Article

The Technological Carnivalesque in Niantic's *Pokémon Go*

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Abstract

This article explores the networked, affective, and embodied gameplay and potential of Niantic's 2016 augmented reality smartphone game, *Pokémon Go*. Following affective critique in videogame and digital studies (Anable, Hayles, et al.,) and literary notions of the "grotesque and carnivalesque" (Bakhtin), I emphasize the important and often overlooked role of embodiment in hypertext, hypermedia, and digital smartphone technology. By framing Pokémon Go in relation to Shelley Jackson's 1995 hypertext, *Patchwork Girl*, I identify a specific transformative moment that reactivates Bakhtin's carnivalesque through the embodied gameplay of the digital mobile network. *Pokémon Go*'s digitally mediated gameplay demonstrates how mobile gaming, and perhaps all mobile computing, in general, serves to further expand the transformative implications and uncertain possibilities of embodiment as the digital takes on new forms. This observable, transductive transformation, I argue, demonstrates a reactivation of Bakhtin's carnivalesque in the digitally mediated mode of the technological carnivalesque.

Keywords

Pokémon, digital media, affect, embodiment, carnivalesque, videogame studies

Introduction

Pokémon GO, Niantic's augmented reality smartphone game released in the summer of 2016, has emerged as an ambivalent but powerful cultural force and artifact—one made possible by specific advancements in the data traffic management of mobile network

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technology. Its powerful ambivalence is caused by several factors. First, the game's global commercial success becomes ethically questionable given Niantic's dubious history regarding data management, surveillance, and labor ethics. Further, the game has caused immediate material disruption, bodily injury, and property damage on a global scale. And lastly, the practice of mobile data offloading made 2015 to 2016 a milestone year for the expansion of mass smartphone use. Offloading data is the use of complementary network technologies to deliver data that was originally reserved for cellular networks, most commonly as public and private Wi-Fi hotspots. Offload traffic exceeded cellular traffic for the first time in 2015, and the total number of Wi-Fi hotspots (including home-spots) grew seven-fold between 2015 and 2020, expanding from 64.2 million to 432.5 million. Mobile user numbers also increased drastically from 2010 to 2015, along with their data usage: the top one percent of mobile users generated fifty-two percent of the mobile data traffic per month in 2010, but by the end of 2015 that number had dropped to only seven percent (Sumits and Andra 2016).

Put another way, the low culture of the masses suddenly converged with that of the high technocultural and computational elite of Silicon Valley, largely through the widespread use of sophisticated mobile smartphone technology. Drawing on Bakhtin (1984), I define this convergence as the *technological carnivalesque*. In this condition, I argue, mass culture and folk culture, once granted access to bleeding-edge technologies, are both ambivalently transformed by and themselves ambivalently transform the cultural practices and material conditions surrounding and producing these technologies. *Pokémon GO* represents a grotesque and carnivalesque convergence of high and low culture, emerging through embodied gameplay in its own specific age of technological revolution in 2016, and made possible by advancements in and the mass implementation of mobile network technology.

Pokémon GO received mixed reviews upon its July 2016 release. Many videogame critics panned the game's thin narrative content, underdeveloped combat system, and seemingly hasty adaptation of one of the biggest video game franchises in history, Pokémon. However, the same critics also praised the game for its innovative use of AR (augmented reality) technology (Tassi 2016). *GO* reported 45 million daily users within weeks, prompting major news outlets to declare 2016 "'The Summer of *Pokémon GO*'—in the same manner that 1967 is recognized as 'The Summer of Love'" (Em 2016). Writing for *Huffpost.com*, Em romantically describes the public spectacle and community networking that the gameplay curates:

> Walking through my own community, I spy kindergarteners being tutored in the art of *Pokémon GO* by their dads, social networks of moms going on daily walks catching Pokémon, and kids on bicycles from ages 8 to 18 scouring the area for a Pikachu. I see 40- and 50-something businessmen on lunch breaks trying to get the elusive Onix into a Pokéball, and retirees—both grandmas and grandpas—crying out in Cantonese, Hindi, Russian, Farsi and other languages as a Squirtle spawns before them! (Em 2016)

Despite this initial success and praise, *GO* met with wide-ranging criticism for its reported health and safety threats, along with concerns about public surveillance and

security. Numerous player injuries were reported, including instances of players walking off piers, bumping into parked cars, and crashing their own cars due to playing-while-driving. Criminals also reportedly lured players to isolated locations to assault and rob them (Lee 2021). The website *Pokémon GO Death Tracker* attributes twenty-two deaths and sixty-one injuries to the game, as of May 26th, 2020. In conjunction with the game's mass smartphone-based distribution, these risks mark *GO* as a powerful, transformative, and ambivalent technology.

