in-game time from start to finish. Even a player who finishes the game might not be aware of this timer, as its results are only communicated indirectly, in the game's final screen. Take more than ten hours to finish, and Samus faces away from the player; finish in less than ten but more than five and Samus waves to the camera. Finish in less than five hours, though, and the game reveals its biggest secret: the body underneath the suit is presented as female—and the game presents more of it still for faster finishing times, which reveal Samus in a leotard or a bikini.

This might appear to sexualize Samus in order to ensure her body remains available for male appropriation, a revelation which would risk reinscribing the discursive chain of transmission through which woman is imprinted by male cultural production so that she can in turn inculcate the next generation of male cultural producers—forced, that is, to finish the discursive turn from "Please do stop!" to "Oh, please do!" In this case Samus's fight against the Mother Brain reflects the struggle of Discourse Network 1900 against its 1800 predecessor: to fail is to form another link in the discursive chain; to succeed, however, is to be conscripted into an order where

[14] For a video of the process, see theloyl1 on YouTube.

"Women are no longer mothers and makers of meaning, but at best recorders and arrangers of temporarily meaningful noise" (Winthop-Young 71). Samus's actions are an arrangement and recording of the controller buttons pressed by the player, inputs which become meaningful only in the temporary context of fulfilling the game's objective—an electronic mediation of a biologically deterministic gender model.

Read through the lens of transgender studies, however, gender in *Metroid* proves more complex. Game director Yoshio Sakamoto admits that it was only partway though the development process that a staffer said, "Hey, wouldn't it be kind of cool if it turned out that this person inside the suit was a woman?" (Harris). While in the suit, Samus is likely to be read as male, since the actions she undertakes—jumping, shooting, collecting quest items—were with very few exceptions reserved for male avatars,[15] often in the course of rescuing passive female characters. Only at the end of the game (and not even then, for many players) is Samus "revealed" as female—yet ultimately what is revealed is the contingency of gender. Danielle M. Seid writes of the "reveal" as a moment when a transgender individual is

> subjected to the pressures of a pervasive gender/sex system that seeks to make public the "truth" of the trans person's gendered and sexed body … [it] can be seized upon by a trans person as a moment to exert agency and reveal oneself, to determine the meaning of one's own life and body … such a "performance," or

[15] See Pierce for an insightful rundown on another early game with a woman avatar, *Mach Rider*, as well as several more that pioneered in representation; Adrienne Shaw's recent *Gaming on the Edge* is further vital for looking at when, how, and to whom representation matters—as well as its flip side, appropriation.

> revealing rather than being revealed, frequently demands that trans persons continually reassert and defend their truth. (176)

What Samus reveals—and continually reasserts—is not a body unexpectedly occupying the opposite pole of a gender binary, co-opted to reinscribe the assumptions of the prevailing discourse, but rather a body representative of gender fluidity that destabilizes those assumptions, as well as the model of discourse in which they are embedded. Kittler's discursive frameworks rely on symbolically and historically-constructed gender roles presumed to be mutually exclusive—but, as with the levels in *Metroid*, the elements in these constructs are never as stable or exclusive as they are made to appear. By performing the Door Jump and accessing the "secret worlds," Samus glitches not only the game map but also the Discourse Networks, exploring the uncertain spaces out of which such configurations arise. In so doing, her body is revealed as another secret world, neither male nor female, nor any mix of the two; existing instead in a state prior to the construction of such exclusive gender identities or the teleological process required to arrive at them. Samus is trans, between gender, but also beyond and even before gender; her revelation undermines not only the assumptions of gamers brought up on gendered heroes, but also the discursive framework through which they relate to the game.

A similar revelation is available to Shem in the *Wake*, but he misses his chance by insisting on playing the guessing game by the strategies of Network 1800—looking for the female voice of Nature (refracted here as the girls of the rainbow) to provide

revelation, which will enable him to produce poetry.[16] Were the discourse to function properly, the content of this message and the vision of the body would be one, and the process assume the form of a closed loop, with the message of nature received and then amplified for future transmission. But language is not so easily controlled, in *Wake* or in life: the message is garbled; "heliotrope" comes through as "holytroopers"; Shem's guesses fall short (*FW* 225.21–7, 233.21–7), and his subsequently attempted verse (231.5–8) borders on Vogon poetry.[17] The rules have shifted around him (or were never what he thought them to be in the first place), and he is slow to adapt. His initial series of guesses focus largely on natural phenomena, on the world as it appears: the first a series of minerals, the second on the visual spectrum (in particular yellow, cf. Slote, "Blanks" 192). As he is searching intently for something that is *present*, he is unprepared to recognize that he is actually confronted with an *absence*—the "sight most deletious" (*FW* 247.30–31). For all the apparent clues and variant forms of "heliotrope" littering the text, there is no single "correct" rendering within II.1. In the absence of such a pristine example, these instances point instead towards themselves as interference, as noise, as

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[16] For Kittler, this process constitutes the basic media operation of Romanticism; cf. *Discourse Networks* 25–27.

[17] In Douglas Adams' *The Hitchhiker's Guide to the Galaxy*, the Vogons are a species at once highly advanced but also absurdly bureaucratic; the entire purpose of their civilization seems to be the production and circulation of official documents. In this way, they function as a parody of Network 1800—as also in the poetry they produce out of a sense of cultural obligation, but which serves as weapon and torture device (45). In hacker culture, "Vogon poetry" carries the further meaning of code that is bad or particularly ugly but functions nonetheless.

error. They are invitations to depart from any initial or imagined goal, and to wander within and beyond the text—a shift signaled in the final round of questioning.

There suddenly it is the Maggies who are interrogating Shem—exercising control over the narrative in a manner unimaginable within Network 1800. They mark this control by turning the tables on Shem, asking "Willest thou rosy banders having?" (250:3). The question echoes a German children's rhyme about courtship, asking a suitor to declare his intent with a rosy band, or pink ribbon (cf. Slote, "Blanks" 206), while also perhaps asking Shem if he is getting an erection from the display. This may be a taunt about his sexual orientation—Shem at least seems to take it that way, making some sort of gestural joke involving his buttocks—but at another level it is a question about his relation to gender. Slote points to an echo inserted in the galleys between this passage and the "sight most deletious," a resonance that clarifies the question somewhat: Is Shem the type to look for courtship and marriage, adopting cisgender roles and responses within a discursive system already breaking down around him? Or, having been afforded a glimpse of gender as absence, is he the type to try on other cultural, gender, and discursive configurations? In his subsequent answers an overcompensating Shem mimes the sexually aggressive acts of swabbing a chimney and cutting up maidenheads, indicating his willingness to shoulder the patriarchal burden and one day issue disciplinary thunderbolts of his own. Had he heeded the negative answers of the Maggies, he might have recognized negation as a strategy in itself: a refusal to play the game by the rules on offer. Instead, he enthusiastically plugs himself into the existing discursive

circuit; it is left to Issy to take up the mantle of Samus and find another way to play the *Wake*.

Glitching With Issy

This develops more clearly in Book II.2, when the *Wake* children proceed from games to a lesson, and the brothers attempt to engage, albeit irreverently, with the material being presented. Issy however has her own strategy: she sets about de-coding. As Jen Shelton points out, of all the "characters," Issy is the only one who "knows what she cannot know … the sigla Joyce used in his *Finnegans Wake* notebooks" (203); she lists them in a footnote as "the Doodles family" (*FW* 299.fn4), and in so doing refuses to allow the sigla to resolve and be co-opted as alphanumeric certainties. Shem might not be able to decipher or even see "holytroopers," but Issy can apparently look through that text and into the Notebooks themselves, into the raw material out of which the *Wake* will emerge.

While the brothers set about drawing their own mother's pudendum (*FW* 293)—the abiding location of the Discourse 1800 maternal brain—Issy refuses to be reduced to the next generation's geometry; as Shelton notes, Issy doesn't respond to the text so much as predict, or even dictate it: she has gotten into the code of the discourse and begun manipulating it, making it undermine and ridicule itself. Issy is a glitcher, intruding footnotes into the text and jumping into them, finding entire secret worlds to inhabit from which she can interrupt the discursive assembly line. This mode of textual interaction represents a sort of aspirational criticism, fusing the analytical with the

imaginative. Such potential is inherent (however often marginalized[18]) within the project of critique—recent projects in game criticism such as Anna Anthropy's hybrid personal history and scholarly monograph on *ZZT* or Brendan Keogh's critical LP of *Modern Warfare* may signal a shift toward an aesthetic potentially exportable to and productive within many other fields of inquiry.

Instead of playing along with hapless Shem, searching for a single certainty, we could be glitching with Issy, alive to hundreds and millions of playful possibilities, devising ways to evade and expose the basic flaws of a given configuration, and discover alternatives to inhabit. Issy's strats unlock the potential inherent in the answer concluding that final quiz question: "12. *Sacer esto?* Answer: *Semus sumus*!" (168.12–13). The despair embedded within the notion that we are the same, all Shem: all doomed to have our artistic consciousnesses subsumed amid the cyclical churn of generational inertia. But even this can be de-coded: seeing in Shem, not a finished product of a process of pedagogical inscription, but rather a composite of all potential products, parts in no way reducible to a single subject. Even the last two words can break differently, emphasizing not unity but division: *se mussumus*, muttering to ourselves, disrupting the communications of that "silent inner voice" whose inculcation was, for Kittler, the entire point of Network 1800. In Joyce's final quiz question, the Shem that is *homo sacer*[19] is

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[18] For many examples of this process at work, see Rita Felski's work of the past decade, capped recently by *The Limits of Critique*.

[19] Joyce would likely have had the term from the same source as Agamben, the *Twelve Tables* of Roman law.

also Romantic consciousness, hopelessly divided between (and at risk from) paternal blessing and curse, and ultimately giving way to its internal contradictions.

One of these contradictions—one which Kittler himself perpetuates—is the essentialized gendering embedded in the process of inscription. While male children participate in masculinity through the exercise of their inscriptive powers, women have gender inscribed onto their bodies prior to being allowed any other linguistic function. The idea that gender might not be hardwired seems foreign to Kittlerian discourse—where, after all, "there is no software." David E. Wellbery writes of the shift between systems that "Modernism … fundamentally restructures the triangular relation between men, women, and language, and therefore the relation between women and men"; namely, "whereas the Romantic discourse network monosexualizes gender [i.e. in the production loop of poetry], modernist discourse discloses a sexual difference that resists homogenization" (xxxii–xxxiii). The effect of this is to "invert the gender of writing" (Kittler, *Gramophone Film Typewriter* 183[20]), as can be seen in the figure of the typewriter—formerly (when the operating corps was largely male) the human operating the machine, later (as women came to dominate typists' positions) the machine itself. So while, per Wellbery, the split in data flows from the unbroken mediation of 1800 to the gramophone, film, and typewriter of 1900 can find an oversimplified parallel in the bureaucratic, self-perpetuating harmony of the sexes giving way to a discordant clash of two increasingly polar opposites, there is another sense in which the modernist network

[20] Henceforth *GFT*.

opens up inter- or transgender space to figures like Issy or Samus. As so often though, a possibility that could prove liberatory is co-opted instead, put into the service of industrial mass-production. The multiple identity of the individual is instead made corporate, interchangeable; a body that might have been able to move freely across gender is instead disciplined, made useful to capital:

> Bipolar sexual differentiation, with its defining symbols, disappeared on industrial assembly lines. … Two symbols to not survive their replacement by machines, that is, their implementation in the real. When men are deprived of the quill and women of the needle, all hands are up for grabs—as employable as employees. (Kittler *GFT* 187)

Even by Kittler's terms, Samus is herself sexually undifferentiated: she possesses the needle, in that much of her quest consists of seeking out and donning various outfits that allow her to survive inclement environments. But she also possesses the quill: her very body is an instrument of inscription, thanks to the complicated password system through which *Metroid* allows players to suspend and resume their game.[21] The password—24 characters in all—records every item a character has obtained, as well as every narrative flag that has been triggered (i.e. major enemies beaten, territories explored). Samus's movement through the game text is thus rendered alphanumerically; the entire world becomes the medium upon which she writes. Moreover, the password system is not easily

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[21] As Nathan Altice details, the password system was created for the North American release of *Metroid*; in Japan, the game was intended to be used along with the Family Computer Disk System, a hard drive manufactured exclusively for use with the Famicom. See Chapter 5 of *I Am Error*; 185–88 in particular.

exploitable: a checksum system ensures that passwords entered at random were highly unlikely to work.[22] And yet, anomalies abounded; one code in particular became very well known: "JUSTIN BAILEY" followed by 12 dashes, which drops the player near the end of the game with a full arsenal—including the *effects* of the various power suits, even though Samus now only wears a purple leotard. Theories abounded about this mysterious personage, speculating that Justin Bailey was a Nintendo programmer, or member of one of their families—but as it turns out, there is no such person: that combination of characters happens not only to pass the checksum, but also to hit the particular combination for a suitless Samus. Suddenly the reveal previously at game's end is made manifest from the beginning; or, in Seid's sense above, the Justin Bailey code makes it possible for her to reveal herself.

But as with any reveal, this too "frequently demands that trans persons continually reassert and defend their truth." Response to a recent suggestion by Brianna Wu and Ellen McGrody that Samus is a trans character was both vitriolic and all too predictable.[23] Any attempt to inscribe trans or genderqueer identity, or even potential identity, prompts counter-attempts to restore inscription its supposed binary balance[24]:

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[22] See the wiki post by Malake256 which, among much else that I draw on here, demonstrates that only 1 out of any 4096 passwords would function.

[23] Cf. Wu and McGrody. In a strange bit of convergence, the article appeared around the same time as my own assertion of Samus's trans identity in *Hypermedia Joyce Studies*, though obviously drawing a much, much wider audience.

[24] This continues still, across many different channels of inscription: even in the 2016 Summer Games Done Quick marathon, one speedrunner's offhand comment about his own girlfriend's transition was met with hours of transphobic messages on the event's chat channel.

Brendan Morse is typical[25] in many ways of the response, both in his casual use of the slur "shemale" and his emphatic, repeated misgendering of Wu, ostensibly in the service of defending "one of the most heroic women in video games" from the predations of an "activist." But the paradoxical effect of such interventions is not the reinforcement of gender, but rather its erasure: Samus becomes another in the army of typists, producing a new password text with each movement made, and in particular each bullet fired—the typewriter being, after all, a "discursive machine gun, 'the cheapest and dirtiest of all weapons'" (Kittler *GFT* 191–92; the latter quoting Jean Cocteau). At the same time, these password texts reconstitute Samus exactly as she is, locking her into a discursive loop of production and consumption that continually overwrite anything else she might be or become. Romanticist discourse binds one within gendered labor; modernist discourse erases gender and labor alike as a condition of that labor's continuance.

All of which circles back to Issy and the "sight most deletious" (*FW* 247:30–31), to the blankness of gender and the refusal to be any one productive thing. Shem the Penman, so desperate to exercise the tools of inscription that he'll resort to recycling his own body's waste products if need be (cf. 184.34–36), is hardly the ideal partner for rebelling against the prevailing social order—and yet in the circumscribed character space of *Finnegans Wake*, he's the only partner Issy has available, short of her other, overtly chauvinistic brother Shaun. Shem's failure at the guessing game foreshadows the

[25] In many other ways, however, he is atypical: he does not, for instance, send violent or pornographic imagery to Wu; joke about or actively threaten to rape her; post her personal information, home address, medical history, etc.

failure of the children's rebellion against their parents, or at least the failure of that rebellion to do anything other than reinscribe whatever was overthrown. And, within the confines of Joyce's work, that is where it stays, in endless loop. But just as Issy reaches outside the work to identify the sigla that condition her inscription, so too her strats reach beyond the text: to glitch, occupying and agitating from within; to decode, identifying and challenging the conditions that make oppression possible; and to delete, placing oneself under erasure rather than waiting to be erased, blunting the extent to which one's labor can be expropriated.[26] Each of these, in their own way, attempts to access a "secret world" within the discursive regime; each resists, to whatever extent possible, corporate and corporal control over the playerly text.

Before moving on to a further illustration of routing within the practice of literary criticism, one note: more discourse—in the terms of sheer proliferation and circulation of words—is in no way a guarantor of freer movement through the text, nor is there any surety that the activity of reading in and of itself will generate better, more open readings. As shown by the response to Wu and McGrody's article, and more broadly by the GamerGate reaction, any challenge to prevailing discourse will prompt an attempt to overwhelm through sheer volume and, increasingly, pure vitriol. Though the words—on

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[26] See for instance recent works on "laziness" as resistance to capital, most harking back to Paul Lafargue's 1883 essay *The Right to Be Lazy* and James Scott's 1987 *Weapons of the Weak*. For erasure in videogames specifically, see again *Depression Quest* by Zoë Quinn et al. The reaction against the game in certain sectors of the gaming community, spilling over into intense harassment of Quinn herself, is generally regarded as the starting point of GamerGate (cf. Hathaway). For more on Twine itself as a platform for cultural resistance, see Merritt Kopas's introduction to her edited volume *Videogames for Humans*.

Twitter, in comment sections, even (worryingly) over the phone or in personal email—may come from individual sources, the whole of the backlash functions as a collective, an attempt to erase resistant voices by making it impossible for them to speak. Further, this response (again in the collective) seeks to undermine any remaining resources available within the discourse by asserting its own victimhood, whether that be in the "censorship" allegedly carried out by targets refusing to engage with their tormentors, or the "harassment" carried out by those who *do* engage by publicizing the threats and abuse they receive. In such situations, it seems evident that one should side with the marginalized voices bidding for survival. But few cases are so clear-cut; no single strategy can ever suffice. So what's a reader to do? I argue that those reading to expand the possibilities inherent in a text should seek to apply two general principles, both much easier to state than to carry out. First, make room for as many voices as possible, however distant they may seem. Second, when two or more of those voices are directly antagonistic, privilege those which seek to open space for groups that have not, culturally or historically, been adequately represent within the prevailing discourse—even (and perhaps especially) if these readings don't seem to fit into any extant framework.

II. Dead Zone

"Well, if a thing is clearly dead and yet it seems to walk around, what is it? Maybe it's a zombie. And we do presently have quite a bit of stuff that might be called zombie-fiction."
— R.A. Lafferty, "The Day After the World Ended" (43)

The constellation of *Finnegans Wake*, *Metroid*, and Kittlerian media studies gathered above develops out of various configurations of discourse, gender, and labor; specifically the ways in which the former is used to erase the latter two as part of its own perpetuation. There is, however, a much more direct illustration of erased identity and co-opted labor, one that has proliferated, in mutant forms, in media ranging from videogames and film to comic books and television: the zombie. Nor has the realm of the literary stayed clear: even much-studied contemporary authors such as Margaret Atwood and Roberto Bolaño have gotten in on the act.[27] Academia too has fallen prey to the zombie horde, with scarcely a discipline uninfected: with such a swarm gathered round, it's becoming nearly as difficult to have a zombie-free day on campus as it is in the average horror flick; they lurk, never very subtly, in every dark alley of the imagination. "Zombie theory" has become a sort of cottage industry in academic publishing, with special issues and edited collections abounding to the point where one of the latter, *The Year's Work at the Zombie Research Center*, can poke fun at its own ostensible genre.

But the zombies of recent cultural phenomena such as *The Walking Dead* are far removed from the chemically stupified Afro-Caribbean slave laborers that marked the figure's initial entry into mass cultural consciousness. In *Zombie Economics*, John Quiggin conceives of "undead, or zombie ideas," those which should have died and been forgotten, but which are nonetheless "very hard to kill… they keep on coming back" (1).

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[27] Atwood in *Happy Zombie Sunrise* Home, a Young Adult-targeted online collaboration with Naomi Alderman; Bolaño in "The Colonel's Son," a work which, like many of his, was published posthumously, allowing for speculation on the "undeath" of the author.

In this contemporary form to which Quiggin refers, the zombie is less often an idea than an absence of an idea, a discursive rupture swallowing all the theoretical concepts projected onto it and lurching onward for more.[28] The zombie serves as a memento mori not only for people, but for the entire process of human cognition.

The extinction of consciousness would, one presumes, have rather stark effects on the discursive networks around that mass event. But how would such a figure arise, and even achieve a certain kind of cultural supremacy, within the network as currently configured? In this portion of the chapter, I will consider the shift from zombie as alienated labor to zombie as cognitive extinction as one of the foremost indicators of the shifts in discourse happening in contemporary culture—and yet representative of a possibility that has been embedded within various media flows and their patterns of consumption for decades (in film and games), centuries (in literature), even millennia (in writing, when construed as a technology). In particular, I will focus on the recent subgenre formation of "zombie lit" such as Seth Grahame-Smith's *Pride and Prejudice and Zombies* to show that the novel has, since its beginnings, served as both a zombifying agent and also as a sort of antidote against zombification. Furthermore, I will show how these works use the question they (sometimes not so) implicitly pose, about whether it is even desirable for human inscription to survive, as a mechanism for reinscribing the discursive conditions that lead to such abundant production of zombies. Finally, I'll examine how Colson Whitehead in *Zone One* uses the zombie-lit genre to ask whether it

[28] See further Lauro and Embry's "Zombie Manifesto," discussed below.

is even desirable for human inscription to survive, in the end answering with a heavily qualified yes that involves, even requires, the death of his protagonist and the likely future extinction of humanity to convey: we can forestall our ultimate end, the logic goes, so long as we can envision and even embrace it.

Meanwhile, within the larger scope of this project, this section will demonstrate an application of "routing" to the activity of literary criticism. As with the preparations for Let's Plays and speedruns, a great deal of background and context is required in order to establish even the basic movements through a text; beyond that further experimentation is required for routing. All this must be in place—while remaining subject to revision on the fly—before a run can be undertaken; when videogames are shown live, this work is evident but subordinated to the individual playthrough attempt. Academic writers are more likely to show *some* of their background work, but the emphasis on end product is as great or even greater, considering the importance of reaching conclusions that can be transported into other scholarly frameworks. Here I draw on the critical framework developed above, in combination with histories of the zombie trope gathered through research into primary sources and histories of cultural production of films, novels, and videogames, in order to establish a context for reading Whitehead's work—which makes use of the author's deep familiarity with both the zombie trope (and *Night of the Living Dead* in particular) and the history of the novel—alongside keyboarding edutainment games such as *Mavis Beacon Teaches Typing* or *The*

Typing of the Dead and show how the present discursive network educates us into a zombified state.

