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Silicon Ashes to Silicon Ashes, Digital Dust to Digital Dust: Chronolibido and Technological Fragility in *GlitchHiker*

Jakko Kemper

“Beauty in the Imperfection of Man-Made Machinery”

In 2012, the notable music website *A Closer Listen* published an article tellingly titled *A Landscape of Decay*.¹ In this chapter, writer/musician Zachary Corsa presents the rich tradition of experimental music as one in which a positive value is ascribed to a technological aesthetic of imperfection and failure:

No other visceral aesthetic is as aggressive in the message it broadcasts, that this technology is imperfect, as we're imperfect, that these mediums and these sound-waves are being pushed to their absolute limits and failing there, and there's beauty in that failure, beauty in the imperfection and flaws of man-made machinery, in a way that almost humanizes those flaws, makes them a character of the song as much as any melody, any run of notes.²

Corsa clearly implies that the technological imperfections he identifies harbor some affective link to humankind's own flawed state (“this technology is imperfect, as we are imperfect”). His account suggests that a technology's aesthetic appeal rests in part on how its imperfections—which I will understand here as notable flaws or failures in a technology's operations—resonate with our own metaphysical constitution.

There is, however, also something problematic about Corsa's text. The impassioned rallying cry that he delivers juxtaposes its valuation of

¹ Zachary Corsa, “A Landscape of Decay,” *A Closer Listen*, last modified April 25, 2012, <https://acloserlisten.com/2012/04/25/a-landscape-of-decay/>.

² *Ibid.*

imperfection with a rather unrefined image of digital technology. Corsa envisions a monolithic shift from analog to digital that has inaugurated an “era of looking sadly backwards, of revisionist history, when the dead obsolete technologies of our childhoods become crucial to sanely surviving in an Apple world that feels colder with every new sweatshop-fashioned model of iPhone.”³ The technological perimeters that Corsa scours for the sweet scent of imperfection invariably turn out to be analog in nature; he advocates an “admiration for imperfection in a plastic surface world [that calls] us back not just to cassette, but to scratchy Super 8 film, to blurry Polaroid and Holga photography, to tracking-damaged, pitch-warbling VHS.”⁴ Corsa’s critique pivots, in other words, on a stark opposition between analog passions and digital anemia. In Corsa’s text, digital technology comes clad in a frigid and sterile shroud, and its adverse effects can only be mitigated by turning to the warm sanctuaries of a technological yesteryear.

Corsa’s plea against the digital evokes multiple critical questions. Have people not, to paraphrase curator and writer Omar Kholeif, invested their smartphones and computers with their innermost desires—for sociality, for intimacy, for mobility?⁵ Moreover, is digital technology itself not markedly prone to failure? Who has not experienced dismay at the hands of a malfunctioning phone or an uncooperative Wi-Fi connection? It is the contention of this chapter that these minor tragedies of digital culture are in fact not so minor at all, but rather have a leading role to play in the drama of a digitalized world. This approach travels beyond the contrived dichotomy of a “sterile,” “perfect” digital realm and an “emotionally vibrant,” “imperfect” analog world, and assesses how perfection and imperfection are *both* enmeshed in digital culture. This does not mean that Corsa’s account is entirely invalid: digital technologies have, for example, been shown to thrive on spectral residues of dispossession and ecological destruction⁶ and to inform tendencies of standardization, alienation, and disempowerment.⁷ Yet following the philosophical tradition, carved out by

³ Corsa, “A Landscape of Decay.”

⁴ Ibid.

⁵ Omar Kholeif, “Preamble,” in *You Are Here: Art After the Internet*, ed. Omar Kholeif (Manchester: Cornerhouse and SPACE), 10–13.

⁶ Nick Dyer-Witheford, *Cyber-Proletariat: Global Labour in the Digital Vortex* (London: Pluto Press, 2015); Sean Cubitt, *Finite Media: Environmental Implications of Digital Technologies* (Durham, NC: Duke University Press, 2017); and Lowenhaupt Tsing, Heather Anne Swanson, Elaine Gan, and Nils Bubandt, *Arts of Living on a Damaged Planet* (Minneapolis, MN: Arts of Living on a Damaged Planet, 2017).

⁷ Bernard Stiegler, *The Lost Spirit of Capitalism: Disbelief and Discredit*, trans. Daniel Ross (Cambridge: Polity Press, 2014); Geert Lovink, *Sad by Design: On Platform Nihilism*

Plato and expanded by Jacques Derrida and Bernard Stiegler, of thinking of technology as pharmacological in nature—as holding both curative and poisonous potentials⁸—we may say that a technology is never simply one monolithic construct and that digital technologies thus harbor pathways and potentialities for more sustainable and meaningful modes of engagement. In accordance with this observation, this chapter conceptualizes digital instantiations of imperfection as elements of friction capable of challenging the digital's problematically frictionless veneer.⁹

In what follows, I trace in the discourse on imperfection a tendency to envision imperfection as a token of friction, fragility, and finitude in digital contexts. I do so by scrutinizing the associations of imperfection that are often attached to the figure of the glitch, a concept that literally denotes a technological flaw and that I will shortly introduce in more detail. I will then analyze *GlitchHiker* (2011), a video game whose glitches exhibit a unique relation to malfunction and finitude: the game was programmed to expire and is now no longer playable. In my reading of this digital object, I engage theorizations in the field of philosophy and media studies, paying particular heed to Martin Hägglund's concept of chronolibido (which charts the coimplication of loss and desire), Steven Jackson's discussion of the undervaluation of repair and maintenance, and Anna Munster's notion of an ethos of death that has materialized in digital aesthetics. Reading *GlitchHiker*, as a digital object that lionizes finitude and decay, in relation to these authors will open up a new perspective on glitch and its signification of imperfection as well as contribute to new modes of thinking about human–technology interaction. Before properly introducing *GlitchHiker* and delving deeper into the relevant concepts, I will, however, first provide an overview of the concept of glitch and its relation to the notion of imperfection.