Niantic's use of the smartphone's mobile technology affords a specific style of embodied gameplay not available to previous Pokémon games on other platforms, thus highlighting ethical questions of labor and data collection, while also expanding and transforming the boundaries of embodiment and subjectivity in potentially monstrous and unforeseen capacities. The material and digital frameworks upon which *Pokémon GO* is globally projected and played invite new questions regarding digital media practices, while also encouraging new ways of thinking about the Pokémon narrative's engagement with its own capitalist labor ethics—as well as the ways these ethics become inextricably bound with the embodied actions of the game's millions of players. Mobile gameplay invites and encourages players' volunteer labor, positioning each player as a raw data collector for the game's developers. Furthermore, as much of the game requires players to visit local shopping centers and other spaces of public commerce, *GO* places a new and critically important emphasis on the embodied and collective player interaction within both the physical and digital marketplace, a hybrid space made newly accessible by mobile AR technology.

GO's position in the digitally augmented world and marketplace is unique to its smartphone gameplay experience, affording the game medium-specific and transformative capabilities consistent with Mikhail Bakhtin's notions of embodiment, the carnivalesque, and the grotesque, as well as with Shelley Jackson's 1995 digital hypertext *Patchwork Girl* (PWG). Bakhtin defines the grotesque and carnivalesque as a convergence of folk culture and high culture that he examines, at length, in the work of the French Renaissance writer François Rabelais. Lachman (1989) explains how Bakhtin focuses on laughter, as celebrated by Renaissance folk culture in the carnival, as a spectacular feast of inversion and a parody of high culture:

> In the carnivalesque game of inverting official values he sees the anticipation of another, utopian world in which anti-hierarchism, relativity of values, questioning of authority, openness, joyous anarchy, the ridiculing of all dogmas hold sway, a world in which syncretism a myriad of differing perspectives are permitted. (p. 118)

Lachman argues that Bakhtin sees his own era of postrevolutionary, avant-garde Russia as sharing the same spirit of revolution as Rabelais' medieval France. According to Lachman, the transgression of boundaries and norms is central to Bakhtin's (1984) theory, which Lachman describes as a centripetal force that unifies and sterilizes language being countered by a centrifugal force promotes ambivalence and allows openness and transgression (p. 118). Jackson's (1995) hypertext appeared at a similarly

revolutionary point in media history, when the home PC had brought computing systems—previously only found in research labs, military bases, or universities—to the mass market and private user. Jackson's hypertext uses the PC's specific interface to expose the material labor history of her text's literary antecedent, Mary Shelley's *Frankenstein* (1818), through the medium-specific affordances of the PC, allowing readers to rewrite the text through the hypertext software StorySpace. *PWG* informs my similar reading of *GO*'s own material development and medium-specific affordances.

Bakhtin's and Jackson's approaches build frameworks which can characterize *GO* as a technologically mediated convergence of high and low culture emerging from an age of revolution. Jackson's work helps me articulate the smartphone's medium-specific affordances in relation to the carnivalesque and the grotesque, in that Jackson's use of the PC and StorySpace software allows readers (otherwise confined to lower, passive roles as consumers) to become writers, editors, publishers, and distributers. Landow (2006) praises Jackson's medium-specific use of hypertext technology, describing it as a "brilliant hypertext parable of writing and identity, [that] generates both its themes and techniques from the kinds of collage writing intrinsic to hypertext" (p. 234). Like Bakhtin's re-reading of embodied and collective laughter in Rabelais, and Jackson's re-presentation of the body of sources in *Frankenstein, Pokémon GO* importantly re-positions the material body of the player back into a discourse of digital media that had long theorized away embodiment. Specifically, longstanding hylomorphic theories of information and matter, as well as the poststructuralist theories of Deleuze, Foucault, Derrida, Barthes, and Baudrillard, further theorized the body and embodiment away from critical conversations of the technologically mediated body. But where Bakhtin and Rabelais converge vernacular speech, laughter, and embodiment back into what they see as their own sterilized and officially enforced cultures, Jackson's hypertext and *GO* converge mass users with previously inaccessible, high-end computational media technology.

