

TIME, COMMODIFICATION, AND VIDEOGAMES: A COMPARATIVE STUDY OF
ANIMAL CROSSING: NEW LEAF AND POKÉMON GO

by

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Time, Commodification, and Videogames: A Comparative Study of *Animal Crossing: New Leaf* and *Pokémon Go*, Alexander Ross, Master of Arts, Communication and Culture, York and Ryerson Universities, 2018

Abstract

Time has played a crucial role in the development of the videogame industry, particularly how games are developed, distributed, marketed, and sold. This paper critically examines how time has been commodified in the “premium” and “freemium” variants of the videogame industry through a comparative analysis of two representative games — *Animal Crossing: New Leaf* (2012-2013) and *Pokémon Go* (2016). It draws on a combination of critical political economy and textual analysis to demonstrate how the production, distribution, and consumption of these videogames is affected by how they commodify time. Time is money for the videogame industry and this has had a negative effect on digital play, by creating games that expect a significant investment of time and money for the player to fully enjoy their promised virtual rewards.

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Introduction

Time is crucial for videogames, both for how it shapes digital play, and how it has directed the evolution of the games industry. The first arcade machines were coin-operated amusements that required a single quarter for play. Games like *Space Invaders* (1978), *Pac-Man* (1980), *Donkey Kong* (1981) and *Out Run* (1986) used challenging, pattern-based gameplay and strict time limits to increase “coindrop” (Bogost and Montfort 113; Juul 42). An unskilled player would often only be able to buy minutes of game time before having to insert another quarter (Kocurek 11-14). As a result, to become skilled in these games required a significant investment of time and money. By 1977, with Atari’s successful release of its Video Computer System (VCS) home console — now better known as the Atari 2600 — videogames moved from the arcade into the home. Although most of Atari’s released VCS games were adaptations of their arcade hits for their home console, these were significantly modified due to the limitations of the VCS’ hardware, and to take advantage of longer play sessions at home (Bogost and Montfort 23, 92). The Atari VCS retailed at \$199, with each game cartridge for the system costing \$40. This represented a significant investment for digital entertainment at the time. However, the ability to play arcade favourites for extended periods by yourself, or with friends and family, without having to continually insert quarters, proved a successful enough formula to establish a home videogame market. At the same time, the success of Mattel’s *Football* (1977), Milton Bradley’s Microvision handheld, and Nintendo’s *Game & Watch* (1980) series in the late ‘70s and early ‘80s established a market for portable videogame consoles that facilitated short, simple play sessions (Gorges; Bogost and Montfort 121).

As the above truncated history of the early videogame industry demonstrates, time has long been a central concern and primary measure of value for digital play. Whether at the arcade, at home, or on a commute, game developers and publishers have created hardware and software to transform unused time into engaging and productive leisure. Videogames are frequently being adjusted to serve the perceived temporal needs of consumers so that they receive the most “value” for their money. However, this temporal adjustment is mostly to the benefit of the games industry, which has developed novel strategies for commodifying time. In this major research paper, I argue that time has emerged as the primary commodity of videogames, and that this has a tendency to distort how people approach and engage with digital play, either by extending the length of time a player spends with a game and ensuring they play as much as possible, as is the case with premium games, or by offering flexibility in exchange for making consumption the central focus of play, as is the case with freemium games.

Premium videogames are games sold on dedicated game consoles that have a much higher buy-in for the game (averaging between \$59.99-\$69.99 USD) and the dedicated videogame console (averaging between \$299 and \$399 USD) it is played on. Freemium games are games that are free to download and play right away on a mobile phone or personal computer, monetizing themselves through in-app purchases. I perform a comparative analysis of two games: *Animal Crossing: New Leaf* (2012-2013), a life simulation game developed by Nintendo for its 3DS handheld console and *Pokémon Go* (2016), a free-to-play, monetized spinoff of Nintendo’s collectible monster franchise developed by Niantic for smartphones. These games are my primary case studies for how the commodification of time is a multifaceted approach that considers different

technologies, price points, perceptions of value, demographics, and presumed playstyles, all to maximize the profit that can be derived from videogame hardware and software.