Glitch

I define a glitch as a perceptible moment of faulty interference in the routine operation of a (usually digital) technology. It is, in other words, a producer of friction and attrition, complicating perfection- and efficiency-oriented

(London: Pluto Press, 2019); and Berardi Franco, "Bifo," in *And: Phenomenology of the End* (South Pasadena: Semiotext(e), 2015).

⁸ On the concept of the pharmakon, see also Patricia Pisters's contribution to this volume.

⁹ This research has been conducted within the context of the NWO-funded research project *Sublime Imperfections*, a project based at the University of Amsterdam that examines contemporary cultural preoccupations with imperfection. For more information, see <http://www.sublimeimperfections.org>.

images of technology. The glitch forms an apparition whose possibility the user always intuits—that is to say, when engaging digital technology, one is always haunted by the “silent awareness [that one is] never safe from accidents, more common with the computer than with the typewriter or pen.”¹⁰ Glitches are generally short-lived, creating a hyphenated user experience, a composition of error and correction.

The aesthetic effects associated with glitch—often appearing to the user as a “tumorous blob of digital distortion”¹¹—have been repurposed in art, frequently to critical purpose. The artistic history of glitch accommodates a visual and an aural component. Glitch music, while embedded in a long tradition of soliciting the sounds of breakdown and malfunction, came into fruition as an actual genre in the 1990s. As media theoretician Caleb Kelly describes, “glitch music combined the ‘clean’ world of the digital with a ‘dirty,’ detritus-driven sound that switched the ratios of signal to noise in the realm of digital production.”¹² Critical theorist Michael Betancourt traces the birth of visual glitch aesthetics back to *Digital TV Dinner* (1979), a video presented under the rubric of visual music that exploited the glitchy effects produced by manually switching the game cartridge in the *Bally Astrocade* game console while the console was turned on.¹³ It would be many years until the notion of visual glitch art would become part of art theory’s vernacular, however—glitch theorist Rosa Menkman dates this moment back to around 2005.¹⁴ In both its aural and visual manifestations, glitch art highlights the failures, contingencies, and materiality of technology.

Unsurprisingly, the concept of the glitch and the technological fragilities it uncovers are often labeled in terms of imperfection. Consider, for example, the following description of glitch’s revelatory potential, offered by media critic Ed Halter:

The very moments that indicate the specificity of the medium occur when that medium starts to break down, to suffer and reveal *imperfections*. The technology becomes visible through its failures. Glitches and

¹⁰ Jacques Derrida, *Paper Machine*, trans. Rachel Bowlby (Stanford, CA: Stanford University Press, 2005), 23.

¹¹ Hugh S. Manon and Daniel Temkin. “Notes on Glitch,” *World Picture 6*, last modified Winter, 2011, http://worldpicturejournal.com/WP_6/Manon.html.

¹² Caleb Kelly, *Cracked Media: The Sound of Malfunction* (Cambridge, MA: MIT Press, 2009), 8.

¹³ Michael Betancourt, *Glitch Art in Theory and Practice: Critical Failures and Post-digital Aesthetics* (New York: Routledge, 2017), 29–31.

¹⁴ Rosa Menkman, *The Glitch Moment(um)* (Amsterdam: Institute of Network Cultures, 2011), 7.

errors constitute evidence of its origins; we see the material through disruption.¹⁵ (emphasis mine)

Or observe the first point of Menkman's *Glitch Studies Manifesto* (2011), which warns us that the quest for noiseless transmission and perfect representation is a dogmatic fantasy that is doomed to remain precisely that: a fantasy.¹⁶ Every medium, she writes, carries with it its own "inherent fingerprints of *imperfection*."¹⁷ Perhaps the most straightforward example of the discursive interweaving of glitch and imperfection is the title of a 2009 compendium that displays the work of numerous glitch artists: *Glitch: Designing Imperfection*.¹⁸ The relation between glitch, technology, and imperfection is thus twofold: glitch signifies a particular aesthetic style often described as imperfect, and this aesthetic in turn reveals the purported imperfections of the underlying technology. On the whole, one could say that glitch and its connotations of imperfection introduce a sense of friction into technological imaginaries of a frictionless perfection. Within such influential imaginaries, technology is conceived of as a means that should ideally be integrated seamlessly and subconsciously into the navigation of everyday life. Before further exploring this claim, it is necessary to first present my primary object of analysis: Vlambeer's *GlitchHiker* (2011).

GlitchHiker

Vlambeer is a Dutch independent game studio, based in the city of Utrecht, which has garnered international acclaim with a number of well-received titles (the most well-known of these being the 2014 shooter game *LUFTRAUSERS*). They are embedded in a national culture that is globally renowned for its contributions to the gaming industry and that boasts a remarkably strong scene of independent developers facilitated by a supportive government climate.¹⁹ In 2011, Vlambeer took part in the Dutch edition of game jam event Global Game Jam. Game jams are events that gather people from a variety of video game development-related backgrounds and that are

¹⁵ Ed Halter, "The Matter of Electronics," in *Playlist: Playing Games, Music, Art*, ed. Domenico Quaranta (Gijon: LABoral Centro de Arte y Creación Industrial, 2009), 70–7.

¹⁶ On the history of this quest for perfect mediation and sonic purity (and its misguided nature) see also Melle Kromhout's contribution to this volume.

¹⁷ Menkman, *The Glitch Moment(um)*, 11; emphasis mine.

¹⁸ Iman Moradi, Ant Scott, Joe Gilmore, and Christopher Murphy, *Glitch: Designing Imperfection* (New York: Mark Batty, 2009).

¹⁹ Monique Roso, ed., *The Dutch Games Industry: Facts and Figures* (Utrecht: Taskforce Innovation Utrecht Region, 2013).