The Summer of *Pokémon GO*

When *GO* first launched, Niantic was praised for its mission to encourage cardiovascular health while also offering a health-centric focus to mobile videogames. "It's really taken off. It's come out of nowhere," reported CNET senior editor Dan Ackerman in July of 2016. "So, it's kind of giving you the ability to not just sit there on your couch and play a game, but actually get up and GO places" (Dahler 2016). Although more serious fans of the franchise vocally complained about the game's thin content upon release, many still acknowledged the games important breakthrough in the use of AR technology. Tassi (2016), in his article "'Pokémon GO' Is A Terrible Pokémon Game, But an Augmented Reality Home Run," expresses both disdain and delight: "Am I having fun? Yes. Is this a very good Pokémon game? Absolutely not." After heavily disparaging the gameplay for stripping away much of what made the earlier Gameboy titles such a hit, especially the combat system, Tassi ultimately concludes,

> And yet, the game is crazily addicting, a lot of fun and possibly the most significant advancement in the battle against obesity in recent memory. I'm not kidding. I doubled my average step count yesterday because I was wandering around my city. . . hunting Pokémon.

GO's gameplay is simple enough to learn, effortless to integrate into everyday tasks, and uses the existing technology of the smartphone's GPS, camera, and clock. After establishing a free account through an existing Gmail or Facebook account, players can immediately begin their search for Pikachu and friends, accepting the franchise's challenge to "Catch 'Em All!" The player catches pokémon by viewing the surrounding area through the smartphone's camera lens, revealing, cute, digital pocket-monsters (i.e., "Pokémon") populating the AR world around the player. A swipe of the finger on the screen sends a "pokéball," a spherical device used to capture the monster, flying at the Pokémon and, usually after several attempts by the Pokémon to resist capture, due to push-back from the Pokémon itself at being caught, the creature is captured, collected, and indexed into the player's "Pokédex." Players, known as "Pokémon trainers" or simply "trainers," strive to develop the skills of their Pokémon by walking and initiating combat in special locations called "gyms." The player's approximate steps are measured by GPS, which "levels up" each Pokémon and teaches it new abilities, with the entire Earth serving as the gameboard. Pokémon can compete in gym combat against other Pokémon, or simply follow the trainer around and help obtain items, visit unique user-generated locations identified by GPS as "Pokésites," and complete other movement-based tasks assigned to the trainer by the game's main Non-Player Character (NPC), Professor Willow. The game's ability to integrate itself within the player's everyday tasks and quotidian activities is both ubiquitous and ambivalent in terms of the ethics of surveillance and location data sharing, especially as the game generated record revenue for a mobile app.

As 2016 ended, Niantic reports that *Pokémon GO* had 232 million users, generating more than $1 billion in revenue—the fastest any app had ever earned that much money. Contributing greatly to the success of *GO*'s launch was the immense popularity of the existing Pokémon franchise. Nintendo and Game Freak's monster-catching role-playing game, released exclusively for the handheld Nintendo Gameboy in 1994, is one of the most successful and loved videogame franchises in history. Niantic also built *GO* upon the foundation established by Google Maps, as well as Niantic's earlier location-based mobile game, *Ingress.* Niantic used free, crowdsourced data from *Ingress*, including location photos and GPS coordinates, to build the map and place interactive locations within *GO*. Although largely crowd-sourced and built upon existing infrastructures, *GO* earned Nintendo an estimated $3.9 to $4.9 million in a single day of revenue (Dahler 2016). Tassi (2016) explains the important role that Pokémon as an IP adds to Niantic's AR property:

> I know that *Pokémon GO* is not the first AR game on the market. The entire game is essentially a skin of Niantic's last AR game, *Ingress*, which also motivated people to move in real life to complete objectives. And yet, it's impossible to deny marrying the world of Pokémon to this concept is anything but a genius idea, and something that takes it to a new level. (Tassi 2016)

Initially, *GO* was an April Fool's Day prank called *Google Maps: Pokémon Challenge*, conceived by Satoru Iwata and Tsunekazu Ishihara, in a collaboration between the Pokémon Company and Google. The full game was designed by John Hanke, co-founder of Keyhole, a CIA-funded geospatial data visualization firm founded in 2001. After Google acquired Keyhole in 2004, Hanke became the Vice President of Product Management for the Geo division (Bailey 2012). Hanke went on to develop *Google Earth, Maps*, and Street View for Google before Niantic split from Google in 2015. As Niantic's CEO, Hanke used crowdsourced *Ingress* data, including location photos and GPS coordinates, to determine the initial locations for PokéStops and gyms within *GO. Google Maps* initially provided the maps, though in December 2017 *GO* switched to using crowdsourced data from a user-generated mapping app, *OpenStreetMap*.

Privacy, Affective Labor, and the Qualified Self

GO's commercial use of crowdsourced data is especially questionable when considering Hanke's past issues with digital surveillance breaches. While acting as the head of Google's Geo division, Biddle (2016) reports that Hanke "drove one of the greatest privacy debacles of the internet era." Hanke was accused of using the Google vehicles, "in the course of photographing neighborhoods for the Street View feature of the company's online maps," to secretly copy "digital traffic from home networks, scooping up passwords, email messages, medical records, financial information, and audio and video files." Humphreys (2018) explains that the terms of service of many social media platforms opens large amounts of personal data for use, including "network information as well as metadata about our usage. Legally, users own their social media content but many others have access and can use it" (p. 121). But Niantic is not merely collecting user data through *Pokémon GO*, but also taking part in a complex process of mediated identity formation.