On the surface, there are some significant similarities between *Animal Crossing: New Leaf* and *Pokémon Go*. Both can be placed under the generic label of “casual” games, meaning that they are flexible games that can be played over short periods of time (Chess 65; Juul 36). Both are on portable systems and can be played anywhere at anytime. Also, both *Animal Crossing: New Leaf* and *Pokémon Go* employ forms of time management to structure their gameplay (Chess 62). For example, the *Animal Crossing* series has tied its gameplay elements to the internal clock of the videogame system that its played on. This means that if it’s 7pm in the real world then it is 7pm in the game, significantly affecting what the player can and can’t do. *Pokémon Go* also uses the internal clock of a player’s smartphone to set the time of day, with certain *Pokémon* only catchable by the player at specific times. For example, a ghost Pokémon like Haunter can only be caught by players at night. Also, *Pokémon Go* has limited-time only events to celebrate specific times of the year like Christmas or Valentine’s Day, with bonuses like extra experience points or resources distributed to the player if they login to play that day. Finally, *Pokémon Go* takes advantage of the franchise’s most recognizable, powerful and sought-after creatures, making them available for only short periods of time. Ho-Oh, a phoenix-like “legendary” Pokémon that first appeared in the Game Boy Color game *Pokémon Gold* in 2000, was available for less than a month in *Pokémon Go* for players to catch and would randomly appear at locations scattered throughout a player’s city for 30 minutes at a time.

It should be noted there are significant differences in how these games are developed, distributed, and sold, and this affects both how they generate profits for their developers and how they are played. *Animal Crossing: New Leaf* is a game that offers complex systems and interactions that the player must learn to navigate and master if they want to succeed. This includes developing a small modicum of financial literacy as you must navigate debt, mortgage repayment, and public project investment. Furthermore, *Animal Crossing: New Leaf* tasks the player with managing a town and its inhabitants, while also building up a home and completing optional tasks. There are hundreds of items to unlock and multiple in-game events tied to specific days of the year. This results in extending the playtime significantly. By one estimate, a “completionist” playthrough of the game in which a player’s home is fully upgraded, all town projects built, and all special characters unlocked can take between 400 to 600 hours. I argue that the significant level of customization and variety of play in *Animal Crossing: New Leaf*, with the possibility of spending hundreds of hours itemizing and accessorizing, is a key selling point for the game, justifying the premium price of the 3DS console (\$109.99-\$239.99 CAD) and a retail copy of the game (\$30) required to play.

Pokémon Go takes the *Pokémon* franchise’s focus on collecting and battling monsters and transforms it into a free-to-play (F2P) game that uses microtransactions to turn a profit. In *Pokémon Go*, the player is presented with a fully mapped virtual abstraction of their city, with certain buildings and major landmarks designated PokéStops and Pokémon Gyms. PokéStops distribute important items like Poké Balls (used for catching Pokémon) while Pokémon Gyms allow you to battle Pokémon from a rival team. While the game can be downloaded and played for free, virtual items can be

purchased to help speed-up gameplay by making Pokémon appear more frequently or by providing items that can increase the amount of experience the player can obtain while playing. Microtransactions start at 0.99 CAD and involve the player converting their real-world money into virtual currency called PokéCoins that can only be used in the game to make purchases of digital items. Some knowledge of the previous games in the 22-year old *Pokémon* franchise is an asset as this can help a player navigate the game's strategies, and discern which Pokémon are of higher or lesser value. *Pokémon Go*'s free-to-play strategy incentivizes microtransactions to make catching and developing desired Pokémon easier, with players that choose to play without making digital purchases have a longer and much more difficult path to complete their Pokémon collections.

A key part of this major research paper is to explore how the focus on time develops key differences in both profitability and play that can be obscured by generic labels like "hardcore" or "casual" games. These games have their own difficulty curves, playstyles, and monetization strategies. In my literature review, I focus on the commodification of time in conversation with theorists concerned with the political economy of games, time management, and the historical evolution of games as cultural commodities. Feminist theorists in game studies like Mia Consalvo, Shira Chess, Aubrey Anable and Carly Kocurek have highlighted the critical importance of time in videogames, whether its focusing on paratextual apparatuses that increase game completion rates and confer prestige, the simulation of work through time management, or the role that digital games played in shifting cultural norms and perspectives during the labour crisis of the 1970s. My literature review builds a case for the reliance of

videogames on the commodification of time and how this has manifested in the *Animal Crossing* and *Pokémon* franchises.