Figure 7.1 *GlitchHiker's* glitch-based aesthetic.

organized with a spirit of creativity and a willingness to experiment in mind. Generally, the goal is to assemble a team of programmers, designers, and artists and to develop a game within a strictly limited amount of time. During the 2011 event, Vlambeer coordinated a team of developers and designers with the task of creating, within a forty-eight-hour time slot, a game from scratch that conformed to the event's theme of "extinction."²⁰ The result of this challenge was *GlitchHiker*. The game relied heavily on glitch-based visuals—it would often freeze, polychromatic schemes would occasionally irrupt into the screen, and the game's already pixelated aesthetic was regularly distorted—and on an adaptive score (composed by Rutger Muller) that was itself accentuated by audible glitches and flaws (Figure 7.1).

What is most remarkable about *GlitchHiker's* aesthetic is the fact that its glitches signified the game's approaching demise. *GlitchHiker's* key gameplay element revolved around its life reserve. As is not uncommon in video games, the player was allotted a finite number of lives, but what is so strikingly unique about *GlitchHiker* is that the game's code was programmed to erase

²⁰ In addition to Vlambeer's own Rami Ismail and Jan Willem Nijman, the team consisted of Laurens de Gier, Jonathan Barbosa Dijkstra, Rutger Muller, and Paul Veer.

itself after a player drained the last life from the reservoir. After this final life was expended, nothing more could be done; the game was terminated, never to be played again. Its creators had hidden all its code behind a randomly generated password, meaning that not even they can ever conceivably retrieve it.²¹ The game went on to receive the first place award in the Game Jam's competition from both jury and audience—a testament that the game and its idiosyncratic concept managed to strike a sonorous chord.

GlitchHiker, it must be noted, is certainly not the first of its kind, neither in its conjuration of glitch-based destruction, nor in its glitchy reconfiguration of the medium of video games. A pioneering example of the former logic of glitch-induced ruination is found in the live performances of art group 5VOLT CORE, in which they rely on power interruptions and short-circuiting to undermine their computer's regular output: "This process tortures the machine and makes it scream out shreds of powerfully colored images, until the computer eventually dies, which ends the performance."²² An example of a canonical glitch-based video game is art collective JODI's *Untitled Game* (1996–2001), a collection of modifications of the influential video game *Quake* (1996) that challenge the hegemonic and implicit norms behind video game design by erecting glitchy reimaginations of the game world. *GlitchHiker* similarly sheds light on the norms of game design, strapping the medium's fixation on death to the underlying code, with the process of disintegration here being performed through the player and not through the artist.

Before further zooming in on *GlitchHiker*'s specificity, the game's finite functionality warrants a methodological consideration. *GlitchHiker* is a digital object that was programmed to expire and this is precisely how things played out—soon after the Global Game Jam ended, a player wasted the last remaining live and thus no playable version of the game exists today.²³ As such, in my analysis of the game's visuals and gameplay I am relying mostly on textual documentation and on the sparse number of available videos that depict gameplay footage.²⁴ Problematic as this could be if I were to pursue an exhaustive textual analysis, this is not an impediment in the case of the present inquiry, as I am predominantly interested in *GlitchHiker*'s constitutive

²¹ Roberto Flores, "GlitchHiker: The death of a newborn indie game," Bitmob, last modified December 16, 2011, <https://bitmob.com/articles/newborn-baby-game-dies>.

²² Menkman, *The Glitch Moment(um)*, 37.

²³ John Polson, "Harder to Judge Than IGF Pirate Kart? Vlambeer's Unplayable Game [Interview]," DIYGamer, last modified October 11, 2011, <http://www.diygamer.com/2011/10/vlambeers-unplayable-playable-igf-entry-glitchhiker-interview/>.

²⁴ Gameplay footage of *GlitchHiker* can be found at: <https://www.youtube.com/watch?v=IXtoiWRX9EA>.

logic of finitude. I am, to put this more concretely, mainly concerned with the game's *concept* and the way in which this concept was communicated to the player through a glitch-based aesthetic of imperfection. As this concept and its aesthetic visualization are clear from the existing documentation, no playable object is required (and it is precisely the fact that no playable version exists that is of prime importance).

The game's life system also deserves some more elaboration. *GlitchHiker* functioned according to a points-based system where, for every 100 scored points, a life would be added to the life reserve, whereas anything below that threshold would result in the deduction of a life. While, in theory, it was entirely within the realm of possibility that the game would have remained preserved (provided enough players amassed sufficient points), its open-ended availability to an uninitiated crowd—cognizant of the stakes of play but unversed and inexperienced when it came to the gameplay mechanics—practically ensured that the game would at some point meet its demise.

GlitchHiker's extinction-inspired concept thereby offers an experience wholly unique to video game culture. While we are used to video games that abound in death on the level of gameplay, video games tend to keep this morbid infatuation away from the game's performance; dying in the game has no impact on the technology's capacity to operate. In the case of *GlitchHiker*, however, players are given a sense of responsibility over the well-being of the technological object itself; missteps do not merely affect the fate of the game's virtual protagonist, but carry very real consequences for the existence of the game itself. Contrary to the familiar rationale of simply reloading and restarting when one's digital lives are lost, in *GlitchHiker* one slip-up too many would cause the assemblage of code that comprised the game to be lost entirely.

At face value *GlitchHiker* comes across as an ordinary indie game, opting for a mode of gameplay and a top-down viewpoint that recall an iconic series like *Bomberman*—a strategic game where players would have to use bombs to find their way through mazes. *GlitchHiker's* gameplay dynamics were of a similarly straightforward and an arcade-inspired variety, having players navigate a “single screen arena” where they would have to collect coins while avoiding obstacles.²⁵ Its simplicity seems partly designed to lend an optimal degree of poignancy to the game's macabre concept. This concept was fortified by an aesthetic that reveled in the use of both visual and aural glitches, with

²⁵ Peter Kirn, “GlitchHiker: A Game that Dies, Slowly, If You Play Badly,” CDM, last modified July 5, 2011, <https://cdm.link/2011/07/glitchhiker-a-game-that-dies-slowly-if-you-play-badly/>.

the music gradually disintegrating and the game visibly struggling to stay operative as the life pool slowly drained.