Infection

The first difficulty in any work on the zombie trope is taxonomy: while describing the zombie in an era of such proliferation might seem a simple task, even apart from the rupture between early and late zombies there is no single, definitive example that can be isolated for study. Within Romero's works, the zombie proves highly malleable: the ghouls of *Night of the Living Dead* do not reproduce through any sort of virus or infection, and do not eat brains specifically, while the "evolved" zombies of later films such as *Land of the Dead* "appear to have their own identities, personalities, and motivations" (Bishop 159), making them almost into an entirely new species.[29]

Certainly, these late Romero zombies push against the boundaries of even so broad a definition as June Pulliam's in *Icons of Horror and the Supernatural*:

> The zombie has two basic criteria. First, it must be the reanimated corpse or possessed body of *one* person (or animal) … second[, it must] lack free will. The zombie must be completely subordinate either to the will of someone else or to some monomaniacal drive. (724)

[29] Bishop finds this encouraging: "The zombie narratives of tomorrow must once again follow Romero's example and explore this idea of sentient and sympathetic ghouls if the subgenre is to remain relevant" (160). This seems to me a return to the supplantation narrative which met its terminal case in Richard Matheson's *I Am Legend* (1954), but perhaps separated from the Cold War baggage, the treatment could break new ground; one potential example is the recent television procedural comedy *iZombie*.

Pulliam's definition succeeds chiefly in bringing together pre- and post-Romero zombies under one heading, allowing victims of voodoo priests and expropriative factory owners to shamble alongside contemporary videogame fodder. By setting aside questions of transmission and reproduction, she gets as near to a zombie "master narrative" as is possible, making secondary the appetite for human flesh that is now "a fixture of pretty much every zombie story you'll see" (Newitz).

Kyle William Bishop makes his initial taxonomic distinction between "enslaved" and "infected" zombies—acknowledging the Romero shift, while seemingly leaving no place for the *Night of the Living Dead* ghouls themselves. In that film any corpse is subject to reanimation, regardless of mode of death; the zombies spread not through infection, but through killing and subsequent zombification of everyone they encounter. In the movie's diegetic world, scientists are baffled: one suggests nuclear radiation, but no one can say for sure why the dead are back, or why they're so hungry.

Extradiegetically, of course, whatever the cause, the source of this affliction is Romero himself, just as in any horror film the ultimate source of the characters' afflictions is the deranged god in the folding chair opposite. And the mechanism for their uncanny reanimation is the movie projector, which has been making dead bodies rise up for more than a century. What Bishop's model shows is the strength of the "infection" model of zombieism, which since Danny Boyle's viral "infecteds" in *28 Days Later* (2002) has given rise to a sort of zombie epidemiology; many recent works, such as Max Brooks's *World War Z*, detail attempts (failed, naturally) to find and quarantine a "Patient

Zero." Again, though, this disease vector can only lead back to Romero: while the cinematic subgenre was established as early as *White Zombie* in 1933, it was only after *Night of the Living Dead* that zombies began to infect other media as well. The rise of the infection model marks, as I shall argue, the separation between "modernist" (ie, Kittler's Discourse 1900) and "contemporary" (a would-be Discourse 2000[30]) understandings of the zombie.

Pre-Romero, as Annalee Newitz notes, "Zombies [were] black slaves … entirely connected with images of slave labor and African-Caribbean culture."[31] In *White Zombie* and other early zombie films, the primary thrust was to extend this symbolic slavery into white culture; the very reason for the title "White Zombie" was "to highlight the unusual connection between white people and zombie culture"—both a move toward the primitivist, in accord with contemporary provocations such as Paul Guillaume's 1931 remark that "the intelligence of modern man ought to become Negro" (quoted in Tythacott, 87), and also a reaction against it. In these early treatments, the white female body was particularly under threat: "The real horror of films such as *White Zombie* for its American and European audiences," Bishop writes, "is the violation of the white heroine, the imposition of a native-centric hegemony on an enlightened Westerner" (79–80).

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[30] For his own part, Kittler was always cagey about whether there was or would be such a thing as "Discourse 2000"; it was a term "used far more often by Kittler's readers than by himself" (Winthrop-Young 79).

[31] The classic literary text on the Caribbean zombie, and touchpoint for many of the authors cited here, is Zora Neale Hurston's 1938 ethnographic travel narrative *Tell My Horse*, which included encounters with and photographs of ostensible zombies. Cf. in particular Amy Fass Emery's essay in *African American Review*, which jumpstarted the revaluation of that work amid Hurston's corpus.

Following the collapse of the colonial empires in the Great War, and the national economy in the Great Depression, the efficacy of Western "enlightenment" was strongly in question; those moviegoers fortunate enough still to hold jobs in the strongholds of Fordist-Taylorist efficiency may have felt some sympathy for the drugged-up zombies forced to work all night in the fields with no wages beyond the food that keeps them going. The truly villainous presence, of course, is not the walking corpses themselves, but the industrialist who creates and controls them. *White Zombie* is thus on one level an anti-imperialist film, though ambiguously so: it reinforces the structures of white privilege, as when the heroine is rescued from zombiedom (which Bishop describes as the "sub-subaltern" position) and subsequent barbarity; as with the imperial adventure tale, miscegenation remains a bigger fear than death. While later films such as *I Walked With a Zombie* (1943) would do without the more overt racism of *White Zombie*—easing off patronizing presentations of Afro-Caribbean culture, or at least doing without the blackface—the zombie flick nonetheless stabilized around the message that exploiting native populations is wrong, but failing to defend white women and culture from black savages and customs is wronger still.

These films, of course, were also all products of the Hollywood studio system, where often actors and even directors were just interchangeable bodies ordered around by executives. The on-screen presentations of zombie slavery are thus curiously doubled: even if the zombies revolt in the movie and gain some measure of freedom, their performances are still authorized and controlled by the culture industry, which—in

Frankfurt School terms, anyway—uses them to pacify and entertain the working masses. "So powerful is the classical [Hollywood] paradigm," David Bordwell writes, "that it regulates what may violate it" (81). Zombieism on-screen feeds zombieism off it: when later cinematic zombies came to propagate by infection, the form was decades behind in catching up to what it had been doing to viewers all along.

By the time Romero, the zombie film's first auteur, arrived on the scene, the "classical Hollywood paradigm" had given way to a mode of production increasingly influenced by European art-house cinema: Bordwell, citing Peter Lloyd, finds that as early as 1961, "narrative structure had splintered, genre conventions had dissolved, linearity had been replaced by ambiguity, and the individual protagonist could no longer be seen as heroic" (373). Romero signaled his break with zombie convention by casting a black protagonist, Ben, and surrounding him with a totally ineffectual white supporting cast. Despite his undeniably heroic efforts, Ben cannot be seen as a hero within the movie itself: he meets his fate at the end of a shotgun, shot down by a white posse who took him for undead—not an unreasonable assumption in any prior film of the genre. There is no question here of preserving any sort of culture, white or otherwise; it is a question of survival alone. *Night of the Living Dead* offers a test case for Sartre: only one philosophical question is left, and that is suicide.

Hence the existential dread in that Chicago theater. Isabel Pinedo, writing on postmodern horror, identifies *Night of the Living Dead* as a departure point because of its lack of narrative closure (20): the story, like the zombies, continues advancing, mouth

open. While the early zombie films framed their returns of the repressed in colonial terms, what returns here is instead the mediated corpses created by the filming process, rising up off the killing floor in revolt against the technological device that continually slices them apart.[32] While Romero's zombies are undoubtedly a new sight on the cinema screen, his seemingly "wholly original vision," as Bishop notes, is nonetheless "an assemblage of multiple sources: voodoo zombie movies set in the Caribbean; Gothic tales of reanimated golems, insatiable vampires, fractured personalities, and haunted houses; and science fiction stories of alien invasion and the resulting paranoia" (94). Like Frankenstein's creature, the zombie is a creature of pastiche; while Pulliam is right to distinguish between the two in cases of individual bodies, the zombie post-Romero cannot be separated out from the other members of its swarm.

After eating their way through a small house's worth of bad actors in *Night of the Living Dead*, his zombies[33] begin to eat their way through consumer society in *Dawn of the Dead*. Here they are fully in Jameson's postmodern playground, shambling around the heart of late-capitalist bourgeoisie consumption, the shopping mall.[34] In *Night* the viewers saw the zombie as ultimate Other; in *Dawn* they are given themselves as ultimate

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[32] Another often-noted context for the return of the repressed here is the Vietnam War, with the zombies as the corpses of those who would never make it back home. In Kittler's view these contexts are identical (cf. the "Film" section of *GFT*, on the parallel development of the machine gun and the movie camera).

[33] Unlike many mad scientists, Romero was fully aware that he could not control his creation, remarking famously that in the case of a real-life zombie invasion, he would immediately go outside to get bitten.

[34] Although *Postmodernism* is in view here, Jameson's most trenchant commentary on the shopping mall appeared in a 2003 article on "The Future City" for *New Left Review*.

Other. The bleakness of this vision—not to mention the none-too-subtle cultural commentary of this film and the follow-up *Day of the Dead*—pushed the zombie in the direction of camp, summed up in Dan O'Bannon's *The Return of the Living Dead*, which introduced the brain-eating (and the call for "Braaaiiiiinnnsss") now inseparable from the zombie as "comic figure, [a] gross exaggeration of kitsch instead of telling social metaphor" (Bishop 158). The depth of the contempt for this movie in the critical literature is frequently hilarious, but also telling: I would argue (very speculatively) that it speaks to an attempt at containing zombies within the circle of film-buff connoisseurs, to an insistence that the zombie must *mean* something other than an absence of meaning. But the zombies had left the screen long before: in the flattened space of the postmodern, where there is no outside to the text, there is also no escaping the living dead. As they are made up of parts from many different media, so too do they turn on and devour those formats: film first, television next, then video games and graphic novels from the 1990s on, and finally, in the 2000s, television[35] and print. By the time *28 Days Later* made the epidemiological zombie the standard model (as well as the mutant "fast" branch of the taxonomic tree), the swarm had already infected every media channel and begun working its way backward, as it were, eating back into the literary past.

Epidemiology

[35] TV is an interesting case; it was "infected" early by the constant playing of Michael Jackson's "Thriller" video, and is a natural site for battles over whether cultural memory is possible or even desirable (cf. Kathleen Fitzpatrick's *Anxiety of Obsolescence*), but there was not been a show *about* zombies, per se, until *The Walking Dead*.

The sheer proliferation and uniformity of the zombie (which is to say, its two chief characteristics) led some observers to declare a state of "zombie fatigue," as blogger Jonathan McNamara termed it in asking for a break. While irked about the overabundance of zombies in videogames and on Twitter, McNamara seemed particularly aggrieved by the their presence in literature, protesting that "You can't just add 'And Zombies' to things," in the face of Seth Grahame-Smith's doing exactly that to *Pride and Prejudice*. Yet the resulting product, which McNamara called "an insult to literates everywhere," is neither more nor less infected a novel than any other; in fact, ever since its "rise"—tracked by Ian Watt and others—in the 17th and 18th centuries, the novel has itself spread like a contagious and voracious virus. The rise of the zombie novel is the culmination of the novelistic appetite, the moment when, having devoured all other manifestations of print culture, it resorts to feeding on itself.

In 1758, James Ralph in *The Case of Authors* explains "the Paroxysms of the press" thus:

> The sagacious Bookseller feels the Pulse of the Times, and according to the stroke, prescribes not to cure, but flatter the Disease: As long as the Patient continues to swallow, he continues to administer; and on the first Symptom of a Nausea, he changes the Dose. Hence the Cessation of all Political Carminatives and the Introduction of Cantharides, in the shape of Tales, Novels, Romances, etc. (quoted in Watt, 54–55)

Ralph constructs the public as a single body gorged to the point of vomiting yet inflamed by the bookseller toward ever new sources of fodder: unable to rid itself of any indigestive pressure, the reading public eats on and on, swallowing whatever is placed before it. The parallel is easily drawn to a zombified readership, and Watt's careful note that "it is very unlikely that the process was as conscious and direct as Ralph suggests" makes it more zombic still: the impulse guiding "Grub Street hacks" to write knockoffs of Richardson and Fielding is indirect and at best semi-conscious, fostering an industry in which the two supreme virtues are "speed and copiousness" (56)—just as with the contemporary, post-Boyle viral zombie swarm.

But this is to show print culture post-apocalyptically, as it were: jumping straight to the debased feast on other print media by novelist and novel-reader alike. An epidemiological investigation of British fiction tracking these disease vectors would likely find its Patient Zero in Daniel Defoe. Watt describes *Robinson Crusoe* in terms both apocalyptic and hopeful: "it is appropriate that the tradition of the novel should begin with a work that annihilated the relationships of the traditional social order, and thus drew attention to the opportunity and the need of building up a network of personal relationships on a new and conscious pattern" (92). While there is much in *Crusoe* relevant to this conceptual framework—meditations on savagery and cannibalism, on the patterns of trade and infection—it is this destruction and hopeful reconstruction of a societal network that proves overarching. In his "Attempt at a Compositionalist Manifesto," Bruno Latour writes of the need to compose "the continuity of all agents in

space and time … slowly and progressively. And, moreover, to compose it from discontinuous pieces" (484). In his first novel, Defoe sets Robinson to precisely this task; the ambiguity of agency in the environment serves to underline Latour's assertion about the "continuity of all entities that make up the common world" (485).

In epidemiological terms, though, this is just a warmup for Defoe; three years later, with two books of survival fiction by then under his belt, he made explicit the connection between fiction and disease in *A Journal of the Plague Year*. Here he brings the catastrophic destruction of the social network into the heart of England itself, detailing the events of in the Great London Plague of 1665. The plague was something of an obsession for Defoe; having lived through it as a young child, he feared its return and constantly tried to draw attention to that possibility in his journalistic work. As early as 1709, Defoe was warning of the dangers of British troops bringing plague back from engagements in Sweden; when the plague hit Marseilles in 1720, Defoe—writing as "Quarantine" in *Applebee's Journal*—provided lurid descriptions of "dead Bodies lying in Heaps unbury'd, the Stench of which is unsufferable … [of] Troops of Thieves and Murderers, that range the infected Street," and closing with the grandfather of the based-on-a-true-story narrative gambit: "We do not assert this Part of the Story at all, but relate it as we find it" (quoted in D. Roberts).

By the time the plague was back in the public consciousness, Defoe was well positioned to take commercial advantage. Four days before the Quarantine Act gained royal approval, Defoe published *Due Preparations for the Plague, as well for the Soul as*

Body; *A Journal of the Plague Year* appeared soon after. The influence of these works on zombie literature is considerable; Max Brooks, likely the best of the zombie-lit authors outside Whitehead, followed Defoe's lead in releasing first a *Zombie Survival Guide*, and later his novel *World War Z*. But an even more direct borrowing is Don Roff's *Zombies: A Record of the Year of Infection*, which purports to be the field journal of one Dr. Robert Twombly, a biologist recording his observations of the undead as he flees for northern Canada, thinking the cold will keep the undead at bay. The first-person narrative and the framing device of the journal as "found" document both recall Defoe's own presentation; where Defoe obsessively listed death counts as the plague spread throughout the parishes of London, Twombly obsessively sketches the anatomy and physiology of the undead he comes across.

While Bishop in his lineage of the zombie emphasizes the influence of Gothic literature, Defoe's detached, medically precise (for the time) treatment seems much closer in spirit to the "zombie Renaissance" Bishop shows taking place in the first decade of the 21st century. The romantically-inflected Gothic novel speaks more to the zombie as camp or kitsch; as a mutation of the novelistic disease, it functions as a "Cantharides," providing an erotic charge entirely out of place in the Romero-style zombie narrative, where reproduction is limited to the dead. Paradoxically, it is only after Jane Austen kills

off the Gothic novel in *Northanger Abbey*[36] that fiction once again opens itself to zombie invasion.

Consumption

"Tell me what you eat, and I will tell you what you are": Brillat-Savarin's famous maxim has a particular import for zombie narratives, with its central tableau of the "banquet," or lurid, graphic feast on the human body. "Zombies need to chow down on human flesh," writes Tim Cavanaugh. "True zombiephiles won't be satisfied with a few fingers or a lower leg. We want … characters we have gotten to know over the course of the movie being quartered into steaming pieces by the hunched, hungry hordes." The viewers join in alongside with the ghouls, devouring the film image even as the projector constitutes it on the screen.

D.W. Harding identified a similar mechanism at work in the prose of Jane Austen. In his "Regulated Hatred," Harding zeroes in on Austen's tendency to let slip among her more specifically directed satire remarks that are quite broad in application and cruel in intent, or as Harding writes, an "eruption of fear and hatred into the relationships of everyday social life." Resorting to a gustatory metaphor, Harding finds this "distasteful"—it "has the effect, for the attentive reader, of changing the flavour of the more ordinary satire in which it is embedded" (10). Particularly interesting here is Harding's construction of the "attentive reader," or just before, the "urbane admirer."

[36] All too appropriately, the Gothic novel escaped this grave soon after and has continued to return from the dead periodically in the centuries since.

While all readers of Austen are consuming her prose, Harding distinguishes between those who gorge and move on, and those who linger over the feast, savoring each morsel.

Harding's attention to food and feasting is natural for any reader of Jane Austen, in whose novels, as the novelist Michele Roberts notes, "food is never innocent." Roberts continues: "Good manners, in this well-regulated world, are connected both to self-control and to putting on just enough of a proper show. Characters who are greedy or over-nice about food are morally reprehensible." Choices in food are carefully calculated in Austen's works: Maggie Lane writes of the mention of *soupe a la reine* in *Pride and Prejudice* that "Based on the expensive ingredients veal stock, cream and ground almonds … [by having it prepared] Mr Bingley is humorously acknowledging that only the most elegant concoctions suit the notions of his house guests" (266).

Harding, coming off himself as a bit of a fussy eater, seems to want to hold the line on food and moral reprehensibility, arguing that when Austen fails to regulate her hatred, her banquets are no longer proper show; they are no longer spreads set for gourmands, but bodies laid out like trenchers. Drawing on, inevitably, a dinner party in *Emma*, Harding seizes on the remark that the heroine experienced there "the usual rate of conversation … nothing worse than everyday remarks, dull repetitions, old news, and heavy jokes." That "nothing worse" digs into him: "the comment, if her readers took it seriously, would be that of a disintegrating attack upon the sort of social intercourse they have established for themselves" (11). Which is to say, an attack not within the social

network, lampooning the foibles of a single member of it, but against the entire network itself, against the possibility of social intercourse: a zombie attack.

Cavanaugh writes that the "banquet, in all its silly grotesquerie, has always been the key to the [zombie] genre's seriousness … because it is where the zombie movie really luxuriates in physical dread and frailty." For all the evidently slapdash nature of his work, give Seth Grahame-Smith credit for this: he recognizes that in Austen's works likewise it is the dinner scenes that "luxuriate in physical dread and frailty." Foremost, of course, is the famed scene at Netherton, with Elizabeth Bennet "blushing with shame and vexation" at her mother's incessant goading of Lady Lucas, with the latter "left to the comforts of cold ham and chicken" (a meal generally eaten at home, alone). The quality of repast is here linked explicitly to the marital prospects of one's children: it is not only dishes like *soupe a la reine* that are on offer, but also the bodies of marriageable young men and women. Harding presumably would have these dishes offered singly for readers' delectation, so when Austen takes a swipe at the entire setting—"the achievements of the civilization she lived within" (11)—it puts him off his feed.

For Austen, a woman of marriageable age made all but unmarriageable because of her family's position and lack of prospects (and who, moreover, would have been completely subject to her husband's administration of her royalties if she *had* married[37]) to briefly forego restraint in the middle of otherwise perfectly weighted satirical passages

[37] Law professor Martha Bailey provides a complete overview of the marital laws and customs of Regency England in a recent article for *Persusasions*, the journal of the Jane Austen Society of North America.

is somehow shocking to Harding. But these rogue phrases stand out as epidemiological data points, the brief phrasings where Austen perhaps indulges thoughts of doing away with polite society. Thus, though *Pride and Prejudice and Zombies* is generically incapable of presenting its subject with either the nuance or subtlety Harding would prefer, Grahame-Smith can (and sometimes does) seize these opportunities to further deregulate Austen's hatred. If the zombie swarm is an imposition on *Pride and Prejudice*, still it is also not entirely unwelcome there. For all the obvious differences in setting, the mashup of the two reveals unexpected similarities, such as a persistent structure of "mortification" in the original, appearing some 19 times. Grahame-Smith did not introduce the walking corpses to *Pride and Prejudice*—he just added to the ones that were already there.

The Shambling Signified

Print and death have never long been separated,[38] and the mere act of writing was regarded as a sort of technological despair long before the formation of the Gutenberg Galaxy. In the *Phaedrus*, Socrates refers to written discourses held by his interlocutor as *pharmakia*—which Derrida glosses as both "drug" and "poison" (cf. *Dissemination* 1701–4). To write words was to distort them by fixing them to a certain form and time; mimesis, itself already suspect because it is twice removed from truth, has the additional and inevitable trouble of introducing flaws into its reproductions. Thus is it banned from

[38] Kittler reproduces "the oldest depiction of a print shop, 1499—as a dance of death" (*GFT* 5).

the *Republic*, with Socrates noting that mimetic poetry "is likely to distort the thought of anyone who hears it, unless he has the knowledge of what it is really like, as a drug to counteract it" (1200 [595b]). The *pharmakon* of writing must be counteracted by the *pharmakon* of the *logos*. The latter "comprehends" the former; Derrida writes of how the Socratic *pharmakon* "alternately and/or all at once petrifies and vivifies, anesthetizes and sensitizes, appeases and anguishes" (1729n5). Herein is the "contradiction" of writing, the clash of the drugs. For Plato, as later for Rousseau and Saussure,[39] writing captures language both as being and as nonbeing—as the hallucinatory compound which allows us to reproduce visions and voices not directly present to our sensorium, and also as the zombie powder which deprives us of that sensorium.[40]

So while logocentric thought had to devalue writing as a sort of "Death rehearsal" (1733), it also had to subject itself to what Kittler would call "the bottleneck of the signifier" (*GTF* 4): language could not reveal the debasement of alphabetic data encoding

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[39] Both in posthumously published works: *Rousseau* in the *Essay on the Origin of Languages*; Saussure in the notes taken on his oral lectures by students and collected as the *Course on General Linguistics*.

[40] A connection could be made here between the "voice of the master" in the first-generation zombie film—he who controls the *pharmakon*—and hashish, both in the tale of the Assassins (made into military technology by the administration of a hallucinogen) and in the writings of Walter Benjamin. In the posthumous compilation *On Hashish* (another of the books which, like the *Arcades Project*, was left unfinished at his death), Benjamin notes the scope of the work as a series of "protocols of drug experiments"; from Derrida's point of view, this description applies to all philosophy. For Kittler, meanwhile, philosophy since Plato is "based on the suppression of the very medium that gave rise to it" (Winthrop-Young 113). This connects further with the creepy funhouse-mirroring of death in the famous "His Master's Voice" ad campaign for the gramophone, in which a dying painter makes endless copies of his painting of a by-then dead dog, listening to the voice of its dead master. See chap. 7 of Thomas Jackson Rice's *Cannibal Joyce*.

without first encoding itself alphabetically. The presence of this "doubly reinforced absence" leaves the process of signification in crisis, leading Jacques Lacan to picture the signifier jostling and slipping against other signifiers, and all of them floating above an incessant stream of signifieds.[41] But this places the play of language in the idiom of the zombie film, especially *Night of the Living Dead*, where the few survivors squabble amongst themselves while the hordes of the undead press ever on. There is no escape from them—even Ben the would-be hero gets gunned down by a patrol who take him for a zombie, in the most tragic of the film's many complex mirror-misrecognition scenes.