Specifically, *GO* helps to establish a composite, media-generated identity that Humphreys (2018) calls the "qualified self." This self is constructed via a process of media accounting, intertwining the use of social media and smartphone technology with mundane and quotidian practices, while actively documenting and sharing the content to social media accounts. In Humphreys' (2018) words, "[a] person engages in media accounting as a subject—that is, as a creator of traces—but also experiences oneself as an object through media accounting by seeing oneself in the traces created by oneself or others" (p. 20). Humphreys thus stresses a need to

> understand the everyday aspects of social media . . . because the ordinary can represent broader social values and systems that shape the human condition. . . . The term *account* suggests that a collection of media traces created through social media is tied to identity. (p. 6.10)

Operating somewhere between social media platform and handheld video game, *GO* exists as a complex assemblage of its prior material antecedents, affording its players a state of ambivalent hypervisibility.

The AR design of the gameplay strongly contributes to the hypervisibility of the players. Groups of players left their TV-bound consoles and living rooms, taking to the streets, the parks, the shopping centers, and the marketplaces in hopes of collectively catching rare digital monsters. Tassi (2016) writes,

> I went outside for the sole purpose of exploring the area around me and playing the game. I discovered landmarks I either never knew existed, or had passed a million times and never actually noticed before. I was outdoors and moving instead of sitting on my couch, controller in hand. I talked to two other guys at a Lured PokéShop downtown who were also playing, and I honestly can't remember the last time I've spoken to a total stranger unprompted outside of people working in retail. No game has *ever* made me do anything like this. (Tassi 2016)

By utilizing the smartphone's existing GPS, camera, and clock, the game recontextualizes mundane, everyday locations and transforms them into spaces of possibility, within which a rare Pokémon might spawn at any moment. The space is reenergized, as is the function of collective action. In this way, *GO*'s gameplay places important emphasis upon embodied, quotidian action, while also subtly functioning as a complex vehicle of autopoiesis.

For example, *GO*'s modified, yet limited, use of social media elements allows players to globally circulate gifts, stickers, trade Pokémon, and design custom avatars. No direct communication is allowed through the app, so all in-game communication must be gestural or in-person. Many players supplement this gap with social media and messaging apps, including Discord and Facebook Messenger. These activities position *GO* within a larger tradition of subject formation via embodied literary and media production. Humphreys (2018) explains that social media sharing and constituting oneself through mundane user-generated content is part of an important literary history of pocket diaries and journals, and not

> solely an artifact of [the] digital age. Much of what was new about social media was the ability to let ordinary citizens have a platform from which to speak to the wider world or the ability to share content among peer networks. [. . .] User-generated content only seems novel when contrasted with mid- to late-twentieth century understandings of media as broadcast mass media. (p. 3)

In summary, the game's use of AR technology combines Niantic and Nintendo's mass media infrastructure with user-generated content and GPS location data, thus recontextualizing physical locations and physical movement as a process that creates digitally augmented, hyperindustrial marketplaces.

Like its predecessor *Ingress, GO*'s gameplay requires a great deal of physical movement. The game requires players to walk thousands of kilometers, a steep labor requirement that speaks to the complex relationship between user and device, as well as to the ethics of labor-as-play in popular video games. Tobias (2010a) explains that "digital games exemplify ethical problems of affective labor precisely in terms of equipping a relation between action and transaction." This speaks to Nintendo's longtime interest in designing input hardware that affords signature input, even if this input

is not digitally quantified. Tobias further argues that "the informal and unrecognized developmental character of affective labor suggests that historical sites of work, play, education, or socializing cannot be entirely integrated into a final synchronization of 'real-time' hyperindustrial production, as Stiegler believes" (Stiegler 2010, p. 208). In this way, Tobias offers an important critique of c's (2010) thesis that "[n]o cognition can be construed apart from, nor can it be removed from, the technical material ensemble that in some way allows it to become coherent" (p. 219). As much as *GO* programs its players to visit commercial shopping establishments and make other tracked movements, the players also engage with the game in various ways that cannot be quantified or used as viable data.