In this sense, the game conveyed a very clear relation between glitches and proximity to death. As journalist Jeremy Peel describes:

As the number of lives in the pool inevitably began to drop, the game's health visibly and audibly deteriorated. Its sickness became increasingly evident in the glitches that obscured parts of the screen, and at those times in which the action froze entirely; the game would hang for seconds, before lurching horribly back into life.²⁶

Essentially, the glitch effects dramatically enacted a worsening condition, a figuration of an ailing patient increasingly struggling with tasks once carried out with ease. This phenomenon of a fragile technology floodlighting its own finitude prompted players to experience feelings of remorse or even to flat out refuse to play the game for fear of potentially contributing to its conspicuous agony and ultimate expiration.²⁷ Reflecting on what stood out most about the *GlitchHiker* experience in the months following its passing, cocreator Rami Ismail indicates that it is *empathy*:

The story of *GlitchHiker* wasn't so much in the game, as it was a thing happening to the players. That breeds the circumstances in which responsibility can exist—in which guilt can exist—and in which such emotional attachment can happen.²⁸

For this reason, video games journalist Matthijs Dierckx remarks that the best way to understand *GlitchHiker* is to think of it not simply as a product designed for fun and play but rather as a work of art, a digital object that created the conditions for emotional connections to arise.²⁹ *GlitchHiker* turned out, in sum, to probe new conditions of possibility—facilitating feelings of care and empathy—that can emerge from the recalibration of familiar vectors of human–technology interaction.

²⁶ Jeremy Peel, "GlitchHiker: The Game That Was Programmed to Die," PCGamesN, last modified August 31, 2012, <https://www.pcgamesn.com/indie/glitchhiker-game-was-programmed-die>.

²⁷ Matthijs Dierckx, "[Nieuws] De Derde Nominatie voor de Control Industry Award Is ... GlitchHiker van Aardbever," Control, last modified November 9, 2011, <https://control-online.nl/gamesindustrie/2011/11/09/nieuws-de-derde-nominatie-voor-de-control-industry-award-isE2%80%A6-glitchhiker-van-aardbever/>.

²⁸ Rami Ismail cited in Peel, "GlitchHiker."

²⁹ Dierckx, "GlitchHiker."

To better grasp how *GlitchHiker* achieved this effect, it is instructive to take a closer look at *GlitchHiker*'s glitches and at how they relate to more general theorizations of the glitch. As illustrated, in *GlitchHiker* glitches serve as active prefigurations of the game's death. This explicit link between the occurrence of glitches and the state of the game itself marks a highly specific use of glitches that sits in contrast with the more unspecified way in which glitches are often theorized. Glitch theorists Hugh S. Manon and Daniel Temkin, for example, describe the effect of glitch as a general category as follows: "whether its cause is intentional or accidental, a glitch flamboyantly undoes the communications platforms that we, as subjects of digital culture, both rely on and take for granted."³⁰ Their words are symptomatic of a wider trend among glitch theorists to ascribe to glitches a pedagogical, sometimes almost gnostic power.³¹ This power stems from the glitch's foregrounding of failure, which marks a departure from a technology's "normative modalities," and as such is often theorized to guide its audience to new and emancipatory insights about their reliance on technology.³² Such arguments place glitch theory firmly in the tradition of a Heideggerian phenomenology of technology; Heidegger advanced the now canonical notion that to encounter a tool in a damaged or broken state is also to regard it in a different and potentially more reflective light.³³ As literary critic N. Katherine Hayles succinctly puts it, it is not until "something goes wrong"³⁴ that one begins to realize the full extent of one's enmeshment with technology.³⁵

³⁰ Manon and Temkin, "Notes on Glitch."

³¹ This pedagogical quality is best exemplified by Peter Krapp's argument that glitch-based aesthetics help to see that "what one needs to learn from mistakes is not to avoid them but something else altogether: to allow for them; to allow room for error." Peter Krapp, *Noise Channels: Glitch and Error in Digital Culture* (Minneapolis: University of Minnesota Press, 2011), 92.

³² Christiane Paul and Malcolm Levy, "Genealogies of the New Aesthetic," in *Post-Digital Aesthetics: Art, Computation and Design*, ed. David M. Berry and Michael Dieter (Basingstoke: Palgrave Macmillan, 2015), 31.

³³ Martin Heidegger, *Being and Time*, trans. John Stambaugh (Albany: State University of New York Press, 2010), 102–4.

³⁴ N. Katherine Hayles cited in Louise Amoore and Volha Piotukh, "Interview with N. Katherine Hayles," *Theory, Culture & Society* 36, no. 2 (2019): 148.

³⁵ While such general accounts of the glitch, based around its purported capacity to bring to light what would otherwise remain unnoticed, are certainly valuable for thinking through the relation between humankind and technology, the tendency to unilaterally portray glitch as a causeway to enlightened experience has rightfully been on the receiving end of criticism. Michael Betancourt argues that "the problem for critical media is not the creation of stoppages, but the adaptability of the audience to the stoppage itself" (Betancourt, *Glitch Art*, 127). Digital technology, so Betancourt suggests, trains its users to disregard any aberration as an inconsequentiality with no direct bearing on the image of the digital itself. Moreover, glitch aesthetics have been mainstreamed to such an extent—think, for example, of Kanye West's video to *Welcome to Heartbreak* (2008) or