Since Lacan, we have adapted to (or at least incorporated) the floating signifier; bringing it into the context of the digital, N. Katherine Hayles proposed the "flickering signifier," which exists in the play of pattern and randomness across many layers of code. The signifier is suddenly crystallized information, bursting forth from noise; the innate horror of this model is not the present absence of castration, but the random patterning of mutation (cf. 2170–5). In zombie parlance this marks the difference between the "slow zombie" and the "fast zombie," but regardless of the model of signification, the signifieds still swarm. Hence I suggest adding to the picture of signification, to the floating or flickering signifier, the *shambling signified*—the presence of absence in print, the randomized pattern in the digital: "non-philosophy, bad memory, hypomnesia, writing … life going out itself beyond return" (Derrida, *Dissemination* 1733). In the context of

[41] The term "floating signifier," of course, originated with Claude Lévi-Strauss in his *Introduction to the Work of Marcel Mauss*; on Lacan's borrowing and recontextualization of the term in his *Écrits*, see Mehlman.

computers, "bad memory" takes on a particularly ominous tone: the zombie is the infected sector on the hard drive, the mutated datum that will eventually, at whatever speed, overwrite all the rest. The shambling signified is the written as the process of unwriting, the effacement at the core of signification.

From the first inscriptions of narrative logic, literature has continually depicted itself in a battle with this sort of peripatetic negation, with formlessness and amnesia. From Marduk slaying Tiamat, to Milton's Satan crossing the Abyss, to Borges's Babelian librarians, this recurrent battle—in German, *Chaoskampf*—has been contested time and again, in innumerable forms. But as Hayles shows, it is not sufficient (or even possible) to *defeat* chaos; rather, it must be channeled. This is the foundation of study in complex dynamics, which Hayles examines in *Chaos Bound*. In particular she is interested in how narratives (as a form of new information) develop amid the flux of pattern and randomness, drawing on the "strange attractor" school of chaos theory to demonstrate the order deeply encoded into even those systems that remain chaotic. The *Chaoskampf* is itself one of these "strange attractors" for narrative, producing a feedback loop in which a story of "victory" over chaos reifies that victory by propagating its structure in retellings, thus planting the preconditions for future accumulations of data.

The rise of the zombie, especially in its viral format, marks the final dissolution of the *Chaoskampf*: the failure of language to signify. Any information produced by zombie epidemiology can only ever ultimately be noise: their advance represents the destruction of the very means by which we could interpret that data. Grahame-Smith early on

indicates that the zombie invasion, even aside from the brain-eating, is an attack on the intellect: Mr. Darcy is introduced not as a "man of ten thousand a year" (Austen 272), but as the "slaughter[er of] more than a thousand unmentionables since the fall of Cambridge" (Grahame-Smith 12). *Pride and Prejudice and Zombies* is itself a mapping of the destruction of a Latourian actor-network, and more ambitious works like *World War Z* project it on a contemporary, global scale.[42]

De/composition

In 2008, Sarah Juliet Lauro and Karen Embry published "A Zombie Manifesto," an essay attempting to map the many critical conceptualizations of the zombie: "threatening body, brain-dead, brain eater, blindly following its own primal urges; pure necessity, anti-productive, female, avid consumer; cyborg, postcyborg, posthuman, slave, and slave rebellion" (105–6). For their own part, they put forward the zombie as "ontic/hauntic object" that, by virtue of its ambiguous status as "being," defies the subject-object divide and implies that the only accurate way to speak of the posthuman is in the context of the antisubjective, swarm-organism "zombi(i)" yet to come (88), before suggesting, in a twist ending as predictable as any B-movie's, that not only are we likely on our way to zombi(i) status, but we might ourselves already be zombi(i)/es, without even knowing it (108, also cf. 90).

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[42] For the novel, Brooks appropriates Studs Terkel's oral-history method, from *The Good War* in particular—intriguing both dialogically and also as a reference point for the "global cognitive mapping" envisioned by Jameson for the political postmodern (*Postmodernism* 54).

Lauro and Embry are careful to note that their Manifesto is not suggesting the zombie as a symbol of liberation, rather trying to problematize the nature of embodiment, of what it means to be human amid the global capitalist order. But to Bruno Latour, these problems are less immediately relevant to questions of the zombie body and more to the nature of critique itself. Writing his own manifesto (with tongue equally in cheek), Latour proposes that it is time for the notion of *critique* made central to Enlightenment thought by Kant—"a wholesale acceptation of the divide between human and non-human"—to come to an end. Latour finds that critique, while excellent for "debunking prejudices," has "'run out of steam' because it was predicated on the discovery of a true world of realities lying behind a veil of appearances." Once this "true world," or indeed any notion of the "beyond," seems no longer attainable through debunking—once "matters of fact" themselves are "*eaten up* by this same debunking impetus" (Latour 2287, italics mine), then critique itself becomes a form of zombieism: it can consume and excrete, but it cannot *compose*.[43] Nor can it *de-compose*: while the zombie and the critic are concerned with the question of whether something *is* or *is not* a construct (Does it have a brain? Can it be eaten?), the compositionist asks whether something is *well* or *badly* constructed; for

[43] There have been, as one would expect, numerous critiques of Latour's method and political program (or lack thereof), most trenchantly in the last decade or so of Philip Mirowski's work attempting to make sense of the bewildering number of media channels across which Latour scatters his pronouncements, and also in Andrew Culp's *Dark Deleuze*, which strikes out at a philosophy of "affirmation" within the "'more is better' approach in Assemblage Theory and Latourian Compositionalism," which "lacks a theory of exploitation and fails to consider the power of disconnection" (Galloway and Culp).

while a composition may be poor on the whole, still some of its parts will be useful in the ongoing attempt reconstructing, piece-by-piece, a potential cosmos.

For critics like Lauro and Embry, this is an impossibility: a zombie manifesto "cannot call for positive change, only for the destruction of the reigning model" (91). For Latour, this is precisely what must be abandoned: "there are enough ruins" ("Compositionist" 475). Why then turn zombies loose on screen or in print? Kyle William Bishop asserts that, beyond serving as "a reflection of modern society," the zombie can act as a "preemptive panacea" (36)—a kind of vaccination against the bleakness of experience. I would skew this slightly differently, though: the zombies are, as I have shown, already embedded within all these texts: what specifically zombie film and literature allows for is a *simulation*, or a stress test perhaps, on portions of the social and cultural network around us. Zombie fandom provides an example: the flash-mob events that can quickly gather hundreds for a leisurely shamble through public areas put strain on the police network—not because they believe zombies are actually possible and real, but because there is suddenly a group of people milling about, perhaps moaning, but certainly refusing to signify.[44]

"If science could ever complete the task of explaining the world," Mark McGurl writes, "the low allegories of genre fiction would no longer be necessary." But until that time—which, as Latour might point out, will never come—"the 'badness' of actual genre fiction … is a more authentic expression of our lowly, pulpy state. Real zombie stories

[44] See further Sattar on "zombie performance."

are more honest about our essential stupidity." While Virginia Woolf can say of *Pride and Prejudice* that it is "complete in itself; it is self-contained; it leaves one with no desire to do anything, except indeed to read to the book again, and to understand it better" (105), Seth Grahame-Smith knows better: *Pride and Prejudice* exists in a perpetual moment of dissipation; it is there to be taken apart. What Grahame-Smith and others of the "lowly, pulpy" postmodern emphasize is the importance of putting some of the pieces back together—whatever the configuration.

Recon

As a writer well established within the literary scene, recognized with a Whiting Writers' Award and a MacArthur Fellowship among other plaudits, Colson Whitehead seemed an unlikely entrant on the zombie-lit scene. While others of his earlier novels played with genre—detective noir in *The Intuitionist*, small-town tale in *John Henry Days*, coming-of-age in *Sag Harbor*—all remained within identifiable "lit-fic" norms.[45] Whitehead monographist Derek C. Maus, admitting that *Zone One* "fits into my interpretive framework of postsoul historical metafiction less readily than any of his previous books," nonetheless tries to shoehorn it into a "New York Trilogy" along with *Sag Harbor* and Whitehead's essay collection *The Colossus of New York*, with little more justification

[45] Many have made the case for "lit-fic" as its own genre; for one concise case from an author of literary fiction, see Lepucki.

than that those are the three books Whitehead has written about his home city.[46] For Whitehead himself, the zombie apocalypse was a film genre first and foremost:

> I grew up on the first Romero trilogy and various post-apocalyptic films … seeing *Night of the Living Dead* when I was in sixth grade, seeing a really strong black protagonist really resonated with me. I'd seen a lot of blaxploitation films. But seeing just a normal Joe who is on the run from a white mob who wants to destroy him seems to be a part of the American chronicle. (Naimon)

Whitehead here frames his genre play—or what he elsewhere calls his genre "drag"[47]—as a means of exploring racial erasure. And race certainly seems consigned to the background in *Zone One*: the protagonist isn't definitively identified as black until very late in the book, leading one of Whitehead's commentators, Kimberly Fain, to see it as another example of what she calls his "postracial voice": "*Zone One* is a tribute to how a culture reconstructs hope and rebuilds itself in the wake of an accident or trauma, such as the unfathomable tragedy on 9/11" (137). But such a reading seems at odds not only with the facts of the book—after all, the Manhattan of *Zone One* is not and will not be rebuilt; it's a PR stunt turned death trap—but also with the deep doubts evinced throughout about what it is, exactly, that is being rebuilt. I argue instead that *Zone One* is Whitehead uses the zombie-apocalypse narrative as a way of rewriting *Night of the Living Dead* to give

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[46] Paul Auster, this isn't.

[47] Likely not referring to Judith Butler's formulation in *Gender Trouble*, but interesting to consider Whitehead's approach to writing as a similarly performative measure to avoid being boxed into any one set of societal or corporate expectations. See also Shukla for Whitehead's notion of each novel as an "antidote" to the previous one.

Johnny an ending in which he is no longer falls victim to a whiteness reestablishing its own dominance, but rather affirms a Black identity by inscribing his own narrative, on his own terms.

At book's beginning, the protagonist is on a routine sweep, helping to clear out those undead who remain in Manhattan's office buildings. For the first seven pages, he is referred to only by pronoun, as he drifts through memories and impressions from his childhood, bringing "monster movies and the city churning below"[48]—even conflating them, in recalling "the massive central-air units that hunkered and coiled on the striving high rises, glistening like extruded guts" (5). Even as a boy, he looks at Manhattan and sees that "There was a message there, if he could teach himself the language" (7)—but now he can only see "the city [as] an altar to obscurity. … the words and names were crevasses to get lost in, looming and meaningless"; even when he tries to recapture that childhood impulse, "rearranging the architecture into a message … a collection of figments and notions of things," all he can see is towers in the midst of a ruined city, "shapes trudg[ing] like slaves higher and higher into midtown" (9). This stark metaphor, sufficient of itself to show that there is nothing postracial in the post-apocalypse, is immediately followed by the naming of the protagonist—not his own name, which is never given, but a nickname which immediately erases any which went before: "They called him Mark Spitz nowadays. He didn't mind." The story behind this nom de guerre

[48] Whitehead is not only winking to the reader here, but also engaging in the long tradition of horror narratives to treat the entirety of the genre as a guide about what to do when finding oneself within a horror narrative. See Jaffe, 106–11.

won't be given for more than half the book, or completed till nearly the end; in between are only remarks about it such as "The name stuck. No harm. Affront was a luxury" (26). The name is a microaggression, but one that must be taken in the interests of social cohesion.

When Mark Spitz snaps back to his surroundings, it is to a generic "hypermodern" office space, with desks "thick and transparent, hacked out of plastic and elevating the curvilinear monitors and keyboards in dioramas of productivity" (14). Prior to the zombie plague, Mark Spitz had worked in a similar setting, manning a keyboard in the social-media wing of a coffee corporation. It is a job that "doesn't require any skills" (184); Mark Spitz, who relishes his own existence as a mediocre Everyman-type, a "template" from which others can only deviate (11, 108), turns out to be "a natural at ersatz human connection and the postures of counterfeit empathy" (186). He provides the "soul" that supposedly separates human from algorithmically-generated bot interaction—he is the ghost in this particular machine. Yet that same machine provides him his own identity: in cultivating an "individual social-media persona," he is instructed, "No cussing, no politics, use common sense"—and then that persona, already constrained by corporate imperatives, is further circumscribed by hour after hour on the job, typing pat responses to a variety of keyword prompts, "spell-checking faux-friendly compositions, hitting Send" (187). Mark Spitz's is a job that cannot (yet) be automated; his messages require a human touch to protect and advance corporate interests—where once "typewriter" named "a profession, a machine, and a sex" (*GFT* 183), now "persona" names an operator, a

function, and an exploitable identity. To the coffee company, Mark Spitz's blackness matters only to the extent that it can be leveraged for messages such as "Why don't you try our seasonal Jamaican blend next time you're in the 'hood?" (185); any assertion of race beyond this banality would be "political" and likely not "common sense"—his racial identity thus exists only in the act of erasure.

In this, Mark Spitz resembles Mavis Beacon, the iconic figure behind the *Mavis Beacon Teaches Typing* games ubiquitous throughout the 1980s and '90s, and still updated today for each successive generation of classroom computing technology. Mavis Beacon originated from an attempt to provide games with anthropomorphic representations of their computing logic, starting with *The Chessmaster 2000* depicting the player's opponent as a wizened greybeard, rather than a faceless subroutine. For their typing game, the developers hit upon their face through "serendipity"; as a recent *Vice* piece reports:

> [O]n a trip to Saks Fifth Avenue … there at the perfume counter, while shopping for a gift, [game developers] Abrams and Crane met their typing teacher. Abrams described Renee L'Esperance as a "stunning Haitian woman," with "three-inch fingernails." … despite the concerns Abrams voiced ("She's never been near a keyboard!"), they soon made a deal. Abrams told us they paid L'Esperance a flat fee [and] bought her a conservative outfit that befitted a typist … in order to take the cover photo. As for her long fingernails, Crane said "Don't worry. We won't show her hands." (Pearl)

The decision to hire a black model for the game was a gamble, for the time, but one that worked: after initial hesitations from retailers, the branding was embraced, and the character of Mavis Beacon established. Eventually the game would become "the bestselling program of any kind for the Apple Macintosh" (Macklin).[49] Already at this early stage certain aspects of L'Esperance's identity must be suppressed so that she can become Mavis Beacon: most obviously her fingernails, which would hamper typing speed, and presumably also her wardrobe, since a "conservative outfit" is supplied. But the erasure goes much deeper when L'Esperance's Haitian heritage is considered: she came to the United States after fleeing the Tonton Macoutes in her native country—the shock troops of a dictator, François "Papa Doc" Duvalier, enabled by the United States after the disastrous, bloody occupation of 1915–34 and the decades of CIA interference to follow.[50] L'Esperance's ultimate fate, after being made the face of a computer program that sold tens of millions of copies, is unknown; at some point she left the U.S. to "live quietly in the Caribbean" (Macklin). The programmers didn't stay in touch because they didn't have to: she was paid only for the individual photo sessions at the time, without any residuals in the years to follow. While L'Esperance fell silent—likely still never touching a keyboard, never having any access to the technologies of inscription—the

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[49] This, as of late 1995, well before the more familiar Apple computers of today. Macklin's article was likely the first of a long line in which one tech journalist or another rediscovers the fact that Mavis Beacon was a marketing fabrication; Biersdorfer's 1998 *New York Times* piece appears to have been carried out independently.

[50] See Shannon Rose Riley's *Performing Race and Erasure* for searing accounts of how American constructions of Haiti fed both racism at home and Duvalier's *noirisme* abroad. Of course, as C.L.R. James and many others have documented, Haiti has long functioned as a source of colonialist fears and target of imperialist aggression.

company continued to use and update her image, digitally altering her wardrobe or hairstyle, shifting her from a "more conservative" to a "modern professorial type of teacher" (Biersdorfer). The black body, stripped of its own identity, gets press-ganged into endless, unremunerated labor: Renée L'Esperance, the Haitian shop girl, becomes Mavis Beacon, the American zombie.

L'Esperance's silence is all the more striking because Mavis Beacon is quite a vocal presence within the games—although the first few editions limit her to messages delivered on skeuomorphic chalkboards, later versions on CD-ROM provided the necessary sound-file support for the teacher to address her students. But even within the first, text-only version, a clear "voice" is present: engaging, confident, sometimes chiding—if a student's productivity plummeted as attention waned, the program would tell them to "knock it off for the day"—but always encouraging. The personality also had a sense of humor, one that was more than a little bizarre. "Bizarre," in fact, was one of the program's favorite words: its dictionary, especially in the early editions, seems to favor less-often-used consonants when testing players' typing speed, producing sentences such as "Sixty-five quizzical sheep kept their jaws dry in a farm bungalow" or "Squawking gorillas could hex the brave but brazen vixens."[51] But this surface absurdity concealed perhaps the most important lesson of the program. *Mavis Beacon Teaches*

[51] As Yahweasel—the LPer whose video seems to be the only playthrough of the first edition online—remarks: "Is this what people typed in 1987?!" The bizarre consonant clusters are set off by a clever pun: in a racing minigame where the player must type characters to beat a rival racecar, the opponent's name is given as Etienne Shrdlu—a reference to *etaoin shrdlu*, the most commonly used characters in English at the time the linotype keyboard was standardized.

Typing sought to inculcate touch-typing; presenting players with nonsense phrases trains them to dissociate words and meanings. In the game, signifiers float often and flicker always, but their actual signification is the improvement of a skill deemed necessary to participate in the "information economy." In a 1989 literature review, Steve Shuller, a New York school computer coordinator, provided a look at historical typing instruction at a time when many districts were debating whether to adopt keyboarding curricula (and if so, whether to invest in *Mavis Beacon* or other programs).[52] Shuller identifies a shift in inscription that necessitates a shift in pedagogy:

> Industrial Age schools resembled factories, and funds for typewriters were only available to prepare the relatively few students who would become clerks and typists. Information Age schools must prepare the vast majority of students to use computers because they are information management tools.

Mark Spitz, as a competent but by no means exceptional student in a Long Island school, would have come through a keyboarding program likely influenced by reports like Shuller's. He would be well trained to use the coffee corporation's information management tools; if the job "doesn't require any skills," it's because keyboarding by that point is thoroughly taken for granted, and the curriculum has prepared him to type meaningless series of words in order to meet basic goals.

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[52] Information on the history of typing instruction is sparse, and worthy of future study, particularly as debate about touch-typing has revived of late, when students tend to be most adept at index-finger "hunt and peck" or thumb-typed texts. Cf. Feit et al., "How We Type."

But that training has also prepared him for his employment in *Zone One*. The undead he clears out of office blocks are now shambling signifieds, severed from whatever identities they once had. All that's shifted is the game he's playing, now no longer *Mavis Beacon Teaches Typing*, but rather *The Typing of the Dead*. The latter game is a remake of the same company's *The House of the Dead 2*, where players use a gun accessory to shoot a series of increasingly resilient zombies. In *The Typing of the Dead*, however, the player's weapon is not a gun but a keyboard; each zombie appears with a phrase or sentence over its head, and can only be dispatched by the player typing those words in correctly. The words themselves are pulled at random from an enormous dictionary file, and scale to the skill of the player—slowly increasing throughout, but then becoming easier if the player dies multiple times. However bizarre the combination seems at first,[53] the game works both as arcade-style horror and as typing instruction; it even maintains statistics on the player's accuracy and words per minute. this close conjunction of inscription technology and gun would not surprise Kittler, of course, although the literalization of the analogy might. But for Mark Spitz, the conjunction of arbitrary language and overwhelming firepower is crucial to survival. Once they succumb, what once were parents[54] or siblings or friends can no longer be considered as

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[53] *The Typing of the Dead* earned top spot in a "Top Ten Weirdest Games of All Time" by high-distribution magazine *Game Informer* in 2008.

[54] *Zone One* features a banquet scene at once worthy of Jane Austen *and* Seth Grahame-Smith: checking in on his parents in the early stages of the plague, he finds his mother "gnawing away with ecstatic fervor on a flap of his [father's] intestine," a tableau which reminds him of a primal scene from childhood, seeing his mother administering oral sex,

such. As his detail commander, the Lieutenant, says, "Mustn't humanize them. The whole thing breaks down unless you are fundamentally sure that they are not you" (195).

In the zombie post-apocalypse, "the barricade is the only metaphor left" (121); the distinction between alive and undead must be maintained by words as well as bullets. In the novel, both are manufactured in Buffalo, the fallback position of the survivors after the loss of New York (and presumably the rest of the Atlantic corridor). There what passes for a governmental authority agrees "[e]arly in the reboot … on the wisdom of rebranding survival" (98). The masterstroke of this effort is the United States becoming "no longer mere survivors, half-mad refugees, a pathetic, shit-flecked, traumatized herd, but the 'American Phoenix,'" complete with logo and branded merchandise: it's "as if the culture was picking up where it left off" (99). Those sweeping through buildings are ordered to conserve ammunition, not (as in most survival horror games) because they're scarce, but because of the imperative to minimize damage to corporate property, the better to maintain the illusion of imminent rebirth. Mark Spitz wonders if "the old bigotries [will] be reborn as well," when the Phoenix completes its rise, concluding that, "If they could bring back paperwork … they could certainly reanimate prejudice, parking tickets, and reruns. There were plenty of things in the world that deserved to stay dead, yet they walked" (288). The culture being "reanimated" was already zombified.

When the physical and metaphorical wall between living and undead falls, it falls quickly, "as if it had been created for the very instant of its failure" (275). The American

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"gobbling up his father." Perhaps in a nod to *Pride and Prejudice (*and *Zombies?)*, that incident becomes the first of his "great mortifications" (87).