In the next section of my paper I discuss the methods I use for my comparative analysis of *Animal Crossing: New Leaf* and *Pokémon Go*. My two primary methods are political economy and textual analysis. I use political economy to analyze the production, distribution, and commodification of time in *Animal Crossing: New Leaf* and *Pokémon Go*. I supplement this analysis by looking at secondary materials associated with each game. This includes marketing materials, press releases, instructional videos as well as the specific policies that govern each game. These supplementary materials are necessary to give me the fullest picture of how these games monetize specific forms of temporality. However, I also want to examine how each game is played to demonstrate the differing ways each one commodifies time. To that end, I use a form of textual analysis derived from Mia Consalvo and Nathan Dutton's "Game analysis: developing a methodological toolkit for game studies." This article provides four categories — Object Inventory, Interaction Map, Interface Study, and Gameplay Log — and is designed to keep the textual analysis of digital play consistent (Consalvo and Dutton).

My next two sections are the case studies of *Animal Crossing: New Leaf* and *Pokémon Go*. In my first case study, I discuss how *Animal Crossing: New Leaf* embodies the needs and design of a "premium" game made for a dedicated videogame console. *Animal Crossing: New Leaf* contains a large amount of unlockable content, special events, and online features meant to extend playtime and keep players continually engaged. Mastering the game's internal systems and temporal events are necessary to be successful within *Animal Crossing: New Leaf*. The game also fully incorporates the

features of the Nintendo 3DS console such as Spotpass, Streetpass, Play Coins, and the 3DS camera. This communicative aspect of *Animal Crossing: New Leaf*, in which players share data to view other towns, homes, and even help each accomplish in-game tasks, provides further incentive to continue furnishing your house and building up your town.

In my second case study, I examine how *Pokémon Go*, as a “freemium” game, is heavily mediated by its need to generate in-app purchases. *Pokémon Go* breaks down the constituent elements of the *Pokémon* franchise (collecting, battling, exploring) into easily monetized parts. *Pokémon Go* imposes a specific temporal order on its players, which they must master to collect the franchise’s most popular, powerful or difficult to find creatures. By emphasizing specialized “one-time only” events, *Pokémon Go* finds novel ways of encouraging microtransactions to advance through the game. The wholesale adoption of a marginal utility calculus in which the value of a videogame is determined by the number of hours of guaranteed play has allowed the games industry to cultivate and monetize specific groups and demographics. For the games industry, time is money, and this has had a significant effect on digital play.

Literature Review

In *The Political Economy of Communication* (2009), Vincent Mosco anchors his discussion of commodification in Marx’s definition, which is “the process of transforming use values into exchange values” (129). For Marx, the commodity is “the particular form that products take when their production is principally organized through the process of exchange” (129). Mosco further develops Marx’s distinction between use value and exchange value, writing that “use value is not limited to meeting survival needs but extends to the range of socially constituted uses” (130), meaning that anything that is

construed as useful can be subjected to a process of commodification. Time is necessary for a whole range of human activities involved with work and leisure, and products exist, in the form of day planners, calendars, and digitized schedulers, to assist people in managing it. Once again elaborating on Marx, Mosco argues that a commodity represents a whole series of social and material relations, which are often obscured because the commodity is often seen as the “natural outcome of the production process rather than the social consequence of a fundamental social struggle” (132). Time is commodified in videogames through a lengthy social process that not only affects the production and distribution of hardware and software, but is itself affected by societal norms surrounding time used for work and leisure. Understanding how videogames commodify time, also requires unpacking the various material and social relations surrounding how time is unevenly distributed throughout society.