In the contemporary techno-sphere, the capacity of glitch to bring to light one's entwinement with technology most significantly takes shape against the reigning Silicon Valley design philosophy of what I term frictionlessness. The notion of frictionlessness, I argue, is built around a conception of perfection that idealizes technology as a smooth and transparent conduit for interactions and transactions.³⁶ A coagulation of discourses of user-friendliness, connectivity, and optimization, it aims to fasten technology seamlessly to the navigation of everyday life. In doing so, it conceals the underlying value systems and material extractions that facilitate the purportedly frictionless networks of information production and commercial purchase. The paradigm of frictionlessness goes beyond merely obfuscating the material dimension of technology. By envisioning technology as the nexus through which smooth, convenient interactions and communications are established it also propagates ideas about how society should be run. Glitches, as hindrances in a technology's operation, generate brief moments of friction in user experience, challenging the ideal of technology as something perfectly integrated into a society that thereby smoothly progresses. Because this nexus can and must always be optimized, there is a constant requirement for users to update or replace their devices, which induces a consumption-driven and pragmatic relation to technology: sluggish, faltering, or obsolete technologies are quickly replaced with newer ones. A closer look at *GlitchHiker's* specific usage of glitches is instrumental in better understanding how glitches and their aesthetics of failure and imperfection can run counter to such philosophies of frictionlessness. This also invites the question of against what conception of perfection glitch's association with imperfection is in this context construed.

In the case of *GlitchHiker*, a first way in which glitches manifest themselves is as brief freezes during which all action is suspended. As the game edged closer to its demise, it would often halt momentarily "before lurching

Norway's integration of glitch aesthetics into the design of its national bank notes—the shock of the new and unexpected that they once supposedly summoned has waned. This implies that the capacity for subversion is no innate quality of the glitch: "There is no Formalist mode that can present an inherently critical meaning—the emergence of a *specifically* critical meaning depends on active choices made by the audience encountering the work, not the formal design of that work in itself: even the most 'critical' glitch may be considered as a simple technical error" (Betancourt, *Glitch Art*, 100). As such, it is crucial to scrutinize the specific context in which a glitch is encountered before any critical powers are ascribed to it. I argue that *GlitchHiker's* contextual entrenching is one element that makes its glitches so remarkable—by connecting glitches directly to the health of the system, the game significantly decreased the extent to which any of its glitches could be deemed insignificant.

³⁶ Elsewhere, I chart this philosophy in more detail: see Jakko Kemper, *Technological Aesthetics of Imperfection in Times of Frictionlessness* (Ph.D. diss., University of Amsterdam: 2021).

horribly back into life,”³⁷ enacting a technology that visibly labors to carry out its tasks. This corresponds to the wider definition of glitch as an error that gets corrected—the output of information is briefly arrested after which the machine falls back into its regular rhythm. When the term imperfection is raised in such a context, it takes shape against a conception of a *frictionless flow of information transmission*, an image that fits into the wider design philosophy of frictionlessness. *GlitchHiker* reverts this frictionless logic, injecting moments of deceleration into the flow of the game, consciously affecting gameplay experience and highlighting the game’s proximity to death. In contradistinction to most video games (and technology in general), *GlitchHiker* persistently points back to its own status as a technology—and a fragile one at that—by drawing on glitchy imperfections to hamper the frictionless transmission of information.

Another way in which *GlitchHiker*’s glitches appear is through a negation of clarity. The game’s pixelated aesthetic is in itself already a counterweight to industry standards of crystal-clear representation, but its glitches reinforce the game’s unvarnished graphics. As Manon and Temkin maintain, visual glitches generally appear to the user as a “tumorous blob of digital distortion,”³⁸ as is certainly the case for *GlitchHiker*. The obstacles that comprise the game-world and that the player has to navigate are often visibly lacerated and corrupted, and the screen is regularly invaded by checkered color schemes. In its visual capacity, the glitch is often theorized to stand as a corrective measure to the audiovisual industries’ gospel of “higher resolutions, better color palette [and] screen refresh rate,”³⁹ and their tendency to proselytize to their audiences about the technological capacity to render the world in ever more detail. Behind this trend toward higher fidelity looms the philosophy of frictionlessness, premised on the belief that a better, clearer representation is inherently desirable, and that such representation can be achieved through technology. The glitch and its fractured and pixelated aesthetic negate the transparency of the image and provide an alternative to the fetishization of higher resolution by highlighting the medium’s materiality.

Against a conception of perfection that commits to the possibility of a frictionless representation of the world by technology, the imperfection of glitch aesthetics consists precisely in a negation of such clarity and transparency.

³⁷ Peel, “GlitchHiker.”

³⁸ Manon and Temkin, “Notes on Glitch.”

³⁹ Scott Contreras-Koterbay and Łukasz Mirocha, *The New Aesthetic and Art: Constellations of the Post-digital* (Amsterdam: Institute of Network Cultures, 2016), 41.

GlitchHiker tied this twofold glitch-based aesthetic of imperfection⁴⁰ to the prospect of technological death in order to dramatize technological fragility and finitude. It is this phenomenon I will further analyze here, remaining especially receptive to the emotional investments the game enkindled, as this will pave the way for a new theorization of glitch and its relation to human-technology interaction.

GlitchHiker, Care, and Chronolibido

As a work of glitch art, *GlitchHiker* provides a profound case to support technology journalist Chris Baraniuk's suggestion that "glitch art is just the beginning of our culture leaning towards a world in which the permanence of the digital is no longer assumed."⁴¹ More specifically, I argue it is indicative of a different way of looking at technological impermanence: of seeing digital objects not as ephemeral entities that are to be constantly updated, optimized, and replaced but instead of allowing their finitude to enliven and make more committed one's investment in them. Because *GlitchHiker* had the prospect of death stitched into its very constitution, it strongly adheres to what Anna Munster describes as an emergent aesthetic "preoccupation with digital death"⁴² that counters fantasies that envision the digital as a realm of frictionless and unbridled expansion. She contends that this infatuation serves as a correction to paradigms that exclusively equate the digital with life and stability. I would argue that it thereby reveals a sensitivity to how those technologies most regularly invested with chimeras of acceleration and expansion are nonetheless haunted by breakdown and entropy—something that glitch art and its characteristic aesthetic of imperfection help bring to light. Both glitch and Munster's ethos of death challenge, in sum, the "dreams of permanence"⁴³ so often unjustifiably attached to the digital.