Phoenix differs from the undead in degree, rather than kind; the language they manufacture, lacking in any cognitive content, is useless for (and complicit in) the extinction of consciousness, and yet they carry on shouting blanks into the void, as if like *Typing of the Dead* they will somehow stumble on a combination of words that will kill rather than strengthen the undead. But, as Tatjana Soldat-Jaffe concludes, "Part of [the zombie's] power … is the condition of language itself as a kind of a-human living death" (387).[55] Mark Spitz discovers this while still on the run, prior to sweeper duty, when he happens upon a farmhouse occupied by survivors. In this house Whitehead brings together three major media flows of the zombie apocalypse: written language, videogames, and film. The house holds the entire storehouse of the English language in the form of "an open volume of the *OED*" (211); the house's previous owner had been a professor who "taught literary theory … making her mark with an evidently groundbreaking collection of essays about 'The Body'" (213). One of the other survivors, meanwhile, formerly "script[ed] interstitial narrative sequences for a video game company that specialized in first-person shooters. In between levels, Tad's cutscenes … allowed players to rest their thumbs. A respite in their quest through the carnage" (217). Tad even has plans to gamify the post-apocalypse, with levels starting "in a fortified farmhouse in the middle of the country" and moving on to "towns, cities, each step more

[55] Soldat-Jaffe draws on the film *Pontypool*, in which the zombie virus is explicitly linguistic in both cause and effect, transmitted not through wounds but through the significations of speech; there only the "meaningless" can be withstood. The auto-generated kill-phrases in *The Typing of the Dead* would, by that standard, suffice; cf. the recent SGDQ playthrough of the game by Peaches__, including "goldfish chewing gum," "Pyramids are amazing," and "Phonically obscene words."

complicated and deadly than the last." Tad's logic is Buffalo's logic: challenges can be met and overcome; normality can be restored. But as shown by the setting, borrowed from *Night of the Living Dead*, such narrative respites cannot last: the carnage will return, the house will be overrun, not to mention the towns and cities; as Aaron Jaffe writes, the zombie's ultimate victory is guaranteed by demographics (102). Unlike Romero's film, the black protagonist here survives the military posse—only to find himself swallowed up into their ranks, and given his new name.

As he tells the story, that cognomen comes from an incident where, faced with an overwhelming number of the undead on a bridge, instead of jumping to the water below, he chooses to shoot his way out in videogame-hero fashion, the refrain "He could not die" kicking around his head; he thinks as he fires that "This was his world now … He was a mediocre man. … Now the world was mediocre, rendering him perfect" (182–3). When his cohort finds out that he didn't make the jump because he couldn't swim, they fix the name "Mark Spitz" on him; only later, as he is telling the story to a dying colleague, does he speculate that it might refer more generally to "the black-people-can't-swim thing" (287). And with that death in front of him, and the failure of the actual and metaphorical walls separating living from undead, Mark Spitz comes to recognize that "whatever the next thing was, it would not look like what came before" (320): the Phoenix vision of restoration and rebirth is impossible and undesirable. "[T]he barrier holds until you don't need it anymore" (322), he thinks, and in this thought might be the ultimate solution, if it is such, to the *Chaoskampf* of *Zone One*. Mark Spitz embraces

what he as character has been given—a name, a situation, and a reserve of mediocrity—and sets out to inscribe his own narrative upon a mediocre world. Rather than getting gunned down at a farmhouse, or dragged down by the undead, Whitehead's hero exits the narrative refusing to bear the burden of narrative closure so often placed on the suffering black body[56]: "Fuck it, he thought. You have to learn how to swim sometime. He opened the door and walked into the sea of the dead." Mark Spitz no longer needs the barrier, and so discards it, along with the discourse it was built to protect. That world expires when the words on the page run out—whatever sort of inscription system follows, it will not look like what came before. Amid the actual ruins of civilization, surrounded by but as yet separate from Lauro and Embry's zombi/i swarm, Mark Spitz neither critiques nor composes. Instead, he survives, and in so doing leaves open the possibility of writing himself into the new world to come.

[56] An exhaustive list of this cliché and its variations may be found at the TV Tropes page "Black Dude Dies First."

Chapter 3: RNG [Random Number Generation]

"In the role-playing game known as the Real World, 'Straight White Male' is the lowest difficulty setting there is." With these words back in 2012, science-fiction author (and straight white male) John Scalzi set off a firestorm online. Scalzi was attempting to illustrate the concept of "privilege" using a metaphor drawn from the process of stat allocation common to many role-playing games [RPGs], and standardized in the original *Dungeons & Dragons*. But unlike with character creation, where players can choose the makeup of their characters, here "[T]he computer chooses the difficulty setting for you. You don't get a choice; you just get what gets given to you at the start of the game, and then you have to deal with it." While making allowance for other factors such as class, inherited wealth, etc., he concludes that it's easier to live comfortably when your identity fits into categories historically normalized within society.

Scalzi's argument obviously isn't novel; it draws on a tradition stretching back, in various ways, to W.E.B. DuBois, John Rawls, and Audre Lorde, among many others.[1] Nor, as he acknowledges, is the idea of "difficulty setting" as metaphor an original contribution; at the start of an enormous comment thread, he credits that to *Cracked* writer Luke McKinney. What stands out in Scalzi's post is his emphasis on the essentially random processes at work in an individual's privilege. While no one can be

[1] In *Black Reconstruction in America*, *A Theory of Justice,* and "The Master's Tools Will Never Dismantle the Master's House," respectively; see further Peggy McIntosh's 1988 address "White Privilege and Male Privilege" which helped establish the word "privilege" as a catch-all term for structurally reinforced, unearned advantages.

reduced to the combinations and intersections of privileged (or unprivileged) categories, nonetheless each life is heavily affected by the results of these dice rolls.

In videogaming, where lives can play out in a matter of seconds, random factors that affect the success or failure of any one playthrough—anything luck-based, in short—are most often referred to by the name of the computing function that sets these parameters: "RNG," or random number generation. RNG can mean the difference between getting a needed item or going without, or between facing the strongest enemy attacks or facing no attacks at all; it can even determine whether a player will achieve a world-record time at a game, or fall short and have to reset to try again. Given its centrality to game mechanics, it's unsurprising that one of the basic techniques employed by speedrunners is RNG or "luck manipulation," seeking ways to ensure that the process will work predictably and in their favor[2]—while also preparing contingency plans, or "backup strats," in case things go badly wrong.

This chapter explores techniques for coping with and outright manipulating randomness in a disparate group of texts. In *Tehanu*, Ursula Le Guin introduces what she calls "ungendered wildness" in the form of the ultimate backup strats: a giant dragon,

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[2] The results can be dramatic: in the Nintendo RPG *Dragon Warrior*, the record time for completion was lowered from 4 hours 57 minutes down to 58 minutes by using movement and game menu options to manipulate the outcomes for all attacks and enemy encounters. NESCardinality based this run on techniques demonstrated in a TAS (tool-assisted speedrun) that advances the game a single frame at a time to determine optimal outcomes; that run, by Acmlm, takes only 17 minutes 47 seconds to complete. NESCardinality has since lowered his time to 42:21. For an introduction to various techniques for luck manipulation, see the article by that title at tool-assisted speedrun site *TASVideos*.

which incinerates a misogynist threat on the textual level while metatextually disrupting the structuralist narrative protocols of the prior three Earthsea books, attempting to clear room within heroic narrative for a tale about bodies scarred by misogynist violence—a concern that plays out cosmically, and perhaps more successfully, in *The Legend of Zelda: Ocarina of Time*. The emergence of these tales of marginal lives finds a real-life analog in those documented, briefly, within the AOL Data Leak of 2004, leading to speculation about authorship itself as an essentially random function. Meanwhile, the questions of societal surveillance raised by AOL's unethical experiment show up in Thomas Pynchon's *Bleeding Edge* (with help from *Pokémon*) as a battle with the National Security Agency over who, if anyone, gets to control the narratives of society.

I. Dragon Ex Machina

"Nobody can explain a dragon."— Le Guin, Tales of Earthsea (xvii)

The manipulation of randomness has traditionally been the province of storytellers. At each turn, the author selects, out of the huge stock of potential incidents and outcomes, those which will move the story forward or guide it toward a determined end. With so many possibilities, it seems as though there should be an almost endless number of ways to set up and explore interactions within a fictionalized society—especially within the context of fantastic fiction, where no aspect of that society need be bound by existing ideology or convention. And yet, few genres have proven as formulaic as heroic fantasy.

In his study on the "strategies" of fantasy, Brian Attebery finds that "[n]early all modern fantasy has made … raids on the recorded inventory of traditional narratives" (8), drawing on that with the effect that fantasy becomes subject to ever-narrower restrictions with each passing generation (10).[3]

Attebery rightly points out that these limitations can be generative, even comparing the genre to a game which, "As the rules become more definitive, [it] becomes easier for the novice, and, at the same time, more challenging for the expert, the artist who wishes to redefine [it] even as she plays it." This anticipates Scalzi's metaphor: beginners are likely to default to the easiest setting, whereas writers trying to do something different are likely to experience ever greater challenges. For Le Guin, this difficulty was particularly acute with respect to gender, and overcoming centuries of "suppression of the independent female hero" (Attebery 93). In a 1973 letter to friend and fellow writer Joanna Russ, Le Guin wrote of trying to write a book about one such, who could "get free quite under her own power, & go on further too," rather than serving as an instrument for a male hero's coming of age.[4] Russ sympathized: "[W]e don't seem to

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[3] Attebery's comments were written in 1992, soon after the publication of *Tehanu*. Fantasy literature in general, and heroic fantasy in particular, has come a long way since then in terms of increasing representation beyond the white European male norm. Surprisingly, though, there has been little parallel advance in the criticism of fantasy literature since that time. One of the few exceptions, Farah Mendlesohn's taxonomic *Rhetorics of Fantasy*, attributes this to the increasingly "fuzzy boundaries" between fantastic and mimetic fiction (xiii). See further Wolfe's *Evaporating Genres,* especially chapter 6.

[4] At this stage, though, Le Guin judged her attempt to be "cruddy." All quoted correspondence may be found in the relevant collections (indicated in the bibliography) at

have myths of rite-of-passage for women, except the myth of being delivered by someone else, the Sleeping Beauty sort of thing. […] We really don't have any because we have no adult state for women." In a final letter on the subject, before apparently putting the project aside (dated 24 Jan. 1974), Le Guin concurred:

> It is strange, it is something beyond strange, when you are working down in the deep levels of your being where those books came from, right down in your own mines & ancient levels, and you come upon a blocked passage & a sign saying NO ENTRY. That is in a sense what happened in all three [previous Earthsea books] when I thought I really would like my hero to be a female. Nope. No way. No archetype. No answer.

Le Guin casts her own experience of writing as a frustrated heroic quest, with both the logic and the language of the genre forbidding entry into territory beyond its narrow conventions. These constraints are evident in the initial Earthsea trilogy: *A Wizard of Earthsea* is an archetypal male rite-of-passage; *The Tombs of Atuan* starts with a young Tenar as its heroine before—in "a perfect betrayal of all I think I believe"—she has to be rescued by Ged; and *The Farthest Shore* relegates women solely to marginal roles. No female protagonist can break through this blockage from within the fantasy narrative, and no author of the fantastic can clear it using strategies derived from any normative monomythic tradition. If either writer or character is to proceed, some external force will have to remove that NO ENTRY sign.

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the Knight Library, University of Oregon. For more on this exchange between Le Guin and Russ, see Ferguson, "Earthsea at Last."

This is the situation dramatized at the end of *Tehanu*. The hero Ged and heroine Tenar are perched on the edge of a precipice and completely under the control of the dark wizard Aspen, who intends to kill them both. As the story's supremely evil character, Aspen is expected to challenge and ultimately fall before the hero.[5] But Ged lost his magic in the previous book, dueling and defeating Aspen's master; now he is powerless, unable to resist the wizard's commands. Meanwhile, Tenar is not even allowed to walk or speak: although she is ostensibly the main character of the book, in the end she is stripped of agency and voice, left with no means of resistance. In that moment, Aspen—in whom, Frederic Jameson finds, "*ressentiment* and misogyny, class superiority and the dehumanizing will to vengeance, are memorably compounded" (*Archaeologies* 67)—exercises the same stranglehold over *Tehanu* as the conventions of heroic fantasy do over the field as a whole. Only once Ged and Tenar have been written into this corner by the history of the genre itself does the impossible intervention arrive, in the form of a dragon torching Aspen and saving the heroes.

The Dragonist Revision

The sight of a dragon swooping down to save the day is such a standard fantasy trope that it almost feels borrowed from works of lesser imaginative scope; many perceptive readers have struggled to understand how the scene fits in a novel largely concerned with

[5] In videogame terms, Aspen would serve as the "end boss"; the narrative arc in many games (such as it is) owes much to monomythic elements filtered through fantasy narrative and space opera.

domestic life and the "adult state of women." Le Guin herself has evinced bewilderment over the end of *Tehanu*, noting that she had to write two successive Earthsea books, *Tales from Earthsea* and *The Other Wind*, in order to "find out who the dragons really are, and what the relationship of dragon to human is" (quoted in Rochelle, "Emersonian" 417). Elsewhere she writes of returning to her created world:

> A mere glimpse at the place told me that things had been happening there while I wasn't looking … A good deal about Earthsea, about wizards, about Roke Island, about dragons, had begun to puzzle me. In order to understand current events, I needed to do some historical research, to spend some time in the Archives of the Archipelago. (*Tales* xiii)

This shift in strategy, from authorship to readership, marks the point at which Le Guin abandons the attempt to work within the small range of randomness offered within the conventions of heroic fantasy, and instead throws open work and convention alike to random operation on a much more massive scale. Given this shift, it's unsurprising that scholarly readers trying to respond from within the those earlier conventions could not come to grips with the dragon. Warren Rochelle, whose *Communities of the Heart* remains the most successful (if still doomed) attempt at reconciling mythic structuralism with Le Guin's female rite of passage, remarks that the dragon appears in "somewhat of a *deus ex machina* fashion," excusing this apparent plotting faux pas with the almost apologetic parenthetical remark that "(this is a fantasy, after all)" (58). Marxist science fiction critic Darko Suvin wrote of Le Guin's "womanist … [and] dragonist revision," but

nonetheless bluntly admitted, "I do not quite understand the dragons" (491, 497). Nonetheless, Suvin was so staggered by *Tehanu* that he set aside his notorious contempt for fantasy literature[6] to devote himself to hunting down "what and how may be cognitive" in the latter Earthsea books (488).

For Suvin, "cognitive" is a valedictory term, derived from his longstanding work in science fiction. By his lights, that genre is characterized by "cognitive estrangement," a change to empirical reality "implying a new set of norms" that allows readers to reflect back rationally upon the historical and material conditions of their own world (quoted in Csicsery-Ronay, 118). This leaves little room for fictions set in worlds completely unrelated to our own to function as anything other than mystification. However, *Tehanu* can be "cognitive," because of its depiction of Therru, a young girl whom Tenar saved from the physical and sexual abuse visited upon her by her father and other local men. In their final attack on her, Therru was pushed into a fire, losing an eye and gaining thick scars across her face and body. Suvin argues that, since these scars remain even when (as is revealed later in the book) she turns out to be half-dragon, the book can thus speak to "a young woman or say a downtrodden immigrant into our metropolises," laying out for them a new "implicit normative horizon" in which "the wronged and wounded have a privileged epistemological status" (500).

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[6] See the *SF Encyclopedia* entry on "Darko Suvin" or, alternately, nearly any of his published works, in particular his magnum opus *Metamorphoses of Science Fiction*. Jameson on the other hand sees Le Guin's work, and *Tehanu* in particular as evidence that fantasy literature can have "critical and even demystificatory power" (*Archaeologies* 67).

Whatever the utility of Suvin's interpretations to the poorest of society, he is right to point to the strange cognition at the heart of *Tehanu*, and to locate it within the figure of Therru—after all, she is the one who calls out to the dragon at the end, and also the one whose dragon-speech name serves as the book's title. But his insistence on norms and normative horizons, however utopian the intent, risks reinstating the narrative logic that Le Guin sought to evade. It is precisely the book's encounter with disability that opens the way to the "dragonist revision"; Therru's scarring and blinded eye are only the most visible signs of what, in the Earthsea archipelago, is a much more debilitating disability. Only men can train at the magical school on Roke Island, and only men can become wizards; women can, at best, become village witches. When Aspen takes away Tenar's voice and forces her to crawl rather than walk, it literalizes her metaphorical status within Earthsea society, where the female body exists primarily to confirm male ideological superiority.[7] Women there are incompletely human—a point underlined by Aspen referring to Tenar only as "Bitch," and Therru as "Monster" (682–83).

But Therru as half-dragon destabilizes this uneven binary, in ways linked both to Suvin's "dragonist revision" and what Le Guin calls "ungendering." In a retrospective essay written after *Tehanu*, but before the final two Earthsea books, Le Guin writes of Therru as "ungendered by the rape" carried out on her—a horrifically apt phrase for the

[7] A masculine "normate," in Rosemarie Garland-Thomson's term; cf. *Extraordinary Bodies*, 8. For Garland-Thomson's appeal for an intersectional feminist disability studies, see "Integrating Disability."

long-lingering trauma experienced by victims of child abuse.[8] But this same ungendering points to her affinity with the dragon, which "rejects … [and] defies gender entirely" (*Earthsea Revisioned* 23–24). In correspondence with a graduate student, Elizabeth McDowell, Le Guin states that while many make the mistake of seeing the dragon (and with it, the entire shape of the hero-narrative) as male, more than a few others will make the contrary error, and see it and the story it resolves as female. But either supposition leads to the same "essentialist trap." The dragon is "wild," and "I want to ungender wildness." When the dragon ex machina blasts Aspen and greets Therru/Tehanu in her true name, it does not establish any normative horizon, new or otherwise. Rather, it marks the arrival of a new Earthsea, wilder, stranger, and full of possibility.

Narrative Neurodiversity

The above conjunction of disability and narrative unpredictability nears the "aesthetic nervousness" Ato Quayson develops in his 2007 study of the same name. The titular concept is what happens when "the dominant protocols of representation within the literary text are short-circuited in relation to disability" (15). In the context of the present project, Quayson's metaphor suggests disability as a site of narrative glitching, a place where the normative logic that supposedly governs story function begins to break down, to become itself disabled. Though Quayson's text is primarily concerned with physical

[8] Sandra Lindow's article on the "damaged child" figure across Le Guin's work anticipates by almost a decade the intense interest of Le Guin's work to disability studies and trauma theory; see Kathryn Allan's introduction to her edited volume *Disability in Science Fiction*.

disability, his argument is particularly acute when extended to cognitive or intellectual disability and its effects on narrative processing. The presence of a character represented as in some way intellectually disabled can challenge even the most basic of narrative assumptions; Quayson draws on J.M. Coetzee's Michael K for an example of a character whose disability, whether "real" or feigned, serves almost to nullify the story he is in—his "desire not to leave a trace" limiting the responses available to the reader as well as the other characters (Quayson 170). Michael Bérubé suggests further that "intellectual disability warps the very fabric of the text itself, producing 'disabling' effects in readers' comprehension of narrative" (37).

But I would argue that this has it backwards: representations of intellectual disability demonstrate where the text itself has already been warped, where it has been distorted to produce the fiction of narrative function. This constructed "normate narrative"—or, perhaps, to borrow from discourses on autism and theory of mind, a "narrative neurotypicality"[9]—operates by continually defining itself against some subordinated neuroatypical Other. Yet by dialectical paradox, this act of naming the Other provides it with a kind of power, and opens up possible strategies for resisting the dominant narrative's logic: narrative equivalents of what James C. Scott terms "the weapons of the weak"; i.e. "foot-dragging, dissimulation, desertion, false compliance,

[9] Other uses of these phrases—Emily Hind's "'normate' narrative" in an article on the Mexican author Carmen Boullosa (238), and Sonya Freeman Loftis's "neurotypical narrative" in the context of the Sherlock Holmes and stereotypes of autistic detectives (25), but both refer more to the position within the text of a "normal" narrator à la John Watson, rather than to its operation as a system entire.

pilfering, feigned ignorance, slander, arson, sabotage, and so on" (29). This is the hallmark of what could be called (again, in deference to established terminology) "narrative neurodiversity." Translated into story terms, it involves characters challenging narrative authority not by head-on confrontation but rather through quotidian actions and inactions quietly outside the norm, embracing the rhythms and randomness of the everyday.

For instance, Michael K's reticence and seemingly random movements (whether tactical or otherwise[10]) frustrate not only the reader, but also those members of the governing regime attempting to write the "official" narrative about his life and times—as his silence comes to dominate the narrative, it illustrates the political muffling of non-whites in South Africa, without Michael K once dwelling on the word "apartheid" (cf. Quayson 172). Within the context of Earthsea, the first three novels are governed—as Le Guin and Russ lamented—by a narrative logic that functions only so long as it excludes the female body from participation. In *Tehanu*, the damage done to Therru's body and mind ultimately leads to the confrontation that short-circuits the heroic narrative protocol, creating a hermeneutic impasse that can be resolved only through appeal to a metatextual force of vast and unpredictable power. Such examples could be multiplied, but most share in common with these two an embrace of weakness and collaborative failure—or, as Judith Halberstam puts it, the notion "that all our failures combined might just be

[10] There have been periodic debates over whether and how far along Michael K is on the autistic spectrum, as well as the more general advisability of performing diagnostics on fictional characters. For the purposes of this study, it suffices that he is represented as, to some degree, cognitively disabled.

enough, if we practice them well, to bring down the winner" (120). To explore further, I will turn again to videogames, a medium that, as game scholar Jesper Juul writes, cultivates "the art of failure."

Linked to the Past

Two of the more tedious debates about videogames circle around their status as either *art* or *narrative*. The former debate, carried out largely through mass media via pronouncements such as Roger Ebert's "Videogames can never be art," asks what videogames *can be*; the latter, conducted in myriad scholarly publications throughout the late 1990s and early 2000s and flaring up periodically since, hinged on what it is videogames *are*.[11] In both, though, the side answering in the negative evinced doubts not so much about whether videogames could speak to perennial artistic questions of love, loss, death, etc., but whether they could do so at all *well*.

Game designers have often struggled to move beyond rudimentary storytelling, even as processing power and storage space have increased. Many adopt and inhabit the reductive mode of heroic fantasy that Le Guin deplored; as critic Anita Sarkeesian demonstrates in her *Tropes vs. Women* video series, a preponderance of games involve a hero fighting a villain to rescue a helpless "Damsel in Distress." Several of the biggest

[11] Summaries abound of this latter debate, termed the "ludological vs. narratological" or "play vs. story," but most at this point concede that as with most structuralist polarities, the truth is somewhere in the middle. See Ciccoricco for a literature review, Kapell for a compendium of ideas about moving forward, and Bogost's *How to Do Things With Videogames* for a collection of short essays productively sidestepping the whole affair.

and longest-running franchises, such as the *Legend of Zelda* series, involve little else; as Sarkeesian sums up: "Over the course of more than a dozen games, spanning a quarter century, all of the incarnations of Princess Zelda have been kidnapped, cursed, possessed, turned to stone or otherwise disempowered at some point." Despite the series being named after her, it is not the princess but rather the young hero Link whom the player controls. Though the games have gotten longer and more complex over the past three decades, a few basics never change—Link ventures through overworld and dungeons, acquires ever more powerful swords and equipment, and ultimately rescues Zelda by defeating a final boss, usually the creature Ganon. Another constant is that the series tracks Link (or a series of Links[12]) through his rite(s) of passage as he shifts from child to adult, sometimes between games, as with *The Legend of Zelda* (1986) and *Zelda II: The Adventure of Link* (1987); sometimes within the same game, as in *The Legend of Zelda: Ocarina of Time* (1998).