Despite Niantic's data collection and surveillance tactics threatening autonomy and privacy, the medium-specific AR gameplay of *Pokémon GO* resists the programmatic overwriting of the human subject. *GO*'s face-to-face meet ups take on new implications, displaying an "affective pragmatics of dispositions." Tobias (2010a) explains that the gameplay possible in digital games like *GO* "indicate[s] less any narrative of a Gramscian battle of positions and more an affective pragmatics of dispositions: pure hearts engaging and displacing info-corruption by diagramming gestural-technical paths through its operations" (p. 199). The distinction between *GO*'s programmed (intended by Niantic), and affective (embodied community activities such as Community Day) gameplay operates in a similar way. The narrative motifs found in *Pokémon GO* existed in the early Gameboy versions, but it is the desire to leave the house, and to map and utilize the earth as a game-board, that requires a special dedication of affective labor.

Tobias (2010a) points out,

> What is historical, then, is not the exhibition of fictive agency but digital games' exercise of affective labor. [. . .] Digital games within transmedial contexts thus indicate a larger, diagrammatic mode of material production; they subject even hyperindustrial transaction economies to some kind of ethical limit determined as the expressive historical relation of action and transaction. (p. 201)

GO does not merely mass-produce trips to local shopping centers and other consumer-related behavior among the players, but recasts spaces of capitalist commerce in new contexts, allowing players to experience public space (and their integral role in creating it) in novel capacities, thus exposing the fragile state of the capitalist logics that organize the "real" space. This digitally mediated gameplay demonstrates how mobile gaming serves to further expand the transformative implications and uncertain possibilities of space, subject, and object, as digitally moderated embodiment takes on new forms.

Compounding user-data concerns, *GO* also supports the controversial inclusion of corporately sponsored locations. Shoshana Zuboff, in *The Age of Surveillance Capitalism* (2019), argues that *GO*'s targeted local advertising is Google's experiment to relocate targeted advertising from the digital domain of cost-per-click into the physical domain of cost-per-visit, using corporate sponsored locations. Zuboff's critique

challenges the romantic scenes of collective gameplay that Niantic's mission statement suggests, exposing the game's potential capacity to accelerate society into a new and startling stage of digitally ubiquitous exploitation—but only through the increasingly programmed commodification of human movement via the smartphone. The medium-specific parameters set by the smartphone's input design also underscore the performance and action of the embodied labor that is required to not only play the game, but also to produce it. However, *Pokémon GO*'s emphatically embodied style of gameplay also serves to simultaneously obfuscate the material labor and human energy that went into producing *Ingress, Google Street Maps*, and the game's other open-sourced data.

The collective labor and action of *GO*'s individual players draws important attention to the larger collective body of the players as a group, now a grotesque composite body made newly possible by the game's interface and format. In *Rabelais and His World*, Bakhtin (1984) asserts that "[a] new type of communication always creates new forms of speech or a new meaning given to old forms." The design of *GO*'s gameplay requires players to give new meaning to "old" public places to collectively advance game progression, and to also perform tasks that are otherwise impossible alone, such as the seven-player task of catching a rare legendary Pokémon. The power of the body politic thereby becomes a central logic. Bakhtin (1984) explains that "[t]he material bodily principle in grotesque realism is offered in its all-popular festive and utopian aspect. The cosmic, the social, and bodily elements are given here an indivisible whole. And this whole is gay and gracious" (p. 19). *Pokémon GO* relies upon the body of players working together as an indivisible whole, affording real power to the collective across and over numerous digital, concrete, social, and economic boundaries.

Patchwork Girl and Embodiment

"I am buried here," begins one of the early "lexias," or networked hyperlinked text chunks, in Jackson's *PWG*. "You can resurrect me, but only piecemeal. If you want to see the whole, you will have to piece me together yourself." This statement ambivalently invites the reader to become the author, as well as Dr. Frankenstein, themselves:

> (In time you may find appended a pattern and instructions—for now, you will have to put it together any which way, as scientist Frankenstein was forced to do.) Like him, you will make use of a machine of mysterious complexity to animate these parts.

Here, Jackson's hypertext functions as a multimedia piece engaged in the media change in the moment of its origin, indexing advances in PC technology in and around 1995. The PC is the "machine of mysterious complexity" that the reader must navigate and use, a machine that at the time was newly mass marketed for home use. Jackson designed PWG through the software StorySpace, a PC program designed for creating, editing, and reading hypertext fiction, which was created in 1987 through the collaborative efforts of Jay David Bolter, John B. Smith, and Michael Joyce. Jackson's

update to Mary Shelley's Gothic novel Frankenstein brings to the digital fore a hypertextual representation of the monster's body, as well an invitation to literally chop and splice this literary body, thus exposing its literary and cultural antecedents. This process removes the notion of single authorship, instead distributing the body of text across a network of material and mediated bodies.