GlitchHiker conforms to the spirit of death that Munster delineates, especially by virtue of its status as a video game that, instead of abiding by the medium's usual logic of presenting "the digital as merely an opportunity to

⁴⁰ While I have focused primarily on *GlitchHiker*'s visual instantiations of glitch, a similar argument could be made about the game's score: as the game edged towards death, the music was increasingly characterized by brief pauses and distorted transmission.

⁴¹ Chris Baraniuk, "Glitchland: In the Future, the Digital Will Know How to Decay," <http://www.themachinestarts.com/read/2013-09-glitchland-future-digital-will-know-how-to-decay>, accessed May 25, 2019.

⁴² Anna Munster, "From a Biopolitical 'Will to Life' to a Noopolitical Ethos of Death in the Aesthetics of Digital Code," *Theory, Culture & Society* 28, no. 6 (2011): 68.

⁴³ Wendy Hui Kyong Chun, *Programmed Visions: Software and Memory* (Cambridge, MA: MIT Press, 2011), 128.

inconsequentially ‘reload’ and refire,⁴⁴ causes the actions of players to carry material consequences. What I have argued to be most remarkable about *GlitchHiker*, as a prime example of the rise of digital objects that prove to be “cognizant of finitude, consequence and even death,”⁴⁵ is that it elicited a sense of care and compassion from its audience—not only through its concept but also through the way in which its glitch-based aesthetic of imperfection further illumined its mortality. It is fruitful to analyze this phenomenon through the lenses of Martin Hägglund’s concept of chronolibido and Steven Jackson’s repair and maintenance paradigm, as this will help in inferring the full implications of *GlitchHiker*’s digital instantiation of imperfection.

Swedish philosopher Martin Hägglund’s concept of chronolibido illustrates how temporality is an inherent part of the very structure of desire and investment.⁴⁶ Hägglund demonstrates that an object’s temporality and the possibility of loss that this ushers in—lamentable though the prospect of loss may often seem—form the condition for any affective attachment to take shape in the first place. He disputes philosophical and psychoanalytical traditions that discern in desire an implicit wish to overcome an ontological lack of some absolute or primordial state of being—Lacan’s “the Thing,” Freud’s originary state of equilibrium and Platonism, for instance. By contrast, Hägglund maintains that desire is necessarily underwritten by a constitutive sense of finitude. The concept of chronolibido registers this situation and is defined by the coimplication of *chronophilia* and *chronophobia*:

Chronolibidinal reading seeks to show that the ambivalence of desire stems from the double bind of temporal finitude. Desire is *chronophobic* since whatever we are bound to or aspire for can be lost: it can be taken away from or be rejected by us. Yet, by the same token, desire is *chronophilic*, since it is because we are bound to or aspire for something that can be lost that we care about it, that we care about what happens.⁴⁷

Only that which can be lost can be desired. *-Philia* and *-phobia* coimply one another; the fact that a moment passes forms the minimal condition for any desire to try to hold onto it. Take away the possibility of loss and so, too, vanishes the impetus to keep:

⁴⁴ Munster, “Ethos of Death,” 70.

⁴⁵ *Ibid.*, 69.

⁴⁶ Martin Hägglund, *Dying for Time: Proust, Woolf, Nabokov* (Cambridge, MA: Harvard University Press, 2012).

⁴⁷ *Ibid.*, 14.

The fear of time and death does not stem from a metaphysical desire to transcend temporal life. On the contrary, it is generated by the investment in a life that can be lost. It is because one is attached to a temporal being (chronophilia) that one fears losing it (chronophobia).⁴⁸

While it is important to recognize that the condition of chronolibido, though constitutive, is insufficient to unilaterally effectuate a particular response, an aesthetic of imperfection can play a conducive role in rousing the flow of chronolibido. That is to say, the fact that loss and desire are intertwined is in and of itself not a guarantee that one will be predisposed to a particular orientation or aesthetic inclination, but imperfection marks a key aesthetic strategy to which artists can turn in order to give form to chronolibidinal investments. Hägglund shows, through readings of the literary works of Marcel Proust, Virginia Woolf, and Vladimir Nabokov, that an object can derive its affective power from aesthetically appealing to our faculties of chronophilia and chronophobia. By aesthetically configuring a particular dynamic between these two faculties an art object can invoke pathos—as, for example, when loss is staged as imminent:

The most intuitive experience we have of perceptual vivacity and intensity is when we see something we love for the last time. When it is on the verge of being lost, it appears as all the more precious and as something I have to hold onto all the more.⁴⁹

Because imperfection is indexical to time's passing and all that it ushers in (finitude, decay, degradation, contingency), there is an argument to be made that those artworks that most vividly agitate the flow of chronolibido tend to draw on an aesthetic of imperfection. This relates to one of the discourses that Ellen Rutten explored in the introduction to this volume: imperfection as necessarily bound up with the workings of temporality. The concept of chronolibido allows us to expand this observation and to better understand the appeal of imperfection when it is called upon to signify finitude, entropy, or decay. An aesthetic of imperfection can magnify the sense of the temporal and thereby deepen chronolibidinal attachment. As an example one may think here of the genre of hauntological music that shows a preoccupation with sonic imperfections (reverb, tape hiss, vinyl crackle, distortion) to

⁴⁸ *Ibid.*, 9.