This latter title is also one of the few in which the Princess herself takes on a more active role, albeit mostly in male disguise. In order to forestall Ganon's rise to power, Zelda first sends child Link back into the past to awaken ancient Sages who can seal away the evil creature before it achieves its reign. Once he arrives, Zelda in the guise of a

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[12] The *Zelda* timeline is both extremely tangled and highly contentious, requiring at least three alternate time tracks set within an elaborate multiverse. Even the game developers have put forward contradictory theories for how the games fit together, and whether "Link" is a series of heroes descended from an original, or a sort of eternal champion summoned to whatever time he is needed to defeat Ganon. In my treatment, I follow the nearest thing to a consensus timeline, as elaborated in the officially sanctioned *Hyrule Historia* volume (Thorpe 69, reproduced with much comment at the "Zelda Timeline" wiki page).

male ninja shepherds Link capably through five dungeons and helps him achieve the mature adulthood that will allow him to wield the Master Sword. However, "as soon as she transforms back into her more stereotypically female form of Princess Zelda, she is kidnapped within 3 minutes" (Sarkeesian). Once the female body is revealed, narrative neurotypicality—nervous from the undetected presence of female agency—reasserts itself almost immediately, returning Zelda to the role of prize for the hero who has mastered his sword. Link will kill Ganon, claim Zelda, and the two will live on to repeat the process every time the game is reset, or every time Ganon is resurrected for a new *Zelda* installment. And yet, the heroic narrative dominant has been destabilized, and not only within the context of a single playthrough: by sending Link back to the past to end Ganon's future reign, Zelda circumvents the future that leads to the original Nintendo installments, *The Legend of Zelda* and *Zelda II*, in which her damseldom is absolute. As with Le Guin's introduction of the dragon in *Tehanu*, there is no guarantee of a better future as a result of Zelda's decision—but there is the possibility of one, and that is enough.

The tension in *Ocarina of Time* between the neurodiverse and normative alternatives is reflected in Link's unstable body, flickering between child and adult states. The hero's rite of passage depends on an orderly progression from the one to the other in order to function, but here the player can revert to childhood simply by returning the Master Sword to the stone from which Link, in Arthurian fashion, yanked it. The game assumes that the player will face any given challenge in the "correct" body, equipped

with the skills appropriate to the trials ahead. But in a number of odd ways, the game mechanics reward those who sabotage this setup by arriving in the "wrong" body—and not just, as one might expect, those using the adult frame for childhood challenges. The narrative foot-draggers (as Scott might have it) who refuse to enter adulthood at all are also those who, paradoxically, are best equipped to complete the story, despite lacking every piece of equipment supposedly necessary to do so.

Consider the speedruns: at the time of this writing, the record for fastest completion of the "neurotypical" *Ocarina of Time*—the category dubbed "Glitchless," in which players complete the game "as intended"—stands at 3 hours, 38 minutes, 10 seconds (Makai4). Meanwhile the "Any%" category, in which anything is allowable, is 17:42 (Torje). The discrepancy comes not from superior strength, but by turning child Link's inherent weakness into an advantage. This is not unusual in speedrunning. Many standard techniques derive from actions that seem less than heroic on their face: for instance, "damage boosting," in which the character will take a hit from an enemy if it's faster than taking action to avoid it; or "death warping," where the character will die intentionally to restart at an earlier point rather than trekking back over the distance between ("Speedrunning Glossary").[13] But *Ocarina of Time* takes this to an extreme, to the point that the "Any%" category could also be considered a "Low%" one, completing

[13] One further speedrun category bears mentioning here: the "pacifist" run, in which a player harms no enemies except those, such as level bosses, absolutely necessary to the completion of the game. This is especially interesting in the context of games that glorify imperialist war such as the Reagan-era *Contra*, which equates communist revolutionaries such as the Sandanistas with invading extraterrestrial forces. In the pacifist run, the hero lies down in front of an oncoming tank rather than destroy it (Soig and zyr2288).

the game with as few items as possible.[14] At the final confrontation with Ganon, Link has only a wooden shield and the weakest sword in the game; the weapon he actually wields in the fight is a stick primarily used not for fighting, but for lighting torches. Additionally, Link has no healing items and only the three units of health he starts out with, two of which are used to damage boost along the way; by the end, a single hit from anything would suffice to kill him.

Despite all these disadvantages, the fight is the easiest (or at least the most consistent) part of this route. Much more difficult, because completely dependent on RNG, is the corralling of chickens in Kakariko Village. The task is oddly pastoral: there is no time limit, and no external threat menaces Link, the chickens, or the village itself in the meantime. It is not even a labor in the Herculean sense—just a minor irritant, as the birds tend to move right as the player is about to grab them and put them in their pen. Unlike Ganon—whose movements, like his narrative role, are completely predictable—the chickens move randomly, their flutterings a product of the calculations made against the game's hidden internal timer. This mundane task yields a humble reward: a simple, empty bottle, which Link will fill with perfectly normal bugs, a combination that later will allow him to "play" his stick as if it were the titular Ocarina of Time ("Ocarina Items"). By doing this while triggering a further, highly complex glitch called the

[14] See Cosmo for an excellent, exhaustively detailed commentary of an earlier world-record run of this category. Though the time has since been beaten thanks to improvements in routing, the Cosmo run remains the standard for execution and analysis.

"Wrong Warp,"[15] Link can skip directly to the site of the final battle, where he will meet Zelda for the first time and join with her to defeat Ganon.

While every step of this process is bizarre even to experienced players, perhaps the oddest thing about it is how it erases all but the barest vestiges of the heroic norm, and along with it Sarkeesian's damsel in distress trope. When Link wrong-warps into the game's end, he arrives just in time to meet Zelda, as she lands on Ganon's tower in some kind of magical gemlike conveyance. In a "regular" playthrough, it would be clear here that adult Link has freed her from captivity, but here he remains a child who has never before met her, much less been sent back in time. The two escape the crumbling edifice, and are met outside the gates by the villain's final form, which can only be finished off by the Master Sword that Link hasn't even laid eyes on yet. But because the game *assumes* the sword must be present, it is left to Ganon to provide the implement of his own destruction. In a standard game, there is a cutscene where Ganon knocks the sword out of adult Link's hands. Here, the sword still goes flying, but it's as if the villain has pulled it out of thin air as a strange sort of gift. Zelda, meanwhile, is anything but helpless: it is her magical power that stuns Ganon at fight's end, allowing Link—still in child form—to get in the final blow.

The Any% playthrough of *Ocarina of Time* reveals an affinity with Halberstam's analysis of children's animated films in *The Queer Art of Failure*:

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[15] Though too complicated to break down here, the glitch works because the game must account for the possibility that Link could be either adult or child (and that it could be day or night) when entering certain doors. For details, see the ZeldaSpeedRuns page "Wrong Warp Explained" or the briefer, less technical video by MikamiHero.

> The beauty of these films is that they do not fear failure, they do not favor success, and they picture children not as pre-adults figuring the future but as anarchic beings who partake in strange and inconsistent temporal logics. Children … have been deployed as part of a hetero-logic of futurity or as a link to positive political imaginings of alternatives. But there are alternative productions of the child that recognize in the image of the nonadult body a propensity to incompetence, a clumsy inability to make sense, a desire for independence from the tyranny of the adult, and a total indifference to adult conceptions of success and failure. (120)

The persistence of child Link glitches the heroic narrative's normative and hetero-logics, mirroring the "canonical" outcome of *Ocarina of Time*, in which the original *Legend of Zelda* timeline is erased and replaced by a fractured, dual chronology, split between an "Adult Era," where Link goes forward into the future, and a "Child Era," where he goes back into the past a final time to live out his normal childhood. The narrative neurotypical cannot be overwritten completely; it will continue to reproduce itself via future series installments, in both timelines.[16] But its instability is revealed in the mapping of Link's incommensurable body onto the chronology of the universe—and not just Link's body, but Zelda's as well, split between damsel-princess helplessness and genre-defying female agency. Zelda's initial choice to send Link back into the past is, in the end, the fulcrum

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[16] Not least in the series developer Eiji Aonuma's insistence that Link can only ever be male, and Zelda can never take the lead role in any series game, because "if we have princess Zelda as the main character who fights, then what is Link going to do?" (Totilo).

point of the entire series. If many of the games seem devoted, in retrospect, to effacing that choice, it only stands as testament to its initial and abiding power—and the importance of seizing such chances, whenever they present themselves.

Double Vision

On the way back to *Tehanu*, one final detour by way of the chickens in Kakariko Village. When Link arrives, their handler, the Cucco Lady, asks him for help because she is allergic to her livestock and cannot keep them penned. The village may be central to many of the game's narrative events, but the Cucco Lady has more quotidian concerns on her mind, and is glad for someone to help her out, hero or otherwise. The bottle she provides as reward is useful but only absolutely necessary for players carrying out the wrong-warp glitch, and even so there are three others in the game that would function identically well, one of which requires no extra time to collect. The sidequest is almost entirely superfluous to the overarching storyline—and yet, it helps establish that the world is more expansive than can be conveyed by one quest, or any number of quests: however many times Ganon is subdued, there will still be chickens to catch.

But it also seems somehow appropriate that the village serves as a waystation for speedrun attempts: Any% speedrunners can skip almost everything in the game—the time travel, the Sages, the temples and dungeons, etc.—and yet still must spend time in the village among the chickens; to be a good speedrunner of the game, one must also become, for a short time at least, a competent farmer. Even so, the chickens must

"decide" to cooperate; if they don't, then it is impossible to make up the time elsewhere. It took several thousand attempts for Cosmo to get nearly perfect (or "god") RNG, in a run where nothing else went substantially wrong. To speedrun is to fail, over and over and over again, and still not fear failure.

But this is also to tell stories; to tell ourselves the stories, even, that we are in the middle of living through or being told. Ultimately, every story fails on some level, and every guide on how stories work (or work best)—from Aristotle's *Poetics* to Blake Snyder's *Save the Cat!*—attempts to discipline this failure, and fails in the attempt. And in every story, no matter how normative or formulaic, this failure manifests in depictions of the random fluctuations of life, both great and small; any writer or reader who wishes at least to fail better[17] must cultivate a sort of "double vision" attuned to both scales, and to the interchange between them.

In *Tehanu*, this vision appears first when Tenar examines an exquisitely painted fan, depicting a courtly scene set in the capital city of all Earthsea. But at the prompting of the fan's owner Tenar opens it up to see on its other side, "dragons of pale red, blue … grouped, among clouds and mountain peaks" (557). When the fan is turned further to catch the light in a certain way "the two sides, the two paintings, [were] made one by the light flowing through the silk, so that the clouds and peaks were the towers of the city, and the men and women were winged, and the dragons looked with human eyes." She is

[17] Stealing not only Beckett's words from *Worstward Ho!,* but his entire artistic rationale. But as is often the case, the reception history gives one pause: consider Mark O'Connell's *Salon* piece on how Beckett's bleakly sarcastic litany became "the mantra of Silicon Valley."

awestruck at this new vision—and then she replaces it on the wall "as it had been, the dragons hidden in darkness, the men and women walking in the light of day."

But it also summarizes the entirety of the Earthsea series up to that point: the grand heroic narrative that will end with a courtly capital-city coronation, and the murkier tale of clouds and mountains that ends with the abused child Therru given her true name, Tehanu, by the eldest of all the dragons. The fourth book being named *Tehanu* shows which storyline will be given prominence; Le Guin is, in essence, writing of "the other side" of Earthsea. And this is of course the case: the coronation, so often the high-fantasy capstone, is completely set to the side, as the narrative focuses on domestic life, and on what she calls elsewhere the "often rather sad … backside of heroism" ("Sur," 243).

Yet if the fan serves as précis for *Tehanu*, it also indicates one of the ways that Le Guin's story will fail. Tenar has seen both sides of heroism in her life, but she cannot see both together and hold onto the re-vision beyond that brief flash of the fan. In this book, only Therru, "in whom the dragon and human nature also coexist" (Suvin 496) is able to see her situation from both sides—but she is also unable of herself to effect any change, as a result of the heroic order that has burned its adventures into her flesh. When she stares into the west, and "call[s] with the other voice the name she had heard in her mother's dream" (685), she is not only calling out to the dragon, but also pleading for justice from her creator, from Le Guin herself. Le Guin's intercession effectively amounts to an admission of failure: as it turns out, the female rite of passage could not exist within heroic fantasy as it was then configured, not without the backing of

overwhelming metaleptic force—backup strats so overwhelming that it risks establishing and enforcing a new normative horizon.

This, perhaps, is why Le Guin abdicates her authorial role after *Tehanu*: that chaotically unpredictable dragon's fire may destroy the master's house today, only to become the master's tool tomorrow. But her uneasy relation with narrative authority raises a further question: could there be narrative in which all authorship was emptied out—not just the author herself, but any notion of authorial function? In the next section, I will explore this question, with reference to the above discourses on narrative control and neurodiversity, in the vast bank of search queries released by America Online in 2004.

II. Search Histories

"how can the history on aol be deleted" — User #277447, 2006/04/26, 23:32:39

On March 1, 2012, a change in Google's privacy policy made billions of user search strings by millions of users into a proprietary data mine for the corporate algorithms to sift through and exploit. In the weeks leading up to the change, thousands of users, following the prompting of hundreds of tech writers and web-privacy gurus, deleted their Google search histories in an attempt to elude the data synchronization that Google has promised will provide a "better, more intuitive user experience" across its arsenal of tools and devices (Whitten). This new "experience," bringing together data from Gmail,

YouTube, Android phones, Google Maps, Books, Docs, Google+, and anything else accessed while logged in to any of the foregoing, seemed a natural endpoint for the path Google had charted over a decade of consolidation and expansion. But it nonetheless provoked any number of Silicon Valley observers to identify this as the point at which the corporation irrevocably abandoned its famous informal slogan, "Don't be evil"—none more hyperbolically than Gizmodo columnist Mat Honan's "Google's Broken Promise, The End of 'Don't Be Evil'," which came with a graphic of Google founders Larry Page and Sergey Brin as pointy-toothed nightmare creatures.[18]

More thoughtful observers, such as Tim Carmody of *Wired*, framed the event in less apocalyptic, more personal terms. Having described Google at the time of the announcement not as an *evil* presence so much as an "uncanny" one—"something that despite conjecture, projections, fictions, and a combination of excitement and foreboding, we haven't fully prepared ourselves to recognize yet" ("Google Streamlines")—Carmody devoted his column on that fateful March 1 ("A Button That Makes You Forget") to the experience of deleting his search history in advance of Google's policy shift. After noting the irony of finding, among his very earliest searches, queries for articles on the "forgetting pill" and an EU law about a "right to be forgotten forever," Carmody describes the poignance of revisiting searches for Halloween outfits for his son, for course materials to teach, for "mundane things, like bread recipes or directions across town." And then: "Suddenly, it's a train wreck. Titanium plating and rehabilitation clinics

[18] Of course, Google had actually attempted to distance itself from the "Don't be evil" slogan years earlier; see Foremski.

for a badly broken arm. Disability and unemployment benefits. Speech therapy for toddlers. Emergency child care. Respite care. Autism. Autism. Autism."

Big Data

What Carmody discovers here—along with the myriad others reviewing and deleting their web histories about that same time—is that our searches tell stories about us, narratives no less narratives for lack of explicit, intentional narration on our part. This may seem obvious enough on the level of marketing data, where our searches become texts to be pored over by a readership of subroutines. But, as an investigation of the form will reveal, when considered as actual stories, told by an ambiguous author-function to an audience of no less ambiguous constitution, the individual search history can often prove as compelling or moving as the most personal diary or journal. The corporate search history, meanwhile—many individual histories gathered together—can be startling or overwhelming, a literal wealth of information with no clear literary precedent, bar an abstract parallel to Deleuze and Guattari's rhizomatics.

As most of us are not CEOs or corporate marketing researchers with licensed access to the searches of millions of users, any investigation of this form must necessarily be limited to one particular (though still massive) chunk of data, one of the unrecognized classics of American born-digital literature: the database America Online irresponsibly released into the public domain on 4 Aug. 2006. This tab-separated text file, offered for free download from AOL's own resource page, contains 20 million Internet search

queries made by 658,000 AOL users over the three-month period from March to May 2006. According to the AOL spokesperson given the unenviable task of facing the press after this act of jaw-dropping corporate malfeasance, "[T]he total data set released covered roughly 1.4 percent of search users in May 2006, or about one-third of 1 percent of the total searches conducted through the AOL network over that period" (Naraine). On its own, this would have been a serious breach of ethics—the customers had never been notified that their searches were being saved, let alone that they might be shared with outside agencies—but not an uncommon one in an era when, as is increasingly clear even to casual web surfers, customer information is a supremely valuable commodity.[19] Where AOL went seriously and bizarrely wrong was in assigning each customer a unique identification number, making it possible to track searches made by any individual account across that three-month period, and to cross-reference personal identifiers (Social Security numbers, addresses, drivers' licenses) to other searches—for advice on medical problems, or sexual questions, or emotional crises—that were often embarrassing and sometimes incriminating. (Many of those performing so-called "vanity searches" for personal identifiers, of course, were likely doing so to see how much of the content of their wallets was being made freely available through unethical means.) AOL removed the file from its servers, and fired a few technicians by way of apology, but by then three days had passed and thousands of copies of the file were already circulating on the Net.

[19] Following their 24 Jan. 2012 announcement, Google was forthcoming to the point of annoyance about the planned changes, directing users almost incessantly to its Policies page—some lessons, at least, were learned from the AOL debacle, if perhaps only in the area of legal liability.

Savvy programmers set up the file as a publicly available database, one that could be searched either for a single user's searches throughout the three-month period, or for single terms and phrases across the entire document. These two modes of search produce what I have called above the individual and corporate search histories—though I will consider each in turn, it is worth noting at the outset that the experience of reading the two is not so easily distinguished; as with the rhizome, any search "can be connected to anything other, and must be. This is very different from the tree or root, which plots a point, fixes an order" (Deleuze and Guattari, *A Thousand Plateaus* 7).[20] Rather than impose unity, the search history indulges multiplicity: it always has multiple entryways (*ATP* 12). Though initially, the data would have been available only from the root-tree of America Online—at the peak of its market share, one of the most hegemonic corporations ever to control access to the flow of information—now the file is freely available from a number of sources. For this study, I will be making use of the wonderfully-named AOLStalker.com—one of the Web pages set up in the wake of the database's release—to process my own queries of AOL's ill-begotten text file. In addition to ease of use and the simplicity of its presentation of basic searches, AOLStalker offers several additional features, which I will address later on.[21]

Each search history, then, is an assemblage of one user's queries over the three-month period, chronologically arranged, along with any websites visited as a result of the

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[20] Further references to *A Thousand Plateaus* will be cited parenthetically in the text as *ATP*.

[21] In order to reproduce the full search histories I excerpt here, simply enter http://AOLStalker.com/XXXX.html, where "XXXX" is the user's ID number.

search. While many of the histories comprise only a handful of queries from a single session, others are long series of searches, records of that user's struggles with a single problem, or a series of related problems, over the entire three months. It is in these longer histories that one mostly clearly sees the glimmer of story: the most extensive seem to display plot, characterization, point of view, and various tricks of style.

Consider AOL history #711391, which approaches, as nearly as the form is able, the scale and sweep of a *Madame Bovary*. On March 1, 2006, at 1:24 AM, the history opens with the user typing in the search string "can not sleep with snoring husband"[22]—repeating the search nine minutes later at 1:33. Over the next couple of days, #711391 enters searches in the area of relationships: "online friendships can be very special"; "friends online can be different in person"; "how to flirt with a man." Early April sees another cycle of relationship searches: "women have a great power over men"; "how to drive a man crazy with desire for you"; and half an hour later, "how to move on when you've been offended"; "can you really get to know someone through the internet." Whatever doubts #711391 may be entertaining on the subject, they appear to be set aside by April 8: "nervous about meeting online friend"; "god does not want you to worry because he will help you." By the 17th the searches have become more explicit: "should you plan sex before meeting a cyber lover."

At this point, a battle of conscience appears to ensue: "husband does not think it is good idea for me to meet my online friends" and "how can i tell if my spouse put

[22] All database quotations *sic*.

spyware on my computer"[23] are followed up by "tempted to have an affair" and "affairs are not the anser." But #711391 pushes on, and a long chain of searches circling around San Antonio, May 4, and a particular hotel indicate that a rendezvous may have been set. Preparations are made, the date comes and goes: when #711391 returns to the account on May 5, the queries are telling: "affairs can be devastating"; "should you cut off all ties with someone you are having an affair with"; "when you have an affair you hurt yourself worse than anyone"; "i met my cyber lover and the sex was not good." This flurry continues for weeks as the searcher deals with the aftermath of the unsatisfactory meeting: there are queries relating to avoiding an ex, getting back in touch with an ex, and finally, at 20 minutes to midnight on May 31, "how to make a man want you".

As the arc of the affair has an identifiable "beginning" and "end," this sometimes tawdry, sometimes troubling, often touching document may seem to follow a more traditional, arborescent literary structure, with tension, climax, and denouement all in proper order. But this is deceptive: my retelling has left out many of the other concerns which appear in #711391 from March to May: subjects of inquiry include squabbling siblings, a sick dog, and a curious and possibly cancerous skin growth treated by cryosurgery; even more insistent is a pattern of searches for information on and erotica relating to celebrities and bisexuality.

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[23] Ironically, the searcher is deeply concerned throughout with the privacy of these very same searches and records of websites — the concentration on the data as it might linger within the memory of the computer terminal itself, or as it might be intercepted by spyware or tracking programs, only serves to underscore how little suspected was AOL's caching of these searches, or the possibility of their release.

As these do not fit the narrative I wished to demonstrate, I skipped them. Yet they are every bit as much a part of the database as the will-they/won't-they story of the affair, and taken together they demonstrate something very much like the user's uncensored stream of consciousness during those moments spent online. The relevant distinction here from *ATP* is that between a map and a tracing: whereas a tracing superimposes itself upon a surface, limiting the possibility of motion to linear progression between clearly defined beginning and end points; a map offers freedom of movement and exploration across an entire, continuous plane; as the authors note, "The map does not reproduce an unconscious closed in on itself; it constructs the unconscious" (*ATP* 12). To single out the affair without making mention of any other search terms would be to impose my tracing over top of search history #711391. In effect, this maneuver is a microcosmic recreation of America Online's original error. By allowing individual users to be tagged, they impose a beginning and end onto them: their searches and stories in most cases extend beyond the artificial boundaries of the AOL test period, but all we can know of them is the tracing reproduced by querying the database.

This leads to a second way that my selective retelling misrepresents #711391: the question of authorship. Another example may help: take User #1427343.[24] Throughout March and early April, user #1427343 makes various searches about women's hairstyles, dog breeds, and fantasy football. Come April 2, there is a search for "pittsburgh galleria mall," and then ten hours later a flurry of searches for information on "statutory rape

[24] The more of these one reads, the more the identifying tags come to sound like prisoner ID numbers.

pennsylvania," "mandatory sentencing pennsylvania," and the jail, district attorney, and public records of Lawrence County, PA. After this flurry, there is nothing until May 6, with searches for "free downloadable games" and "handmade glass pendants."