Pokémon GO likewise engages with its user at a medium-specific level that simultaneously invites its players to learn and use the technology of the mobile device, while also narrativizing its own antecedent, Ingress, the crowdsourced origin of GO's PokéStops GPS locations. Once players catch their first Pokémon Professor Willow, the player's NPC mentor, shares instructional dialogue that informs the player of some of the game's AR-based mechanics:

> You will need more Pokéballs and other useful items during your exploration. You can find items at PokéStops. They're found at interesting places like sculptures and monuments. From now on, you'll be exploring all over the world. I hope you get out there and catch Pokémon—and register them in your Pokédex! It's time to GO!

Professor Willow's call to "explor[e] all over the world" is not hyperbolic; it literally asserts that the globe is the actual gameboard. These simple instructions, like Jackson's lexia, explain the game's interface design while also describing the medium-specific affordances of the globally expanding mobile network infrastructure. Collecting digital Pokémon in physical time and space becomes analogous with digital data, hardware, and bodies becoming ever-increasingly entwined as mobile devices became increasingly pervasive in everyday computing.

The AR technology also exposes the ways that human bodies are extended, constituted, and distributed through material networks of telecommunication cables, Wi-Fi signal waves, and flesh and blood. In Jackson's 1998 article, "Stitch Bitch: The Patchwork Girl," she asserts that

> The body is not even experienced as whole. We never see it all, we can't feel our liver working or messages shuttling through our spine. We patch a phantom body together out of a cacophony of sense impressions, bright and partial views. We borrow notions from our friends and the blaring organs of commerce, and graft them on to a supple, undifferentiated mist of smart particles. (Jackson 1998)

Jackson describes the body here in its complexity, arguing that the body and embodiment as a process of organic and biological material intertwined with, supported by, and distributed across a technologically mediated network.

In the essay "Flickering Connectivities in Shelley Jackson's *Patchwork Girl*: The Importance of Media-Specific Analysis," Hayles (2000) analyzes Jackson's *Patchwork Girl*, focusing on the hypertext's specific concerns with materiality and the multiple subjectivities of the female body. The argument also lays out in eight points Hayles' methodology, the Media Specific Approach (MSA). MSA pays special attention to the materiality of the text-as-body, as opposed to the eighteenth-century view of the body as a unique, individual whole. This older body, Hayles argues, serves as a vessel for information that can be ultimately abstracted away from it. Hayles is careful to

emphasize the corporeal multiplicities that the materiality of the text exposes, thus rupturing and distributing subjectivity across a network and ultimately producing text. Hayles argues that *PWG* "is deeply concerned with the prospect . . . that a new medium will enact and express a new kind of subjectivity." Hayles likewise argues that abstract notions of male, eighteenth-century authorship and book production enact the erasure of the materiality of the text as part of the intellectual property. "One of the important assumptions that emerged out of this debate was the assertion that the literary work does not consist of paper, binding, or ink. Rather, the work was seen as an immaterial mental construct" (Hayles 2000, 13). Thinking of the text in this abstract, metaphysical way not only misapprehends the important, generative relationship between information and the material through which it is presented, but it also overlooks the medium-specificity of the novel itself. The body of the text, that is, the material vehicle of transmission, is threatened by an outmoded argument that renders all media as merely existing as a container for the more important, metaphysical passenger.

Hayles also cites Blackstone, who assesses that "[s]tyle and sentiment are the essentials of a literary composition. These alone constitute its identity. The paper and print are merely accidents, which serve as vehicles to convey that style and sentiment to a distance" (p. 9). Hayles explains that this line of thought and practice leads to "[t]he abstraction of the literary work from its physical basis [which has] the effect of obscuring the work's relation to the economic network of booksellers who purchased shares in the work and used their economic capital to produce books" (p. 9). *Patchwork Girl*, through its medium-specific capabilities, acts to expose the multifaceted network of its production, instead of hiding it. "When *Patchwork Girl* foregrounds its appropriation of eighteenth-century texts, the effect is not to reinscribe earlier assumptions but to bring into view what was suppressed to create the literary work as intellectual property" (Hayles 2000, 13).

GO's medium likewise highlights and erases certain material conditions of its own industrial development. Specifically, it erases the embodied labor of the *Ingress* players who provided the map data, Nintendo's decades of user data, investors, mobile phone corporations, and the material installation of a global data network based on satellites and insulated wire. "As the unified subject is thus broken apart and reassembled as a multiplicity," Hayles says of *PWG*, "the work also highlights the technologies that make the textual body itself a multiplicity." "To explore this point," Hayles recommends, "consider how information moves across the interface of the CRT screen compared to books. With print fiction, the reader decodes a durable script to create, in her mind, a picture of the verbally represented world." Hayles (2000) explains that with an electronic text cast upon an interface such as the computer screen, the work of "encoding/decoding is distributed between the writer, computer, and reader" (p. 18). The computer presents flickering images that it has decoded from a stable, binary information.