⁴⁹ Michael W. Clune and Martin Hägglund, "Time in Our Time: Clune and Hägglund Debating at Stanford," *CR: The New Centennial Review* 15, no. 3 (2015): 120.

communicate the corruptibility of both memory and technology.⁵⁰ Another poignant example is William Basinski's seminal album *The Disintegration Loops* (2002), a collection of compositions that wrest beauty from technologically induced breakdown.⁵¹ In each of these cases, the object's appeal stems in large part from how its aesthetic of imperfection dramatizes temporality,⁵² finitude and fragility, and how it thereby intensifies the audience's chronolibidinal investment.

The concept of chronolibido also provides a way of situating the possible appeal of Munster's digital ethos of death, and this is where *GlitchHiker* reenters the scene. That the game's finite and fragile constitution evoked feelings of care, compassion, and responsibility in its players is explained by how it appealed to the flow of chronolibido: because the game staged its loss as always imminent, the conditions for a deeper and more responsible mode of engagement were created. Because the game was premised on a logic of finitude, and because it communicated its propinquity to loss through a glitch-based aesthetic of imperfection, players came to care for the game in a fashion that diverges from more functionalist tendencies of engaging digital objects.

The cultural significance of this sense of care can be better comprehended through an examination of science and technology scholar Steven Jackson's repair and maintenance paradigm. Jackson calls for a more serious consideration of just how central practices of repair and maintenance are to the contemporary mediascape: "Breakdown, maintenance, and repair constitute crucial but vastly understudied sites or moments within the worlds of new media and technology today."⁵³ Glitches, in their signification of failure, challenge the tenacity that Jackson signals of thinking about technology only in terms of innovation, acceleration, and permanence. As swaths of energy are expended to kindle the flames of innovation, novelty, and disruption, the banality of the common glitch reveals a constant requirement of maintenance work to ensure that the technological infrastructures facilitating everyday life simply stay operative. The philosophy of frictionlessness tends to gloss over this constant need for maintenance and repair, instead advocating

⁵⁰ Mark Fisher, *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures* (Winchester: Zero Books, 2014), 21. On imperfection as desired outcome in musical practices, see also Kelly's chapter in this volume.

⁵¹ See also Jakko Kemper, "(De)Compositions: Time and Technology in William Basinski's 'The Disintegration Loops,'" *Intermedialities* 33 (2019), <https://www.erudit.org/fr/revues/im/2019-n33-im04907/1065020ar/>

⁵² On the relation between imperfection and temporality, see Saito's chapter in this volume.

⁵³ Steven J. Jackson, "Rethinking Repair," in *Media Technologies: Essays on Communication, Materiality and Society*, ed. Tarleton Gillespie, Pablo J. Boczkowski and Kirsten A. Foot (Cambridge, MA: MIT Press, 2014), 226.

the practices of replacement and updating. *GlitchHiker*, on the other hand, offered a mode of play that effectively consisted of nothing more than *repair and maintenance work*. That is, the entire point of the game was to deal with emergent glitches and to ward off impending death, and it thereby allocated a central rather than liminal role to repair and preservation. Significant, too, is that the reparative gesture of playing the game could never grant *GlitchHiker* full immunity—engaging it would always mean engaging a fragile object for whose well-being one was made responsible.

Jackson repeatedly invokes the term care in relation to practices of repair and maintenance, not only to capture the multitude of activities required to ensure that everyday technologies simply keep working but also to indicate a possible moral and political dimension to how people relate to technology:

The ethics of repair admits of a possibility denied or forgotten by both the crude functionalism of the technology field and a more traditionally humanist ethics (which has mostly ignored technology anyway). What if we care about our technologies, and do so in more than a trivial way?⁵⁴

Against an industry logic of seamless and frictionless technology, curtailed only by planned obsolescence (meaning that the life span of devices is artificially delimited to always encourage the purchase of newer, “more perfect” and “more frictionless” updates and devices),⁵⁵ such an attitude takes seriously the finitude and fragility of technology and their material effects. It rejects monolithic accounts of technology and acceleration, and is responsive to the “temporalities of ruin, breakdown, and decay”⁵⁶ that unavoidably circumscribe one’s relation to technology (and indeed, one’s relation to all that exists).

The sense of care that Jackson charts is necessarily but also markedly chronolibidinal. While chronolibido is a general condition that pervades all experience, I have already argued that an aesthetic of imperfection and its indexation of finitude can make the effects of the temporal sensible and can thereby intensify the flow of chronolibido. The temporal logic of repair and maintenance reveals nothing so much as the fragility and finitude of—or the necessary logic of imperfection behind—the technological assemblages

⁵⁴ *Ibid.*, 232.

⁵⁵ On the pervasive logic of planned obsolescence, see also Saito in her chapter in this volume.

⁵⁶ Steven J. Jackson, “Speed, Time, Infrastructure: Temporalities of Breakdown, Maintenance and Repair,” in *The Sociology of Speed: Digital, Organizational, and Social Temporalities*. ed. Judy Wajcman and Nigel Dodd (Oxford: Oxford University Press, 2017), 170.

people rely on: there would be no repair and maintenance needed if things were not always (at risk of) breaking down. This situation might make chronolibido a central concept through which human–technology interaction is understood, but Jackson’s work shows that loss and ephemerality—central to the digital though they are (something Munster’s emergent ethos of death also discloses)—are not common registers through which digital technology is experienced or theorized.⁵⁷ By contrast, *GlitchHiker* comprises a digital object whose fascinating lure cannot be understood without being observant of the sense of loss that haunted it and of the careful practices of maintenance and repair this brought to the fore.