I make no assumptions about other readers, but my brain is eager to fill in that missing month—and somehow also to incorporate the inexplicable twist ending of "baby born with three arms." Because the account is necessarily indeterminate, it's much more difficult to impose a narrative tracing over top of this search history. But there is still a pitfall here: the assumption that all of these searches were "authored" by a single person, when it is eminently possible that the account is shared between a couple or among a household, or is just being used by a visiting friend or fugitive from the law. Further complicating this notion of the "user" or "author" of a search history is, first, that many people maintain online identities or avatars with little to no connection to their life in the flesh; and second and more widely, that search histories can also be constructed out of the database by querying words or phrases rather than account numbers, producing a cross-sample of all users that is often fascinating from a sociological (or pathological) perspective.

Cyber Domesday

In fact, the closer the notion of authorship is examined in connection with the AOL database, the more it appears to be something like Derrida's "transcendental signified," in that it is always somewhere else ("Structure, Sign" 279). Who, after all, is the "author" of

a three-month sum total of 578,000 user-accounts' searches for "palestine," "pasta," or "pornography"? The author function cannot be said to reside in the "user" (however defined), nor in the search program, the database, the programmer of either of these, the maintainers of the websites visited, or the re-searcher tapping into any or all of the above. Instead, as Derrida's investigations lead to a model of neverending play in language, there is here neverending play in authorship, as the function is continually negotiated through the unwitting cooperation of all parties. Narrative here becomes both eccentric and decentered, without beginning or end: the database released by AOL a snapshot of this process in development. In this sense the whole thing is merely one tracing imposed on the entire search map of the Internet—the reproduction of an unconscious, however vast, that is centered on these three months and hence closed in upon itself. But tracings "should always be put back on the map" (*ATP* 13); though the two are not identical, still the tracing once reapplied can provide insight into the workings of the map from which it was derived: so also with the AOL database and the ongoing, ever-proliferating rhizomorphic database of all searches everywhere.

The 439 megabytes and 36,389,569 queries of the AOL database constitutes something like a Domesday Book[25] of the unconscious mind, providing an uncensored look at a statistically significant cross-section of the American public over the three months of the experiment.[26] Across this segment, one can track nearly in real-time queries

[25] Itself now searchable online through the Open Domesday project.
[26] The stereotype of the typical America Online user has changed drastically since this time, of course; 2006 marks a midpoint between AOL as Internet service provider of first

for information relating to broadcast events (the Academy Awards, the NCAA basketball Final Four), natural disasters (tornadoes in Tennessee, wildfires in Texas), and national conversations (immigration, terrorism, disaster response). Many of these latter, especially, come back strangely refracted through the lens of the corporate search history; for instance, while the term "torture" pulls up some 1,695 queries, very few of them are related to the abuses committed at Abu Ghraib prison, given thorough documentation by Salon.com on March 14, 2006 ("Abu Ghraib"). Instead, the vast majority of them seem sexual and sadomasochistic in nature, with appended terms (among them "femdom," "bladder," "electrical," "tickle," and, oddly, "wooden horse") indicating concerns less civically than erotically-minded—a survey confirming Žižek's linkage of various defenses of torture to the isolated though synchronized masturbatory acts of the post-political body public ("Masturbation").

But if the AOL database resembles Domesday in the mass of its data, it does so also in its original motivation of producing streams of revenue. Domesday was undertaken to ascertain property valuations, so that tax officials could pore over the data and maximize the king's income. The AOL database—as with the Google synchronization, and all similar corporate projects—was originally intended to collect

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resort—where users "looked more and more like average Americans" (Kane), and its image in recent years as email server for "an abundance of older people" (cf. the survey by Amanda Green at *Hutch*, the results of which probably skew even younger than the reality because the sample is taken from among blog readers). Given these extremes, America Online in 2006 would have lost most early adopters to high-speed connections and the beta version of Gmail, but maintained many who had not yet switched over to other services with faster data transfer rates.

and collate user "interests" (a word I will return to), so that online marketers could pore over the data and better target potential customers. In both cases, agents of the prevailing State apparatus (then, the king; now, capital) worked to channel and control the production of *desire*—a term recurrent throughout Deleuze's writings both before and after his partnership with Guattari, marking one of his major breaks with orthodox Freudian terminology. For Deleuze, neither the Freudian generative libido nor Lacanian lack can explain human customs of "anti-production," of waste, of sacrifice, of monument. Desire is, instead, *creative*: it works to push through whatever blockages it encounters—be they social, cultural, economic, or theoretical—on its way to producing the world. It aims, not at orgasmic release, but at continual modulation; at the attainment of a "plateau," reached "when circumstances combine to bring an activity to a pitch of intensity that is not automatically dissipated in a climax … [and] sustained long enough to leave a kind of afterimage of its dynamism." Each date that prefaces one of the sections making up *A Thousand Plateaus* "corresponds to the moment at which that particular dynamism … rose to its highest degree of intensity" (Massumi xiv).

The leak of the AOL database forms just such a plateau, allowing for an examination of desire-production and flow within it. In the first volume of *Capitalism and Schizophrenia, Anti-Oedipus,* Deleuze and Guattari write at length about the "desiring-machine," an assemblage such as a work of art or literature that produces or otherwise diverts the flow of desire. There are two impulses of this desiring force: toward paranoia and fascism, or toward schizophrenia and revolution. The agents of the

former—previously the priest, now the psychoanalyst—set up a transcendent (and hence unattainable) structure of desire, channeling it through lack, pleasure, and failure to reach *jouissance*. This diversion of desire aims at a continual reification of the State, an inward turn that seeks "escape … into an ersatz autonomous economy" (Bonta and Protevi 76–7). This falsifies what Deleuze and Guattari call "the line of flight," the mark of the "experiment" of desire on the immanent plane. The pair reject any notion of desire (or indeed, following Spinoza, any notion whatsoever) as transcendent:

> There is, in fact, a *joy* that is immanent to desire as though desire were filled by itself and its contemplations, a joy that implies no lack or impossibility and is not measured by pleasure since it is what distributes intensities of pleasure and prevents them from being suffused by anxiety, shame, and guilt. (*ATP* 155, my italics)

This word that translator Brian Massumi gives as "joy," *joie*, could as easily be rendered "delight"; while the former translation is wonderfully generative,[27] in what follows I will give preference to the latter because of how it is already embedded on the Net.

In the online world, as elsewhere, there is constant struggle between the fascist-paranoid and revolutionary-schizophrenic types of desire-production; there is, of course, no absolute dichotomy between the two, nor is there often a clear dividing line. Even in the global capitalist economy there may arise unexpected assemblages or deterritorializing movements, lines of flight beyond the well-trodden spaces of family and

[27] Especially in its etymological links to "jewel," and through that to the complex informatic processes of crystallization.

property. The AOL database, particularly in the form maintained by AOLStalker, is just such an assemblage, a desiring-machine that diverts capitalistic energies into revolutionary ones, concerning itself less with the circulation of capital and more with the circulation (and commodification) of delight.

AOLStalker is intriguing as an interface because of how it is positioned amid this commotion. The site came into being for three reasons. First, it was an interesting coding challenge, essentially an anti-productive one: to design a front-end that would sift through marketing data yet at the same time prevent it from being used for marketing (i.e., by including a built-in mechanism for flagging and deleting identifying info). Second, it preserved the search histories, some of which were "damn funny." Third, it "puts a customer pressure on AOL and all other companies to create usable data integrity policies that actually work" ("About," AOLstalker.com). With the coding finished save for maintenance, and AOL losing market share in huge chunks (and, moreover, with Facebook, Google, and other corporations massively complicating the idea of "data integrity"), AOLStalker now serves primarily as an archive—a denouement both appropriate and likely inevitable, as it was the "damn funny" search histories that drove traffic there to begin with.

Delight and Delirium

Long before LOLcats made "meme" and "viral content" into household terms, the distribution of humor over the Internet was recognized as a major driver of Internet

traffic. The same year as the data leak, Roland Sussex lectured on the propagation of jokes as a means of mapping rhizomorphic online networks: "The interaction between mathematical and the human factors … provides insights into the actual operation of the Net for the purposes of human communication, community formation and maintenance" (3). For Sussex, humor stands in as a proxy for Deleuzian desire—it produces the economy of laughter, of "delight": thousands of link aggregators and message boards digging up and crossposting whatever they found delectable; one site, *del.icio.us*, even taking its name from the response it hoped to foster in its users.

When links to the AOL database first circulated around the Internet, the immediate response was something like a Gold Rush: seemingly every humor-based site on the Net descended on the database, digging into the mountain of histories and circulating the richest comedic lodes. The remnants of this initial boom are still evident in the tag cloud and the lists of "Most Viewed Users" and "Funny Users" that fill out the front page. The tag cloud, a collage of taboo or offensive subjects (sample: "pedo pedophilia pervert porn") measures the initial burst of readers, looking for the most shocking or bizarre sectors of the database; the "Funny Users" list, meanwhile, is the product of a voting system added by the AOLStalker coders, a crowd-sourced "favorites" list that weeds out the merely obscene and focuses on the more expansively weird.

It is unlikely that these front-page features will change substantially in the future. Still, the site does still track in real time the relationship between its instance of the AOL database and the much vaster network around it, recording every query made of the

database, and maintaining on the front page an automatically updated list of the last ten searches made by other users—identified not by unique and traceable tags, but by URLs with the final portion removed (leaving enough of a range that the site owner or ISP can often be identified, but not the individual terminal in use). At present, the list rarely turns over once in any given hour, and most of the queries seem to be generated by bots or automated scripts. But at times of peak or even moderate use, this list functioned as a set of provocations—out of the general hubbub query clusters would crystallize, mutate, and dissipate; lines of flight were cast outward, sometimes followed, sometimes abandoned. Which is to say, it behaved on a macrocosmic level as the individual histories did on the micro—except that in the aggregate, it functioned less as a search *history* and more as a search *topography*.

As the initial shock wore off, and the sheer querying of taboos no longer produced commodifiable delight (and, perhaps, as searchers reflected on the taboo subjects they themselves may have queried on their own machines), traffic dropped on AOLStalker. As it stands now, the site invites a fully nomadic mode of exploration: a single click will bring up a "random" user; the less adventurous, meanwhile, can click on a random user rated higher than 3 on the 5-point scale—a search history that at least some other stalker has found to be "Funny." But with a few clicks one can also push into the striated spaces of the database as plane of immanence, finding narrative not only in the way one author-user (always potentially multiple) interacts with the search bar, but also in how whole

networks of various scales collaborate in the production, regulation, and bifurcation of desire.

This latent functionality of search data and metadata has since been exploited with ever increasing efficiency by social networking sites and, naturally, by Google in particular. "What these sites appear to have cottoned onto," Ian Buchanan writes, "is something we might call 'search engine culture.' The Internet thrives not because it can be searched, but because the search engines we use to navigate it respond to and foster the desire to search by constantly rewarding us with the little satisfactions of the unexpected discovery" (158). These "little satisfactions" have bit by bit been incorporated into search algorithms in ways both subtle (ranking by geographic proximity) and nakedly commercial (sponsored links, or pay-for-placement[28]), with the intent of regulating the flow of desire-production as it operates online. Particularly telling is Google's AutoComplete utility, which extrapolates from the first word or two of an incipient query the "most likely" string being sought, as well as Personalized Search, which prioritizes those results which have been visited previously, or which are popular within the searcher's social-media circles. Against this regime of libidinal constraint, Deleuze and Guattari would insist on the revolutionary circulation of desire throughout the "acentered, nonhierarchical, nonsignifying system . . . without an organizing memory

[28] Even AOLStalker eventually indulged in text-only banner ads, though they have since dropped along with the traffic.

or central automaton" that is the network itself, and not just one artificially walled-off portion of it (*ATP* 21).[29]

Consider, in this connection, one last user history. On May 7, 2006, at 3:11 AM, user #23187425 comes online for the first time with the opening foray: "you come forward," "start to stay off," "i have had trouble," "time to move on," "all over with," "joe stop that," "i can move on," "give you my time in person," "never find a gain," "i want change." These come about every 40 seconds, and continue that way for more than two full hours, ending with "say god night," "love you," "see you"—such that it seems almost like one side of a chat transcript, entered a single line at a time into the search bar. But whether there is a respondent or not (the skewed flow of this transcribed history would mean that any answering conversation would have to be at least as bizarre as #23187425), the history as it exists in the database comes off as a schizophrenic conducting both sides of a talk and typing in only one of them.

Schizoanalysis, of course, is the central mode of Deleuze and Guattari's two-volume work, and when they write that "The unconscious itself is a desiring machine

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[29] Much ink has been spilled, and many megabytes transferred, arguing over whether or not this rhizomatic model is, in its strictest form, applicable to hypertext—see in particular the overviews of the literature by Stefan Wray and Mark Gartler. Much of the argument hinges on the persistence of hierarchical elements in the supposedly nonhierarchical, rhizomorphous space of the Internet—whether overtly, in the domains and subdomains separated by the slash in URLs, or more insidiously, in the reinforcement of power structures which take advantage of the increased social mobility and nomadism allowed by the Internet (cf. Critical Art Ensemble). Deleuzian network theory has by now become at once so persavive, so fraught, and often so rote that it's hardly a surprise to see Alexander Galloway saying it is "imperative today that we forget Deleuzianism in all its guises" (Berry and Galloway 157).

which 'produces' desire rather than being a theatre where desire is contained and represented upon a stage" (*ATP* 49), it is hard to imagine a better illustration of that then a schizophrenic intensely and contentedly carrying on all sides of a conversation while leaving us privy only to one. In the dynamism of this search history, or more precisely the afterimage of it sustained within the AOL database, we find the plateau of this notion of an emergent authorship. It is a manifestation of the moment anticipated by Foucault in "What Is An Author?" when he writes that

> As our society changes, at the very moment when it is in the process of changing, the author function will disappear, and in such a manner that fiction and its polysemous texts will once again function according to another mode, but still within a system of constraint—one which will no longer be the author, but which will have to be determined, or, perhaps, experienced. . . . All discourses, whatever their status, form, value, and whatever the treatment to which they will be subjected, would then develop in the anonymity of a murmur. (119)

The search histories capture, like no other textual form can, this "anonymous murmur" of discourse in development. There is a kinship here with the "merely interesting," as developed by Sianne Ngai: it is the "Huh?", the "double negative of . . . not knowing exactly what it is that we are feeling, and a feeling about this very fact of not knowing" (810) that would lead many today, scholar or otherwise, to the search engine closest at hand. Yet as Deleuze and Guattari's schizoanalytics show, it can also be more: the "Huh?" can be a murmur to oneself, a locus of resistance against the attempted corporate

smoothing of the Internet. Or, as User #23187425 might have worded it—might be wording it still—"you are no help to me," "you don't rule me," "you don't rule me," "you are the same," "you are the same," "you are the same." Even in repetition—as Deleuze would be all too delighted to point out—#23187425 is not the same, is not a unity, but is rather difference and multiplicity.

So too are you, and I, and everyone else for that matter; so too is Tim Carmody, who writes, with his mouse pointer poised over top of the "Remove All Web History" button, "But Google and its partners . . . do not get to choose when and how I am made to remember the moments I needed to turn to it. I want no targeted advertising, no special YouTube results, playing on my nostalgia or purporting to understand who I am and what I need based on the web activity of a person who is no longer here" ("Button"). The America Online database is a collection of stories never meant to be told, narrated in fragments that never should have been preserved. It is a fascinating snapshot—hundreds of thousands of snapshots—of the people who are no longer there.

III. Emergence and Totality

"Get up, get out, and explore!" — Pokemon Go

The foregoing may seem, on balance, little more than a side quest, a diverting trip through plateau country. But the search histories encountered there are the very essence of RNG: they are the ones whose numbers were called at random by the AOL algorithms,

and thus the ones whose stories emerge (in one form or another) from the welter of accumulated data that, more and more, marks people's passages through life. These individual search histories—an irrelevant (and certainly unintended) by-product of the AOL project—show people at their most open, all going their own ways, putting the lie to the totality that will be compiled from their aggregated data.

A similar sense of radical openness pervades *Bleeding Edge*, a very loose novel even by Thomas Pynchon's standards. Summarizing the plot doesn't really help much—even the jacket flap copy is just a breathless recitation of all the groups encountered inside: "a drug runner in an art deco motorboat, a professional nose obsessed with Hitler's aftershave, a neoliberal enforcer with footwear issues, plus elements of the Russian mob and various bloggers, hackers, code monkeys, and entrepreneurs, some of whom begin to show up mysteriously dead." The Library of Congress cataloguing data offers a simpler formulation: "1. Women private investigators—Fiction. 2. High technology—Fiction." the high technology is the New York tech scene circa 2001, in the brief, frenzied moments after the dotcom bubble, and before the World Trade Center attacks, the PATRIOT Act, etc. The woman PI is Maxine Tarnow, a corporate fraud investigator who gets in way over her head chasing down irregularities in a Facebook-like company, tangling her up with federal spooks, corporate goons, and various rogue agents. It's a marvel that any semi-coherent storyline emerges from these disparate parts; even more so because Pynchon commits to a process of narrative emergence—allowing pieces to come together, or not—in opposition to the narratives imposed from the top

down by state and capital alike. In this section I will outline a few of the strategies Pynchon employs in *Bleeding Edge* for resisting that sort of imposition—especially within sites of gaming, where the conflict between the totalizing narrative of the surveillance state and the emergent narratives of the digital commons comes sharply into view. But first, a look at the opponent: one of the foremost outlets for contemporary theory about narrative: the National Security Agency.

Collecting It All

Past agency chief Keith Alexander gave the clearest possible statement of what he, and by extension his entire organization, believe to be the mission of the NSA: to "collect it all" (Nakashima and Warrick). By "all," Alexander meant *all*: every scrap of information and metadata: every email, every phone call, every text message, every Skype chat, every keystroke and digital trace of every person there is. And the still ongoing revelations from Edward Snowden's leaked documents show how seriously the NSA takes that mission: they're tapping everything from email address books to Google data centers to fiberoptic cables, snooping on German chancellors, Brazilian oil companies, and their own personal love interests alike.[30] They have subverted consumer electronics as well as cryptographic standards, by placing exploitable backdoors into their encryption protocol—essentially, co-opting RNG processes to yield the data they want every time

[30] The most comprehensive and continually updated list of Snowden-leaked stories is at his own domain, but as that site run on his behalf by an opaque group called the Courage Foundation ("Revelations"), caution is warranted with regard to any single item on there.

(M. Green). And just to make sure they don't lose any of that precious data, they've built facilities such as this one in Utah capable of handling upwards of 10 exabytes of data, possibly scalable up to zettabytes.

The surveillance state has never been known for its reticence about dipping into others' data; that's the whole point. And just because they can collect and store that data doesn't mean they're close to solving the problem of how to sift through it all. Nonetheless, the scale has changed from McCarthyite roots to the present day, suggesting a shift in approach from a hermeneutics of paranoia to a hermeneutics of totality. Formerly the federal spy agencies operated on the assumptions that nothing was at is seemed, and that every new scrap of data tied into an existing network of conspiracies—implying a single narrative or at least discrete set of narratives, even if it could never be made manifest or known in its entirety because there would always be more data to find. Now, however, the mission has changed: instead of taking the data they could gather and using them to piece together coherent (if highly dubious) narratives, the NSA has arrived at the conclusion that, if they took the precaution of first collecting all the data, all the *stuff* of narrative, then they could piece together whatever stories they wanted, and were most comfortable dealing with; in effect, they claimed ownership of the playerly text worldwide, and with it control over such essential cultural practices as reading and interpretation. Even the NSA's own defenses of their programs are story-based: this level of information control is intended to help them detect competing or anomalous *plots*.

This is the terrain into which Pynchon enters with *Bleeding Edge*. In earlier novels—*The Crying of Lot 49*, *Gravity's Rainbow*, possibly as late as *Mason & Dixon*—Pynchon encouraged a paranoid hermeneutics, setting up an array of possibly existing, possibly competing conspiratorial groups, where each textual reference and structure simultaneously revealed certain truths while concealing still others; as Leo Bersani points out, the proliferation of the word *paranoia* in *Gravity's Rainbow* is "likely to make the reader somewhat paranoid about the very frequency of its use" (99).[31] But since then, Pynchon's novels have taken a turn, from the genre-hopping behemoth *Against the Day*, to the goofy stoner noir *Inherent Vice*, and now to *Bleeding Edge*: it's as if in the new millennium, and especially since the events of the 11th of September, 2001, Pynchon caught a glimpse of the totality that his works had up to that point only hinted at, and he despaired.[32] *Against the Day* reads almost as a direct expression of that despair: it's the novel where he comes closest to the NSA approach of controlling narrative by means of collecting all possible narratives—only to find that such an approach is in no way sufficient to predict or prevent world-historical atrocities. The utter shift of tone to *Inherent Vice* is less surprising when seen as a pendulum shift the other way: instead of controlling all, just drop out, and let events happen around you.

It was only with *Bleeding Edge* that he hit upon a narrative strategy actively engaging the times—not coincidentally, in a book set in that period of the rising security

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[31] For more on "paranoid" readings and modes of counter-critique, see Sedgwick.
[32] For an alternate reading attempting to bridge across Pynchon's shifts in historiographic affect, see David Cowart's *Thomas Pynchon & the Dark Passages of History*.

state, before and after the World Trade Center attacks. I say "*not* coincidentally," because that appears to me the only aspect of the book not radically open to coincidence and the operations of randomness. In *Gravity's Rainbow*, a reader would be thoroughly justified in suspecting that any particular person or situation Tyrone Slothrop encounters is part of the grand orchestrations of one or another shadowy network; in *Bleeding Edge*, the people Maxine meets are all embedded in their own networks, furthering their own agendas, advancing their own plots. The view readers get of Maxine, even through her own thoughts, is not unlike the glimpses afforded by the AOL database—impressions gleaned through her interactions with her two young boys, her estranged but still in the picture husband, her friends and associates, and a few police lineups worth of minor criminals and shady operators. But though it is her story that emerges from the novel's fuzzy networks of interlinked agency, it could as easily have been any of a hundred other characters, or many thousands beyond that: it just happens that her detective quest, her set of queries, is the particular search history that Pynchon brings up.

In several places, another character, March Kelleher, a radical activist and blogger, steps forward to dramatize the gulf between Pynchon's and the NSA's approach to narrative. "Out in the vast undefined anarchism of cyberspace," she writes in one post after 11 September, "…dark possibilities are beginning to emerge … as forces in whose interests it compellingly lies to seize control of the narrative as quickly as possible come into play and dependable history shrinks to a dismal perimeter centered on 'Ground Zero'" (327–8). March later writes: "Many of us need the comfort of a simple story line

with Islamic villains, and co-enablers like the Newspaper of Record are delighted to help. … If you're interested in counternarratives, however, click on this link." These words are underlined in the book like a hyperlink—one of the few typographic elements Pynchon uses—it leads to a video of a paramilitary crew brandishing rocket launchers on a Manhattan rooftop, to be watched before considering March's invitation to "Check out theories and countertheories. Contribute your own" (388).