> The transformation of the text from durable inscription into what I have elsewhere called a flickering signifier means that it is mutable in ways print is not, and this mutability serves as a visible mark of the multiple levels of encoding/decoding intervening between user and text. (p. 19)

GO does not function as a self-reflexive critical text in the same way that *PWG* does, though it does draw attention to the use of the material mobile device by accessing its movement-based inputs to create full body input experiences that correlate with augmented digital movement on the screen. None of this, however, draws attention to the investors, the material production of the mobile devices, the installation of the mobile data network upon which cell phone and other mobile devices operate, and the material history of the development and implementation of GPS technology, not to mention telecommunications as a whole. *GO* exists within a larger intertextual and intermedial network, thus affording *GO* the medium specificities of the hypertext as a genre.

In *How We Became Posthuman*, Hayles (1999) discusses a tension operating between embodiment and the body. These two distinct elements of subjectivity get confused and conflated in problematic ways via dominant discourse and cultural practices: "It is primarily the body that is naturalized within a culture; embodiment becomes naturalized only secondarily through its interactions with concepts of the body" (p. 198). Hayles supports this point by asserting that Foucault's Panopticon abstracts the body of the citizen as universally controlled, while not accounting for the embodied actions that can most certainly subvert and resist the system itself. Hayles argues that "the Panopticon abstracts power out of the bodies of disciplinarians into a universal, disembodied gaze." Foucault, Hayles explains, fails to account for the embodied agents of the individuals under the surveillance, allowing for the "specificities of their corporealities" to fade into a uniform, universalized body. "Failing to recognize these limits, Foucault's analysis reinscribes as well as challenges the presuppositions of the Panoptic society," thus participating in, while also deconstructing, the "the Panoptic move of disembodiment." Hayles (1999) counters Foucault further by offering Elaine Scarry's convincing claim that "bodily practices have a physical reality that can never be fully assimilated into discourse" (p. 194–5). Hayles explains that "Consequently, when theorists uncover the ideological underpinnings of naturalization, they denaturalize the body rather than embodiment." Hayles goes on to posit that this method, however, runs the risk of "simply absorbing embodiment back into the body," a problem Hayles confronts by "enriching and complicating" the tension between embodiment and body "by juxtaposing this tension with another binary distinction—inscription and incorporation" (p. 198).

Hayles explains that inscription and incorporation operate in convergent and divergent ways with the body and embodiment. "Like the body, inscription is normalized and abstract, in the sense that it is usually considered as a system of signs operating independently of any particular manifestation." Hayles (1999) goes on to convincingly argue that inscription is a "conceptual abstraction" rather than "an instantiated materiality" (p. 198). Hayles refers to this instantiated materiality as incorporation, an embodied action which cannot be separated from the medium: "[a]n incorporating practice such as a goodbye wave cannot be separated from its embodied medium, for it exists as such only when it is instantiated in a particular hand making a particular kind of gesture." *Pokémon GO*'s gameplay functions in a similar way: the play itself takes place when the player moves, thus enacting embodied incorporation as the requirement for gameplay.

Jackson's hypertext demonstrates that although the body is historically mediated and materially constituted—thus speaking to the heavy uncovering of its sources and parts—its integral counterpart, embodiment, cannot be completely overwritten, manipulated, programmed, or controlled. This subjective overwrite becomes impossible due to the exponential calculus of the subject as defined through embodiment, distributed across a variety of networks and mediums.

Temporalities, Global Reach, and the Destructive Capacities of the Technological Carnivalesque

GO's carnivalesque ambivalence is evident in the global reach and speed in which the game produces material outcomes divergent from any intended programming or gameplay, while also affording mass material access to high-end mobile technology. *GO*'s record of bans, destruction of property, bodily harm, and death demonstrates the game's unstable, grotesque, and technological carnivalesque power. Many countries banned the game at launch, citing security concerns, while several others have restricted gameplay in spaces deemed inappropriate for play, including places of religious worship. Iran's High Council of Virtual Spaces banned the game over concerns with the game's use of geolocation data that they believed threatened the security of the population. China initially banned the game, but they have since released a modified, government approved version. Kuwait, the United States, and Russia have all banned the playing of *GO* in religious institutions, with Russia even imposing a jail sentence under blasphemy charges. And while not banned in Bosnia and Herzegovina, *GO* gameplay is scrutinized as a safety concern due to old landmines left over from the Balkan Wars littering the terrain (Whitworth 2022).