This is important because it allows us to grasp that the atypical attachments of care, empathy, and desire that the game elicited are not trivial, but rather indicative of potentially more sustainable modes of human–technology interaction. Here, it is instructive to briefly consider the work of Bernard Stiegler on how digital technologies predominantly impact and reconfigure human desire. The contemporary technosphere is, according to Stiegler, characterized by a crude delimitation of the possibilities for care and desire, both for our environment and for our own mind. Stiegler’s argument is that a contemporary technological culture focused on programmability and rampant consumerism has severely stunted desire and the cultural imagination: by creating and programming artificial needs, “libido is channeled towards the interest of consumption, instigating symptoms of a true destruction of libido.”⁵⁸ The effects of this destructive drive are, according to Stiegler, widespread: a susceptibility of the mind to be usurped and programmed by digital (marketing) technologies, the global extension of a logic of calculation, and a resultant inability to imagine a future beyond the short-term circuits of digitally induced consumption.⁵⁹ The philosophy of frictionlessness facilitates these processes: by tying technology to the navigation of everyday life so seamlessly that people automatically and casually engage it, the space for reflection is diminished. Stiegler bemoans the threat that this insidious focus on consumption poses to the active and productive use of technology.⁶⁰ The terminology of production should here be taken not to refer to the capitalist production of commodities but rather to creative and transformative uses of technology that could challenge the dominant technologic of programmed consumption.

⁵⁷ Jackson, “Rethinking Repair.”

⁵⁸ Stiegler, *The Lost Spirit of Capitalism*, 21.

⁵⁹ See, for example, Bernard Stiegler, *What Makes Life Worth Living: On Pharmacology*, trans. Daniel Ross (Cambridge: Polity Press, 2013), 25–7, 51–2, 63.

⁶⁰ Bernard Stiegler, *Technics and Time, 2: Disorientation*, trans. Stephen Barker (Stanford, CA: Stanford University Press, 2009), 128.

One way of remedying the unhealthy relation to technology that Stiegler sketches can be found in bringing the temporal constitution of care and desire to the fore in the engagement of technology. The practices of repair and maintenance that Jackson lists fit Stiegler's conception of the productive adoption of technology—repair is about finding fixes and new, often unintended uses instead of yielding to the consumption-driven logic of constant replacement, updating, and optimization. Moreover, repair and maintenance accentuate the temporal: their necessity announces the never-ending threat of loss, and bespeak a way of responsibly engaging the finitude of technology instead of seeing it primarily as an impetus for discarding and substituting all that is broken. This hints at the possibility of a culture in which technological breakdown would more palpably thrust the dimensions and material effects of finitude and fragility into the limelight, thereby rousing the flow of chronolibido. A philosophy of technology more attuned to temporality and finitude—thereby recognizing that perfection-oriented visions of frictionless and optimizable technology forestall a responsible engagement with technology and gloss over the material destruction sedimented in the digital's legacies—could circumvent the digital circuits of programmed consumption and wrest more meaning and sustainability from society's reliance on technology.

Conclusion

GlitchHiker and its aesthetic of imperfection, while modest in scope, provide an empirical example of what a more harmonious relation with technology might look like. Musing on the matter of care for technology, Jackson argues that “to care for something ... is to bear and affirm a moral relation to it.”⁶¹ As the concept of chronolibido reveals, this relation is from the first instance marked by a feeling for the temporal and for finitude. My analysis of *GlitchHiker* has shown how the flow of chronolibido can be intensified in one's relations to technology—the sense of care that the game evoked emanated first of all from its finite condition and from the way it connected an aesthetic of imperfection to an acute logic of fragility. By drawing on glitches to signify digital decay, *GlitchHiker* forms a key example of the ethos of death and finitude that Munster theorizes. As such, *GlitchHiker* poses an alternative to the design philosophy of frictionlessness and its underlying notion of perfection as outlined in this chapter: the game deviates from conceptions of the digital as a frictionless zone of unbridled expansion and

⁶¹ Jackson, “Rethinking Repair,” 231–2.

ever-smoother connection. Against some of the digital's most troublesome tendencies, the aesthetic appreciation of technological fragility, finitude, and imperfection that the game and its ethos of death solicited reveals a cultural imagination open to alternative ways of relating to technology.

Considering that Jackson encourages a deeper appreciation of breakdown and repair in the interest of building a more sustainable world, it seems especially pertinent that *GlitchHiker* was created during an event organized in purview of the theme of "extinction." The game makes palpable that different modes of relating to technology—illuminated by experiences of care and morality—are possible and, following Jackson and Stiegler, necessary in a world under ecological duress that nevertheless cannot seem to shed the shackles of unbridled consumption. By amplifying the glitch's status as a token of friction and fragility, *GlitchHiker* reminded its audience of the frail and finite nature of technology and thereby shaped the conditions for a less functionalist outlook on technology. Its aesthetic of imperfection made explicit that the game was haunted by finitude and thereby urged its players to care for its fragile composition and to not regard it as simply another entertainment product. The significance of *GlitchHiker's* aesthetic of imperfection thus rests primarily on its visualization of a distinctly digital form of fragility—a form that, through energizing the flow of chronolibido, staved off illusions of digital immortality or inconsequence and gave way to a decidedly moral relation to technology.

By way of a conclusion, I now return to the words of Zachary Corsa that opened this chapter. As *GlitchHiker* and the work of the theorists discussed here attest, digital technologies are as prone to breakdown and rife with errors as are the technologies that Corsa praises for their imperfections. The way in which the digital's potential pockets of friction are treated under the dominant design paradigm of frictionlessness, however, reveals a detrimental mode of relating to technology that glosses over the material conditions that undergird the contemporary technosphere—something captured by Corsa's critique of the rapid turnover over of "sweatshop-fashioned model[s] of iPhone."⁶² *GlitchHiker* offers an alternative pathway: it is an object whose glitch-based imperfections amplify the sense of the temporal that haunts all technologies and in doing so invites its audience to see technology as something fragile and unique. In an age of ecological turmoil, deepening the chronolibidinal bonds and thereby understanding technology as something imperfect and as something to be cared for rather than discarded could provide one way of

⁶² Corsa, "A Landscape of Decay."

negating both the material destruction and mental delimitation effected by the perfection-oriented design philosophy of frictionlessness.

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