Pynchon does not, I hasten to add, add his name to the 9/11 Truth movement[33]—even if he never conclusively identifies the "they" who took the "pure geometry" of the World Trade Center and "blew it to pixels" (446). Instead, *Bleeding Edge* encourages the proliferation of endless counternarratives as an antidote to any culturally imposed mononarrative—even his habitual reference throughout the book to "11 September," rather than 9/11, seems calculated to upset the too-easy rhythm of many invocations of those attacks, whether by conspiracy theorists or the state.

Constructively Lost

Fittingly, Pynchon shows this battle of narrative and counternarratives playing out in the arena of a collaborative online game space: DeepArcher, a near parallel to the open-world

[33] See Jesse Walker's *The United States of Paranoia* for an account of these "Truthers" and the American paranoid political style generally that builds on Richard Hofstatder's classic account, while demonstrating also that such paranoia is often an endemic to the "establishment"; and is by no means the province alone of outsiders and cranks.

building platform SecondLife.[34] Maxine is shown making three trips into DeepArcher—though the reader is told she makes many more, only these three are depicted, as Pynchon dusts off one of the hoariest storytelling techniques, the rule of three,[35] to lend structure to a loosely associative network that at times verges on the data jumble of unintentional narratives like the AOL search histories.

The first time, Maxine finds herself in a vast train terminal, amid "the echoing dense commotion … the profusion of hexadecimal color shades, the choreography of thousands of extras, each differently drawn and detailed, each intent on a separate mission or sometimes only hanging out." In the station's virtual bar, "there's a striking view of rolling stock antiquated and postmodern at the same time vastly coming and going, far down the line over the curve of the world. 'It's all right,' dialogue boxes assure her, 'it's part of the experience: part of getting constructively lost'" (76). And it's not only the player who is meant to get "constructively lost": it is also the program itself. DeepArcher is a playspace for hackers; it exists on the dark web, hidden from search engine spiders, spam crawlers, and malicious bots, with further disguise provided by technology that deletes its traces behind it. Yet even there, the game's creators are wary,

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[34] Johnson and Pluskota offer a timely review of cultural research on *Second Life*, with a particular focus on race and representation. For more on representations of gender and sexuality within player avatar choice, see Shaw.

[35] Nonetheless, borrowing almost directly from Vladimir Propp is odd in a book that in many other ways resists or subverts structuralist narrative morphology. (But then, Propp's later work on the folktale was hardly as schematic as the earlier *Morphology*; cf. *The Russian Folktale*.)

unknowing whether they're being monitored: "if somebody wants in," one says, "they'll get in. Deep Web or whatever" (77).

True to form, on her second login, Maxine finds that "What was once a train depot is now a Jetsons-era spaceport with all wacky angles, … saucer traffic coming and going up in the neon sky. Yuppified duty-free shops, … Advertising everywhere. On walls, on the clothing and skins of crowd extras, as pop-ups out of the Invisible and into your face" (354). Despite the deep encryption and all the protections in place, these "unwelcome guests" got in—how? Through a backdoor set up, likely by the feds, in "the 11 September window of vulnerability" (355).[36] With that subversion, DeepArcher shifts from a space of relative egalitarian possibility to a stratified zone based on that most depressing of future visions, the Jetsons (cf. Xander). In this thoroughly commercialized space, where everyone has something to sell or a con to pull, the sense of discovery is blunted; now, Maxine attempts "striking up conversations at random," only to think in an aside, "whatever 'random' means in here" (357). Surveillance state strategies aim specifically at overcoming such randomness, especially in their subversion of the RNG algorithms that are at the heart of all worthwhile encryption; as Maxine frets when having a chance meeting away from the computer: "there may be no accidents anymore, the Patriot Act may have outlawed them along with everything else" (341). In summing up this digital downfall, Maxine's hacker friend Eric presents it as a historical inevitability,

[36] The FBI has, at times, targeted *Second Life* for surveillance, on the basis that its "anonymity and versatility" mean that "[g]ang members could use *Second Life* to recruit, spread propaganda, commit other crimes such as drug trafficking, and receive training for real-world criminal operations" (National Gang Intelligence Center).

having "a strange feeling about the Internet, that it's over, not the tech bubble or 11 September, just something fatal in its own history … all [the tech companies] screaming louder and louder about 'Internet freedom,' while they go on handing more and more of it over to the bad guys … We're being played, Maxi, and the game is fixed, and it won't end till the Internet—the real one, the dream, the promise—is destroyed" (432).[37] Eric ends up heading off to gather some sort of outlaw hacker consortium, aimed at "show[ing] no mercy for anybody who tries to use the Net for evil purposes"—but that lone nerd *contra mundi* narrative is only one story out of hundreds the book spins off. However much Eric and his nerdly crew want to see themselves as the necessary and heroic protagonists, theirs is a familiar, linear narrative, itself an imposition on and willful separation from the network out of which they emerged.

If that network is, in fact, tainted with its own history, and already monitored by those who would control it, then what options are left for resistance? This being Pynchon, there are no direct answers on offer—and besides, direct answers (such as the hacker crusade) might risk undermining any more general response—but there are certain tendencies that emerge over the course of the novel, and gain clarity in Maxine's final visit to DeepArcher.

The first hope for resistance is that the task the NSA has set itself is both counterproductive and impossible. When Maxine returns to DeepArcher following its commercial colonization and desertification, she finds it now a wasteland, haunted, and

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[37] A number of critics, of course, would argue that this has been the grift all along; in particular Frank Pasquale in his *Black Box Society*.

not just by federal spooks and corporate ghouls. As she walks, "Maxine begins to catch sight of screen presences she knows she ought to be able to name, dim, ephemeral, each receding away into a single anonymous pixel. Maybe not" (427). These tantalizing bursts flicker like Hayles' signifiers,[38] yet beyond the chaotic flux of informatic noise hint at a continued identity that cannot be collected by the feds, or recollected by Maxine. They might be called instead *glitched* signifiers—still conveying information, but information that is corrupted rather than deferred.

Missing.No

There are parellels between *Bleeding Edge* and various modes of interaction available within Nintendo's *Pokémon* game franchise, in particular to the game's slogan—"Gotta catch 'em all!"—as well as to the Missing.No glitch, one of the most famous in gaming history. For the uninitiated, the basics of Pokémon are as follows: the player takes on the role of a young boy given the chance to compete as a Pokémon trainer, starting with one creature and then becoming stronger by capturing and "evolving," or leveling up, others. Beating the game requires besting a lot of other trainers—but to truly master it, a player must fill up her central data clearinghouse, the Pokédex, with all the different Pokémon species (151 in all, as of the first game).[39]

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[38] Cf. *How We Became Posthuman*, as well as the previous chapter, above.
[39] As of this writing, there are 722 Pokémon, with more set to be released in November 2016 (Martinez).

But for many players of the first game, *Pokémon Red/Blue*, catching 'em all came to mean not only those 151 Pokémon, but also hunting down wilder ones: glitches without numbers. In any game of any size, much less one as expansive as *Pokémon*, there will always be some gaps in the code, and those who know even a very little about coding can make some guesses about where to look for them. One particularly rich source is leftover or empty hexadecimal values; it's a red flag, for instance, that there are 151 Pokémon because a variable such as Pokémon ID would likely then be stored as two hexadecimal characters, with a maximum of 256 possibilities between 00 and FF. But that means there are 105 slots left over: 105 potential new Pokémon to catch and train if only one could find a way of getting at all that hidden data. After much trial and error, several methods were refined that led to consistently successful captures of glitched Pokémon, such as "a", "h Poké", and "'Ng'mp"[40]—and chief among these is Missing.No, so called because of the error triggered when the game tries to load that hex from its database, and comes up with no correspondence (Newman 116). The benefits of catching Missing.No go beyond just the Pokédex bragging rights: a further glitch allows you to build up a huge stockpile of any one item, allowing you to train incredibly powerful Pokémon with very little time invested.

[40] The *Bulbapedia* wiki is indispensable for this and almost any other Pokémon data.

Dominating the world through information control and a vast hoard of resources gained by gaming the system doesn't seem far removed from NSA practice.[41] However, even beyond the general similarities, Missing.No in particular serves oddly well as a symbol for the agency's aspirations: it represents nothing less than the dream of total information control; the capture of all data, whether open or hidden—but also more than that. For the huge reward of the glitch is balanced against a potentially even greater risk: capturing Missing.No destabilizes the game in potentially drastic ways. The least of these is graphical: which is to say, capturing Missing.No irrevocably alters the way a player sees the world. But it can also glitch more widely and unpredictably, including corruptions of the game's saved data—not just in the present game, but all other saves on the cartridge too, including victorious save files honored in the "Hall of Fame": those victories too have become tainted. An attempt can be made to archive erasure itself, to eliminate any possibility of data escaping. But erasure has a way of escaping the archive, and the more persistently it is pursued—and weaponized—the more radical the corruption it is likely to engender. So, the first basis for resistance is the instability of any mononarrative, and the knowledge that, however monolithic its presence at any time, the absences that haunt it will haul it down over time.

The second basis is the hope of coming generations and the new modes of play they will discover. Take *Pokémon*, again: when the game first appeared on US shores, it

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[41] One NSA subsidiary, the National Reconnaisance Office, already has an excellent starting Pokémon: a world-enveloping octopus used for the NROL-39 spy satellite launch (K. Hill).

was as eagerly embraced by young consumers as it was condemned by adult consumers, who saw it as, at best, a simplistic money pit, and at worst, an addictive drug. As with most moral panics, the sheer fervor is difficult to understand after the fact: the critiques that maintain any resonance are unsurprisingly those who quote Horkheimer and Adorno (knowingly or not) to explain *Pokémon* as a particularly brazen ploy to make children into "helpless dupes of a cunning, manipulative culture industry," as Christine Yano writes in summing up the strident opposition (115). *Pokémon* doesn't just separate children and their money, it also interpellates them as capitalist subjects, and valorizes their competition for resources, encouraging them to buy, trade, and steal in order to become stronger. This holds true even of hardware: the videogame version was the first to make use of the GameLink cable, allowing players to trade data from one machine to another, or move Pokémon between the Red and Blue versions of the game—meaning you had to buy both in order to catch 'em all.

But that's far from the only way to play the game. Starting on 12 Feb. 2014, *Pokémon Red* served as the platform for a fascinating emergent storytelling venture: *Twitch Plays Pokémon*. There an anonymous programmer set up a version of the game that could process inputs from online viewers—tens of thousands at a time, many issuing contradictory commands, some even intentionally attempting to sabotage progress. And yet, though it took more than 16 days, and spawned a truly bizarre mythology[42] along the

[42] The best compact account is Shin Hieftje's at *Game Informer*; the phenomenon however deserves chapters and books of its own. The rise, fall, resurrection, and slow

way, the community succeeded in defeating the game—a collective action many assumed was impossible within the game's framework of universal commodification, so heavily tilted toward atomistic individualism. But just because the form of that action could not have been foreseen does not make it naïve to believe such actions can and will arise; it simply means that we are charged with preserving space for radical experimentation, and protecting that space when we notice such experiments being undertaken. It need not even be a mass or digital space: Julian Sefton-Green wrote, in documenting his own son's interactions with *Pokémon*, of how conversations among a peer group about even so basic a choice as the starter Pokémon could become "invested with a mythical importance that could be shared with relative strangers" (158).[43]

Child's Play

Appropriately, throughout *Bleeding Edge*, it is not the hackers or tech geeks of Maxine's acquaintance who experiment most radically with the games around them, but rather her children and their friends. In one of the first scenes with her son Otis, he and friend Fiona are playing a board game called "Melanie's Mall,"[44] where ostensibly the goal is to learn to shop along with Melanie, "a half-scale Barbie with a gold credit card she uses for clothes, makeup, hairstyling, and other necessities"; however, the kids have given her "a

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decline of the Helix Fossil alone was hundreds of years of religio-anthropological development crammed into about two and a half weeks.

[43] The overwhelming popularity of *Pokémon Go* seems to derive from an intensification of this specific game quality, amid an appeal to players of all ages.

[44] Clearly based on actual board game *Mall Madness*, which means that Thomas Pynchon may well have played, or even owned, that game.

secret identity [that] is a bit darker," to go along with some new companions from *Dragon Ball Z*. "Scenarios tend[ed] to center on violent assault, terrorist shopping sprees, and yup discombobulation, each of which ends in the widespread destruction of the Mall, principally at the hands of Fiona's alter ego the eponymous Melanie, in cape and ammo belts, herself" (68). Out of a game glorifying mindless consumerism, and a media property designed to foster neverending consumption, the kids fashion an entertainment predicated on the gleeful demolition of both. Later, Fiona heads off to a summer "anime camp," where the chief activity is making machinima: movies that use videogame worlds as their sets; in this case, she's working on an adaptation of *The Sound of Music* in the game-engine of the first-person shooter *Quake* (217).

But if these spaces are not utopian—still being located within the machinations of media empires and the inequalities of global trade—they are at least fresh. Hacker Eric laments that, "You'd think when the towers came down it would've been a reset button for the city … a chance for it all to start over clean. Instead lookit them, worse than before" (387). But he refuses to stick around himself; it's the next generation that takes the reset option seriously, even literally in digital instantiations. When Maxine turns away from "the cityscapes of [her] DeepArcher[,] obscurely broken, places of indifference and abuse and unremoved dog shit" (429), who does she find but her own sons Ziggy and Otis, at play in "a version of NYC as it was before 11 September 2001 … reformatted now as the personal city of Zigotisopolis" (428): "a more merciful city … a not-yet-corrupted screenscape" (429) where they can, for the moment, create their own

mythologies and engage with any others that emerge, "safe from the spiders and bots that one day too soon will be coming for it, to claim-jump it in the name of the indexed world" (476).

These tendencies—of the old and monolithic to break down, and of the new and emergent to rise up in its place—may seem self-evident, merely another turn of the dialectic. But consider the difference from early Pynchon, where there was no turn not already anticipated or initiated by the shadows behind the power structures. They may also seem cold comfort to a world that is even now blown to pixels, a world of fallen towers and depredation, of drone bombs and genocide. In the face of such world-historical evils, any action we might care to undertake can look too small and inconsequential. But—and this is a third, and final, tendency—it is precisely their smallness and lack of consequence that allows them, in the aggregate, to ameliorate those evils in any way at all.

When she sees her sons amid their city—a vision she will hark back to on the book's penultimate page—Maxine decides *not* to interfere with their experience, but rather

> to bring it up carefully, gently, when they're all back in meatspace, soy-extenderspace, whatever it is anymore. Because in fact this strange thing has begun to happen. Increasingly she's finding it harder to tell the "real" NYC from translations like Zigotisopolis … there arises now the possibility that DeepArcher is about to overflow out into the perilous gulf between screen and face (429).

Maxine's gentle, careful act of nonintervention helps to bring the boys' "more merciful" city closer to the "real" NYC; the gentle acts of others within their own networks of care bring closer their ideal worlds to our own, not as a succession of simulacra, but as the adding of layers onto a palimpsest, allowing for the very gradual emergence of a global commons, a space for communal experience, practice, and charity—in both the original and contemporary senses of the word.

The ethics of this global space is not much different from that fostered within the charity marathons now held by various groups of videogame players. While gatherings of LPers and speedrunners can be like an academic conference, with all of them sharing advances on their games, in another important way it is not like an academic gathering at all—and it has nothing to do with the comparative inconsequentiality and pedantry of shaving a second off a world record speedrun versus finding a new variant in an author's notebooks. Instead, the difference is that videogamers raise huge amounts of money for autism research, cancer prevention, mental illness treatment, and other causes. At the time of this writing, the organization Games Done Quick has just finished another of their semi-annual marathons, this time raising $1.3 million for Doctors Without Borders. That would be remarkable for almost any group, much less one that emerged out of a community less than a decade old.

In putting forward the LP community as a model to which criticism can aspire, it's not to suggest the Modern Language Association should host a telethon at the yearly convention. Rather, it's to point out that it was the love of texts and of finding new ways

to experience them which brought these players to the point of organizing and undertaking collective action. When another group called The Speed Gamers set out in the summer of 2014 to collect all 718 (at the time) Pokémon in the space of a week, it wasn't for bragging rights—or not just for bragging rights, anyway. Instead, it was to embed the hypercapitalist drives for collection and competition within a framework that also aggregated the thousands and thousands of acts of basic decency and dignity involved in such an event, channeling everything in a way that strengthened the networks of care around them—the bonds between family and friends, and between citizens and community—and preserved space within which other, more vulnerable voices could operate and assert themselves—in this case, the children and families helped by St. Jude's Hospitals.

An earlier version of this section went by the name "What's in Thomas Pynchon's Pokédex?": a deliberately teasing title, as we cannot definitely know whether the author prefers starting with a Charmander, a Squirtle, or a Bulbasaur. But we can know what's in March Kelleher's Pokédex: while the aging radical might seem an unlikely player of the game, nonetheless she produces at one point rare Pokémon playing cards—a Gengar and a Japanese-issue Psyduck—as a gift for her grandson, who she is only able to see surreptitiously for a minute or two per week because her son-in-law (essentially, a more sociopathic Mark Zuckerberg) is intent on keeping them apart. Pokémon becomes the shared language of connection and love, in a novel that is positively bursting with both: by book's end, even with many threads still left loose, a number of characters have made

peace with difficult situations in their lives, including Maxine reconciling with her husband, and drawing her family back together again. It may seem odd to claim this sitcom-ish ending as revolutionary, but through his choice of title, Pynchon insists that it is. One of the creators of DeepArcher defines "bleeding-edge technology" as "No proven use, high risk, something only early-adoption addicts feel comfortable with" (78). It's a description that could also apply to laborers in the humanities, as we set ourselves to pursuing new counternarratives and new modes of engagement with our texts: modes that are risky, and that provoke discomfort; modes with "no proven use," in the sense of resisting the mononarrative of utility that has swept over the academy—but only if we also set ourselves to the difficult tasks of preserving space for and giving ear to the voices of others. Our power of collective action is not separate from, but rather intimately bound up with our textual pursuits, emerging out of our practices of curation, celebration, commemoration, and critique. We don't have to catch 'em all—the NSA is already making a perfectly fine mess of that. We just have to open ourselves to the possibilities of play.

Coda: Why Read, Anyway?

If there is a single question that looms over the field of literary criticism at the moment, it's this: Why bother? That is to say, what is the point of doing any of this—why read, study, teach, or write about literature? The world we live in, after all, is one where the chances of a scholar on fiction—that is, on works set in worlds other than our own—affecting any particular world-historical event is approximately nil. Though we join in civic actions and protests, we generally do so not in any directly professional capacity, but as bodies and voices in the mass: all the decisions about wars and bombings, finance and healthcare, policing and poverty are made through processes effectively sealed off to our ilk. And lurking beyond—and yet terrifyingly near—are the complications of this Anthropocene age, when humans at last leave their mark on this planet via the environmental devastation, seemingly irrevocable, resulting from our various revolutions of industry and capital; it would be absurd of me to say that I can, through my scholarship, add inches to Antarctic ice, or that any of us could teach Virginia Woolf so wonderfully well that storms dissipate, or the sea ceases to swell. I argue, however, that it is precisely the immanence of this disaster, the destruction of the way of life we have all known, that makes the reading and study of literature all the more urgent, and demonstrates what we can do, or prepare ourselves to do, in a climate-changed world.

In the longer-term ecological sense though, this might all seem to be a moot point. Even the most optimistic scenarios for climate change forecast dramatic upheavals,

including floods, epidemics, political chaos, and population displacements well beyond the present Syrian refugee crisis—the "surplus population," as Dipesh Chakrabarty writes, the disposable migrant labor on which global capital depends being hurled against the borders of wealthy nations with ever greater urgency. As estimates scale up in intensity, we begin to talk in terms of entire portions of the globe, Global Norths and Souths alike, being made uninhabitable, erasing distinctions between human populations through the expedience of famine, droughts, pandemics, and extinctions. This coming catastrophe, whatever its scale, is sufficient to scramble our ideas even of what it means to be human: Chakrabarty posits that, though "we can … extend our understanding to those who in the future may suffer the impact of the geophysical force that is the human[,] we cannot ever experience ourselves as a geophysical force—though we now *know* that this is one of the modes of our collective existence. … Our thinking about ourselves now stretches our capacity for interpretive understanding. We need nonontological ways of thinking the human" (12–13).

Such prospects and challenges would seem to leave little time for reading—or perhaps even the capacity to generate electricity required to run computers or videogame consoles. So again the question: why bother?

This, I'd argue, is the question that David Mitchell has been wrestling with over the course of his career. Since his 1999 debut novel, *Ghostwritten*, through to his seventh, *Slade House*, in 2015, Mitchell has defied any attempt at categorization: the novels vary widely in location—from his own haunts in England, Ireland, and Japan to Mongolia,

Switzerland, the South Pacific, and a far-future postapocalyptic Hawaii—as well as time, from the 1700s to the present day to that aforementioned far future. He also moves in and out of genres with ease, drawing on science fiction, horror, noir, fantasy, and autobiography—even, at last count, two opera librettos. While most of the works follow *Ghostwritten* in presenting shorter narratives linked by interactions between different central characters, several are relatively self-contained, including the autobiographical account of his own coming-of-age in Worcerstershire.

I say "relatively" self-contained, because Mitchell's fiction, whatever the subject, whatever the location or date or genre markers, always seems to connect into some larger universe: for instance, one character from *Ghostwritten*, Neal Brose, turns up in Mitchell's autobiographical work *Black Swan Green*. A character from second novel *Number9Dream*, Mo Muntevary, goes on to make an appearance in 2014's *The Bone Clocks*; an ancestor of hers, meanwhile, features in the historical novel *The Thousand Autumns of Jacob de Zoet*. In a few of these books, this sort of "spot the connection" game hangs in the background, almost as diversion for fans and critics—although even there, as Jonathan Russell Clark notes by way of videogame metaphor, they are "more than mere 'Easter Eggs' … they are in fact deliberate additions to a unifying theme." Often though this model of connectivity is foregrounded, even made the main subject of the work; this is nowhere more true than of Mitchell's best-known work, *Cloud Atlas*.