GO has also been responsible for environmental destruction and bodily harm on numerous occasions, caused by both intended and unintended forms of gameplay. In a letter to Niantic, John Dargle Jr., director of Milwaukee County Parks, writes:

> The Pokémon phenomenon has introduced hundreds, if not thousands, of individuals to our park system and doubtless has resulted in many new positive recreation experiences. The Milwaukee County Parks, Recreation and Culture Department applauds those outcomes. However, there have been other unanticipated and negative consequences from Pokémon-related activities which have caused significant disruption both within Lake Park and in adjacent neighborhoods. (Hullum 2016)

As Hullum details, players were reported to the park for "daily traffic congestion, parking issues, littering, compacted and damaged turf, risks to sensitive flora and fauna habitats, and noncompliance with park system operational hours" (Hullum 2016). Another study, using police accident reports from Tippecanoe County, Indiana, estimates

> the incremental county-wide cost of users playing *Pokémon GO* while driving to be in the range of $5.2 to $25.5 million over the 148 days following the introduction of the game. Extrapolating these estimates to nation-wide levels yields a total ranging from $2.0 to $7.3 billion. (Faccio and McConnell 2018)

The authors go on to state that the estimated county-wide cost of users playing *Pokémon GO* in the vicinity of the study's specific PokéStops was $5.2 million over the 148 days following the introduction of the game. "The great majority of this total is the value of lives lost" (p. 5).

While *GO* is on record for indirectly causing injuries and deaths, it has been responsible for direct violence as well. In 2017, Jiansheng Chen, a sixty-year-old Chinese immigrant, was shot and killed by a Virginia security guard while playing *GO*. Chen, who began playing *Pokémon GO* as a way of bonding with his grandchildren, was parked in his van when Chen was fatally shot by the guard, who alleged that Chen drove his van at him. "Chen's family filed a $5.35 million wrongful death lawsuit in the Virginia Beach Circuit Court against Cromwell, Citywide Protection Services and the River Walk Community Association" (Fuchs 2019).

Additional reported fatal shootings juxtapose the sunny, cartoon aesthetic of *GO* and its gameplay with the harsher realities of its physical engagement with the material world. On August 6, 2016, Calvin Riley, a 20-year-old *GO* player, was shot while playing the game near San Francisco's Ghirardelli Square. "There was no confrontation or robbery; Calvin's phone and wallet were untouched" (Villalon 2021). In July 2022, a 29-year-old man was shot in Evanston Park in Illinois while playing *GO* with his young daughter (Fairfax 2022).

The death's associated with *GO* become especially jarring in contrast to the game's generative and health-focused gameplay, but this tension also acts as an element of the grotesque and carnivalesque. "The grotesque image reflects a phenomena in transformation of death and birth, growth and becoming" Bakhtin (1984) states. "The relation of time is one determining trait of the grotesque image. The other indispensable trait is ambivalence. For in this image we find both poles of transformation, the old and the new, the dying and the procreating" (p. 24). Bakhtin pays special attention to time and the temporal contexts surrounding works of media, noting that "[t]he relation to time, its perception and experience, which is at the basis of these forms was bound to change during their development over thousands of years" (p. 24). Tobias (2010b) argues that media technologies that operate through time-based expressions and time-registering devices act as queer clocks: "devices that diagram, express, and interpret unfamiliar temporal relations" (p. 1). The digital mediation of the technological carnivalesque operates in this mode of the "queer clock," emerging from and transforming networked time-registering technologies that Bakhtin's own time could not anticipate.

GO stands as a compelling example of the digital mediation of the technological carnivalesque, primarily due to its capacity to converge mass culture with high technology and techno-culture, to immediately and speedily erase labor and collect data, and to quickly transform the material and digital world through its gameplay. *GO* produces significant material impact beyond the confines of the game-world, and it is important to note the global reach and incredible speed at which these material transformations occur—for it is the global reach, speed, and immediacy of these transformations that distinguish the technological carnivalesque from Bakhtin's literary carnivalesque.

Indeed, transformation and transgression form a stable thread across different iterations of the carnivalesque:

> Actually, if we consider the grotesque image in its extreme aspect, it never presents an individual body; the image consists of orifices and convexities that present another, newly conceived body. It is a point of transition in a life eternally renewed the inexhaustible vessel of death and conception. (Bakhtin 1984, 318)

The digital mediation of the technological carnivalesque inhabits space and time with a far more dynamic capacity due to smartphones' global streaming technology. This mediation is a consequence and quality afforded by the reconfiguration of space and time brought on by the rapid development of our telecommunication technology, and the speed at which the technological carnivalesque destroys and creates is simultaneously terrifying and hopeful. Bodies and embodiment continually transform, always in an incomplete state of becoming. And that transformation unites the grotesque and carnivalesque in all its temporal iterations.

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