First published in 2004, then made into a gorgeous failure of a film in 2012, *Cloud Atlas* takes the form of six narratives spread across perhaps five or six centuries,

beginning in the South Pacific in the 1840s, and ending in postapocalyptic Hawaii. The narratives run in order, with each in turn being encountered in some way by the main character of the following section—and then interrupted, through circumstances revealed afterward, all the way up to the far future. Then each section resumes in turn, but in backward order, so that the novel both begins and ends in the 19th century; the resulting structure is something like a set of nested dolls. Made linear, they would run like so:

1. "The Pacific Journal of Adam Ewing"—Ewing, an American notary, takes passage aboard a Dutch merchant ship, making his way back home to Gold Rush San Francisco; along the way he falls prey to a doctor who slowly poisons him to death under the guise of "treatment," but is saved by a Moriori tribesman, Autua, whom he had taken pity on earlier in the voyage;

2. "Letters from Zedelghem"—Robert Frobisher, an aspiring young British composer driven out of England for his debts, seeks refuge and employment in the Belgian manor of eccentric composer Vyvyan Ayrs, where he also finds Ewing's diary. The arrangement with Ayrs does not work out, however, and Frobisher commits suicide after completing the series of letters to friend and sometimes lover Rufus Sixsmith.

3. "Half Lives: The First Luisa Rey Mystery"—Luisa Rey is a journalist chasing a story that nearly gets her killed: the corrupt cover-up of a report on a unsafe nuclear power plant design—a report written, of course, by Dr. Rufus Sixsmith, who still owns Frobisher's letters, which pass on in turn to Luisa after Sixsmith is murdered.

4. “The Ghastly Ordeal of Timothy Cavendish”—Cavendish is a British vanity-press publisher who strikes it big with a criminal’s memoir, only to have to skip town when they come to collect extra royalties. He finds himself locked up in a senior home, and must make an escape with several other of the elderly residents. He encounters Luisa Rey’s story as a submission to his press from one Hilary Hinton.

5. “An Orison of Sonmi-451”—Sonmi is a fabricant, an artificial person genetically engineered to sell food in, basically, a 22nd-century McDonald’s in Nea So Corpos, formerly Seoul, South Korea. However, she is “ascended,” triggered into consciousness, by a deeply shadowy experiment carried out by rebels against the “corpocratic” government. She writes a political manifesto against the society’s environmental depredation and enslavement of fabricants, and then is taken prisoner; her account is a recording made prior to execution. Her final wish is to finish watching a movie: “The Ghastly Ordeal of Timothy Cavendish.”

6. “Sloosha’s Crossin’ an’ Ev’rythin’ After”—Zachry is a tribesman on the Big Island of Hawaii, whose village is visited by Meronym, a woman from a civilization obviously far advanced in technology (she even carries a sort of communicator device on which Zachry sees the testimony of Sonmi, whom his tribe pray to as a god). After a rival tribe kills Zachry’s family and captures him, Meronym saves him by carrying him across to Maui, where he relates his tale orally to a society no longer literate.

But it’s not enough, of course, that the narratives are connected textually, or even by thematics of cruelty and enslavement, mercy and community: there is some vague

notion (which Mitchell has both explicitly confirmed and denied) of the transmigration of souls, indicated by a peculiar comet-shaped birthmark borne by a character in each section, and an interlocutor which each encounters along the way (likewise various oppressors, social parasites, etc.). There are, further, a myriad of background connections and echoes—the boat Ewing sails on turns up in a harbor Luisa Rey visits; Frobisher considers slitting Ayrs's throat, but Zachry actually does cut the throat of one rival tribesman; Luisa crashes her car, and Sonmi inexplicably remembers it during her own auto accident. These help string the work together, but if that still weren't sufficient, several of the characters themselves comment on or create works that reflect the structure of the novel they're in—mostly explicitly Robert Frobisher, whose lone opus prior to his suicide is the *Cloud Atlas Sextet*, in which each of six soloists is "interrupted by its successor," after which "each interruption is recontinued, in order" (445).

This textual tapestry earned Mitchell widespread critical praise, with many even of those who had balked at his earlier genre-bending books lauding him for the unity he brought out of his six disparate narrative strands; typical was the novelist A.S. Byatt, who wrote of the book's "complete narrative pleasure." Looking at the Sonmi sections in particular, with its vulgarly corporate governance structures, its "deadlanded" zones made unfit for human habitation, and its view of the soul as literally the content of one's wallet, no less a theorist than Fredric Jameson found in *Cloud Atlas* a new inflection on the historical novel, "defined as much by its relation to future fully as much as past" (*Antinomies of Realism*, 305). Ian Baucom went further still, positing Sonmi as at once

embodying and transcending Georg Lukàcs's formulation of the historical novel's protagonist, both "summarizing … the fundamental social and historical sources of [her] time," yet also (borrowing from Chakrabarty) "belonging at once to differently-scaled histories of the planet, of life and species, and of human societies" (155–56).

Such a reading, however, with all these scales meeting and mingling within the frame of a single doomed martyr, depends on emphasizing the continuity of *Cloud Atlas*, at the expense of smoothing away the ontological rifts between layers of narrative. For, mixed in with the details of each main character encountering their predecessor's accounts are the doubts those characters express about the documents' veracity: Robert Frobisher, for instance, is thoroughly suspicious of Ewing's diary, noting there's "Something shifty about the journal's authenticity—seems too structured for a genuine diary, and its language doesn't ring quite true—but who would bother forging such a journal, and why?" (64) Zachry's own son casts doubt on his father's oral narrative. Timothy Cavendish critiques the novel in which Luisa Rey appears, especially "the insinuation that Luisa Rey is this Robert Frobisher chap reincarnated … Far too hippie-druggy-new age" (357). Even a reader intent on preserving the book's unity must admit this last ontological schism, not least because it means two bearers of the comet birthmark would be alive at the same time.

Links out to the other books only further complicate matters. For instance, one *Cloud Atlas* character, literary critic Felix Finch, last seen in Timothy Cavendish's tale being thrown off a rooftop garden, is mentioned as patron of one of the young author

characters in *The Bone Clocks*; meanwhile Luisa Rey—a fictional character within that framework—also appears in *Bone Clocks*, now later on in her career, as a tough-talking, no-nonsense editor. The two mutually impossible fictional realities nonetheless coexist, however paradoxically, in Mitchell's wider cosmos. It's the sort of formulation I identify above, in the sections on *Pale Fire* and *Finnegans Wake*, as a "glitched narrative," in which the fundamental code of the story cannot be resolved within its own fictional frame. There are other terms referring to similar violations, of course—in particular, Gérard Genette's notion of "metalepsis," in which multiple logically distinct levels of narrative impinge on one another. But "glitched narrative" is more specific and more active; videogames by their very nature are metaleptic, because they rely on some level of input from an ontologically distinct universe in order to proceed; additionally, the experienced life of most videogame characters is weird—just consider how many Marios are falling down endless pits while the player gets on with the "next life." A glitch, however, reveals possibilities latent within this clash of universes, possibilities that would not otherwise be apparent if everything were functioning normally. To illustrate, I'll turn to the 1994 Super Nintendo game *Final Fantasy VI* (or, in the US, *Final Fantasy III*), before returning to Mitchell and the Anthropocene.

Final Fantasy VI at least has the benefit of staying within one genre: the Japanese role-playing game, or JRPG. It even seems to have many of the characteristics of the tried-and-true JRPG formula: an enigmatic, amnesiac girl with inexplicably-colored hair must team up with a good-hearted thief and a disguised prince to seek out the truth

behind her mysterious past. As the game continues, and more characters are recruited to the party, the narrative splinters—becoming, if not exactly nonlinear, then at least serially linear: the girl with the mysterious past is only one of 14 characters, many with their own hidden secrets and past dramas to puzzle out along the way to an apocalyptic confrontation with a nihilistic evil.

While a number of these characters are optional, all must obviously be accounted for within the game's programming. Having that many playable characters stretched the technology of the aging Super Nintendo to its breaking point, especially with regard to memory limitations; the programming shortcuts necessary for shoving that much data into a system still reliant on battery backups meant leaving huge holes in the game's code that players learned to exploit. While the most notorious of the *Final Fantasy VI* glitches affect the combat mechanics, I'm more interested here in the larger-scale, world-altering sorts of glitches, the type that reshape and ultimately negate the "defeat the villain, save the world" quest-narrative structure—in particular, the "airship glitch," first detailed by a player who goes by the name Elephantgun—which completely breaks the game's intended story arcs.[1]

The basics—of a narrative scarcely less convoluted than *Cloud Atlas*—go like this: the girl, Terra, is a mind-controlled imperial slave being used to incinerate rebel holdouts—until a mysterious entity called an Esper knocks her out. Once she revives, the

[1] While Elephantgun's archived thread is worth reading in its entirety, Jason Schreier's article in *Kotaku* offers a useful short summary of the airship glitch, along with images of some of the odder things that can be done with it.

thief, Locke, with the aid of a bunch of small and furry (but sentient) creatures called Moogles, helps sneak her out of the town and to the castle of another rebel, the Prince Edgar. The three are then pursued by the psychotic General Kefka; though they make it to the rebel headquarters, they then have to split up: one group escorting rebel leader Banon to a safer hideout, another infiltrating an imperially occupied city, and another floating away unconscious following a fight with a giant wisecracking octopus. It's in this last group that players meet (and briefly control) General Leo, a character who made a big impression on players at the time because he's absurdly more powerful than any of your characters at that point; the fact that he was a playable character for a few fights led to any number of urban-legend theories about how he could be recruited for good, or how he could be resurrected after Kefka betrays and kills him (Schreier).

Once everyone joins back up, they go to see the Esper again. Terra suffers some sort of dissociative incident, turns pink, and flies off. Eventually everyone else finds her and figures out she's half-Esper, then they pick up an airship, and set out to topple the Emperor. But Kefka doublecrosses everyone and knocks the world out of balance—at which point the world is rendered in different colors, with different music playing in the background. On the escape, the heroes crash their airship, scattering everyone across the wasteland, now called the World of Ruin. There once again players must gather their cohort, find yet another airship, and defeat Kefka once and for all. Unlike many games, though, the damage done by Kefka remains: the world in *Final Fantasy VI* is still in ruins, and General Leo is still dead—the party can even go pay their respects at his grave.

But this isn't a game about setting everything to rights: the player's there to defeat the initial evil and make sure there is still a world to rebuild.

Despite all the background complexity, the game boils down to one simple cycle, twice repeated: gather strength (both martial and numerical), find airship, defeat evil. With few exceptions, this same cycle undergirds every RPG: the vehicle may be a boat or a teleporter, a bridge or even a key. But its function as a plot device within the narrative is much the same regardless; it could even be narrowed down to: find airship, defeat evil; as low-level playthroughs of the game show, the lack of the vehicle is the only hard-coded barrier preventing full navigation of the text from almost the very first; everything else in the game is optional beyond triggering the narrative flags that allow progression toward the airships and the confrontations with Kefka.

Where *Final Fantasy VI* becomes narratologically fascinating is a glitch involving this very same airship. The process to trigger it is time-consuming but not too complex: after escaping from the first town, the player must save the game right outside—and then not save after that for several hours of gameplay. Just before reaching the evil boss atop his Floating Continent (the whole reason the airship was necessary in the first place), jump off instead and land back on the ship. That done, fly around, land once more, and allow the first enemy group encountered to kill the party. The game knows it needs to send everyone back to the original (and only) save point, at almost the beginning of the game. But going all the way to the Floating Continent activates another script, one where the game remembers that the airship was acquired, and that it should stay with the player

after death. The conflict is resolved by the game resetting all the narrative flags up to that point, but tossing in the airship to keep. Now every point in the World of Balance can be accessed with only two initial characters, Terra and Locke, before they encounter any of the other twelve. And this leads to many ways to break the narrative, confronting the text with the errors and contradictions lurking in its own code.

In some places, this is made literal: for instance, with that airship, you can take Terra to visit her own pink half-Esper form. But there are more bizarre effects as well, such as when, upon leaving that place, all the other members of the party join up as Moogles. This happens because, given the memory limitations they were working under, the coders decided to reference character slots by variable; not as "Terra" or "Locke" but rather as "character_1" through "character_16", with permanent characters overwriting temporary ones as the game proceeds. As with the two-digit hexes in *Pokémon*, 16 is used because each slot can be designated by a single hexadecimal character, with two reserved for temporary characters and one each for the 14 playable characters. Of these, 4 are permanent from the start, including Locke, Terra, and Mog, one of the Moogles who aids in the opening escape. The other 10 slots are the other 10 Moogles from that opening sequence; each one corresponds to a playable character you would (or could) meet in a normal playthrough. As these characters are encountered and named, their data replaces a Moogle's, consigning them to digital oblivion. Upon returning to the game's beginning, airship in tow, all these player-replacement scripts lay dormant, waiting to be activated, no matter how illogical the results. Because of, yet again, memory limitations, the game

was built without failsafes that would terminate a process when it's told to load data that's not actually there; instead it will just load whatever it can find and get on with things. The game is trying to work back towards narrative normality, but each routine triggered signals that something has gone seriously wrong. The pull of the narrative toward its conclusion, *any* conclusion, is embedded in its structure down to the very code itself: a sort of teleo-logic. Lacking the fulfillment of defeating evil, the game often is rendered unplayable; its conflicts cannot be resolved within its own frame of reference.

Which is not to say the narrative can't be completed (in the traditional sense), and hilariously so, with this glitch in operation—one potential party includes a usually non-playable ghost character with a power that can destroy any enemy, including the final boss. But other scripts can totally subvert it; for instance, Edgar's castle can tunnel under mountains, an ability shown off in evading Kefka early on. But if he is not encountered at that time, the script triggered in meeting and naming him (that is, replacing his Moogle) will be there even in the World of Ruin. If he's picked up at that point, the castle will still burrow through the earth, but it will emerge instead in the World of Balance—essentially allowing the characters to travel back in time, from the second narrative cycle back to the first. Or perhaps it's more of a hybrid between the two: the insides of buildings are still World of Ruin, as are the towns themselves when you exit any such building. But the world map stays in Balance—leading to such haunting events as entering a perfectly normal looking town inn, only to exit and find a burned-out killing field. Narrative time

collapses; the synchronicity of the two narrative cycles, and the inevitability of the future calamity, is revealed in its full ghastliness.

Then there's the range of ways to exploit the guest character slot, which normally would be overwritten as characters are encountered, from rebel leader Banon to General Leo to Terra's Esper father Maduin, in a flashback to her birth and his capture by the Empire. In this case, if the glitch is activated prior to the scenario with Banon, then the flashback with Terra's father is triggered, the "character_15" slot still tries to write Banon out of existence and replace him with Maduin. However, since Banon hasn't yet been triggered on the glitched playthrough, when the game calls up that character slot it gets, not Banon's now mostly overwritten data, but the slurry of code representing the father. From there, one variation allows you to play as him, bringing him through to the future and releasing him from decades of torment and a sacrificial death. Another projects Terra into the flashback, taking the place of her father's sprite, so that she's presented as entering a queer romance with her mother that results in her own birth. Or if instead the scenario of the octopus-fighter is finished first, and then the glitch is triggered, once again the "character_15" slot overwrites Banon's data with a temporary character's, but this time with a fully-programmed and fleshed-out replacement: none other than General Leo. Because of other narrative restrictions, Leo's unfortunately unable to take his revenge on Kefka. But he can, at least, visit his own grave.

In earlier chapters I have shown how "glitching" provides a new tool, or at least new methodology, for critical readings of texts. But it holds out the prospect of reparative

reading, of aiding to whatever degree possible the wounded and the powerless of the world; here, Terra's father briefly freed from confinement and torture, or there, General Leo allowed to make his peace with the betrayal that awaits him. That these occur in alternate and incompatible versions of the world (even, in Marie-Laure Ryan's term, "impossible worlds") is no matter: the text contains within itself these possibilities; as the explorer of much of this glitched territory says, "You can play *Final Fantasy VI* only so many ways, but you can glitch it infinitely" (Elephantgun)—an assertion I would argue is true of all texts, though some, like this game and like the novels of David Mitchell, are much more amenable to it.

Cloud Atlas, like *Final Fantasy VI*, presents a world in which conflicts both ontological and narratological cannot be resolved within its own frame of reference. Furthermore, through Zachry's tale the inevitability of future calamity is made clear, and it exists alongside the pre-apocalyptic narratives as the novel moves backwards through them; all it takes to toggle between states is to riffle the pages. Baucom writes of this retrograde motion—again, through the perspective of Sonmi-451—as "'experiencing' the nondisjunctive plurality of human life across [ ]multiple forms of existence collectively constituting the situation and the problem of being in our times," thus "gain[ing] access to a new conception of justice for, within, and against the looming 'inevitability' of the Anthropocene future" (156).

To ground justice within any sort of "nondisjunctive plurality" is not to balance the incommensurate scales of latter-day human existence, but to give over completely to

the notion of humanity as morally indifferent geophysical force—just because non-ontological ways of thinking the human are required, does not mean that we pursue our own non-ontology. Instead, I would argue that it's *precisely* our experience of human existence as disjunctive that will allow any conception of justice whatsoever to be exercised in the Anthropocene age and beyond—in particular, the disjunctive archives of the texts and testimonies we receive and pass on, the accounts of the mutually incompatible experiences of the human in the 21st century and beyond.

After all, it's the texts we share and the stories we tell that have brought us to the cusp of the Anthropocene—every predatory group in Mitchell's novel, from the racist missionaries Adam Ewing encounters in the South Pacific to the atavistic tribesman who kill Zachry's kin, all justify their actions based on appeals to one or another textual corpus, however distorted or dimly remembered. Likewise the acts of mercy and compassion in the book, from Meronym freeing Zachry back to Autua saving Adam. The glitches in human experience that Mitchell brings forward, as well as those identified by Chakrabarty in the Anthropocene, spring from the same basic constraint faced by the *Final Fantasy VI* developers: memory limitations. And that can and does lead to worlds not lining up, data going missing, etc.; and when that happens we humans, like the game, tend to grab whatever's nearest at hand and attempting to get on with things the best we can.

Cloud Atlas is practically a case file for studying fuzzy or glitchy reception, examining the weird refractions and slippages of narratives in transmission. Sonmi

herself comes to realize that she is a bit character in a global plot: her experiences have been staged for the benefit of the Corpocracy; so that whatever her own conceptions of justice, she fits the role of Emmanuel Goldstein-esque scapegoat, an enemy of the state to sponge up hatred and exhibit why replicant slaves (and the citizens, and the planet itself) must continue under oppression. Her final actions are oriented not towards the future—by the time they reach Zachry's children, no one even understands her language anymore—but at the past: she finishes watching the "Ghastly Ordeal." In so doing, she triggers the narrative mechanism to go on reflecting, making possible Cavendish's escape, Luisa Rey's survival, Robert Frobisher's sextet, and Adam Ewing's recovery.

In the past couple years, Mitchell has returned to this territory in *The Bone Clocks* and *Slade House*, the latter an offshoot of the former. Though lacking the interruptions or backwards resumptions, *Bone Clocks* otherwise echoes *Cloud Atlas'*s structure: six sections with differing narrators. Only there is now a clearly fantastic element involved: a conflict between two groups: the Horologists and the Anchorites. There is the temptation to see these groups in binary terms: the bad Anchorites, who feed off the life energy of other humans in order to maintain perpetual youth, and the good Horologists, immortal by means beyond their control or understanding, who try to stop them. But critics who mourned that this so-called "Wizard War" (or Final Fantasy, even) sidelined all the human drama of Mitchell's works tended not to see it in context of the Anthropocene drama playing out relentlessly throughout. By the end of the book, which takes place in the 2040s, the Internet is a memory, Britain has fallen, and lone outposts elsewhere (such

as Iceland) are all that remain. In such a world, what good is the knowledge and memory of a hundred lifetimes? The Horologists, at least, answer that it's good only to ease suffering, expand social agency, and better other lives in whatever ways are possible. Or, as one of the characters puts it, "What's a metalife without a mission? It's mere feeding" (230).

For Mitchell, this is not only the position of the Horologists, but of readers more generally in the Anthropocene: through our archives we have access to many thousands of lived experiences, and what we do with that knowledge determines whether we are Horologists, intervening mercifully wherever possible in the context of humanity's disjunctively plural existence, or Anchorites, out to devour whatever is in front of us with no concern for the sustainability of the species. *Slade House*, his most recent book, poses the question even more pointedly to writers, through the scenario of a psychically vampiric brother and sister who must consume the soul of one human every seven years to power their own immortality. To do so, they create elaborate scenarios to lure in and capture a victim, until they are undone by one of the Horologists from *The Bone Clocks*, and also by the vengeful residue of their previous meals. Their authoring process, as it were, becomes glitched, the data they've fed on but never completely erased returning from repression—too late to save their own souls, yet enough in time to finish off the siblings and make the world a slightly more bearable place. To read for and identify such glitches within texts thus becomes a way to potential sites of resistance, a space for

dissent within hegemonic (or corpocratic) systems that provides at least the possibility of turning the machinery, the logic, the very desires of those systems back against them.

But it also, and more urgently, identifies spaces in which—unlike many other of the world's ills—readers *can* intervene decisively through the exercise of care. David Mitchell and *Final Fantasy VI* are both thus engaged with what Steven Jackson calls "broken-world thinking," a mode of thought fit to a world where "the natural systems we have long lived within and relied on have been altered beyond return" (221–2). In such a world, Jackson finds, the focus must shift from innovation to *repair*: "the subtle acts of care by which order and meaning in complex sociotechnical systems are maintained and transformed, human value is preserved and extended, and the complicated work of fitting to the varied circumstances of organizations, systems, and lives is accomplished" (222). Mitchell's Horologists concentrate on maintenance: they preserve the connections of his hyperdiegetic worlds the best they can, but even their immortality isn't sufficient to transform the world into utopia; sometimes, nothing can be salvaged, and much of their most difficult work consists in recognizing when that is the case in order to concentrate their limited efforts elsewhere. *Final Fantasy VI*, meanwhile, for all its glitches, bugs, and occasional cartoonishness, offers a narrative world of exactly the sort Jackson describes. The destabilizing force may be anthropomorphized in the form of a nihilistic clown, but the force at work is similar, and similarly irrevocable. By the time Kefka unbalances everything, the World of Ruin is permanent—but the scattered characters, even before they band together again, all individually find ways to help care for and

repair the communities they find themselves in: whether that be nursing a old man back to health, saving a family whose house is ablaze, or caring for and defending children orphaned in the calamity. That work does not end when the main villain is defeated: such communities must be maintained, cared for, repaired. "So the world is always breaking," Jackson says, "it's in its nature to break. That breaking is generative and productive … It is also consequential … And it is always being recuperated and reconstituted through repair" (223).

As scholars, we are charged with the recuperation, reconstitution, and repair of texts. Texts break, texts glitch: it's in their nature. And that breakage can indeed be generative and productive. But we are also responsible for the maintenance and repair of our textual communities, in no small part ensuring that there will be such communities even if the direst predictions come to pass. We cannot, ourselves, solve climate change—at this point, only all the world's governments and corporations working together can even mitigate the worst of its effects. But we can prepare ourselves to clean up after it, making strats to adapt ourselves to lives vastly different than what we have known, helping post-Anthropocene humanity howsoever we can. We can create routes to survive, and help others survive, and help our texts survive. And we can—must—continue reading them, restoring when possible, repairing as needed: mitigating the randomness of the world around us, and making as much room as possible for the play of the future

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