Sarah Sharma in *In the Meantime: Temporality and Cultural Politics* (2014), analyzes the material relationships that often set the time people are given for work and leisure. Instead of one single time that we’re all connected to, Sharma argues there are differential times facilitated by a whole architecture of programs, plans and technologies, with certain bodies and economic roles emphasized over others (30,139). For example, the needs of the frequent business traveller are catered to by a whole “temporal infrastructure” developed to facilitate their movement between times and places (44). By contrast, the taxi driver must sublimate their life and personal schedule to subjects deemed more economically important (50). Depending on your economic status and position in society time is given or taken away, with those whose time is considered less valuable continually suffering in their personal and professional lives. The contradictions

of this system especially come out when they are applied to leisure. Sharma's discussion of corporate yoga in which a white-collar worker's "sedentary body is both a sped-up subject of global capital who needs to slow down and slowed down body who needs to get up to speed" could easily apply to the ideal player of videogames (84). Like the white-collar office worker, who is constantly having to adjust themselves to be the most useful for work, the ideal videogame player is always setting aside the time necessary to dedicate themselves to digital play.

How is time necessary for videogames? As Shira Chess astutely observes in *Ready Player Two*: "time is what videogames require — without it videogames do not get played" (61). The arcade machine, the dedicated videogame console, the handheld, and the smartphone, shape the experience of digital, converting a player's unused time into profit. Chess highlights this with Nintendo's 2006 advertising campaign for its DS Lite videogame console: "Do Something With Your Nothing" (59). The implication of this advertisement is that you have empty parts of your day that could be filled with the productive entertainment provided by Nintendo's hardware and software. Time is a source of constant friction and negotiation between videogames and their players. Whether one is running out of time or has all the time in the world, videogames are frequently adjusted to fill in the gaps. As the temporal practices for videogames have shifted, so too have their production models, methods of distribution, marketing, and price points. For premium games this means buying a dedicated console and ensuring that a consumer continually buys games for it, while freemium games encourage virtual consumption through in-app purchases. For a platform to be successful, whether it's a dedicated console or a mobile phone, it must ensure that consumers keep playing — and

paying. The close connection between consumption and digital play has some significant consequences for how people perceive their free time and the ways in which that time can be commodified.

In *Pressed for Time: The Acceleration of Life in Digital Capitalism*, Judy Wajcman also examines the claim that digital technology is accelerating the pace of life and leaving people with less time to balance work, leisure, family, and social obligations. She takes aim at technologically deterministic accounts that argue that information and communications technologies (ICTs) are solely responsible for increased feelings of being harried and running out of time. Instead, she focuses on how ICTs interact with specific social and material relations, arguing: “Time cannot be thought of as an abstraction, divorced from a socially situated materiality and embodiment. We make and measure time with and through instruments, tools, and techniques” (169). One contradiction Judy Wajcman uncovers is that “between 1965 and 2010, when over one-third of Americans felt rushed, their free time had actually increased” (65). How does she explain this phenomenon? One way is through a contradiction in the ways in which “busyness in leisure” has become as much of a marker of status as being busy at work (73). Wajcman argues that “one reason time seems scarce is because it is impossible to consume the vast array of products and services on offer” (171). Wajcman also highlights the “unpaid user time” that must be invested to learn how to properly operate (and in some instances fix) the complex hardware and software (171) that can facilitate leisure. Wajcman’s observations on societal expectations surrounding busyness in leisure and they intersect with technology could be applied to the videogame industry, which emphasizes continual consumption in addition to investing the time and money to learn

how to operate videogame hardware and software. As discussed below, this has had important implications for how the industry has constructed specific demographics around the different temporalities associated with “premium” and “freemium” games.

In *Coin-Operated Americans: Rebooting Boyhood at the Video Game Arcade*, Carly Kocurek discusses the tension between time and money that has always existed in videogames. The digital arcade games of the ‘70s and ‘80s were a source of consternation and concern because they “carried with them an emergent set of values and practices that seemed at odds with existing cultural norms and ideals” (13). She lists these an embrace of individualism, the acceptance of consumer credit, technological amusement as a leisure spending category, and the celebration of computer-based skills (13). Kocurek argues that videogames came of age during a time of mass inflation, the increased casualization of work, and the shift to a post-Fordist economic system (24-26). Playing an arcade game in the ‘70s and ‘80s could be an expensive proposition, especially as an unskilled player would lose all their lives or fail to meet the game’s stated goal within a matter of minutes, and would likely have to use multiple quarters to see the game through to the end (14).

Arcade games enticed dedicated players to try and master them so that they could be completed with fewer quarters. However, getting to this level of skill often required a significant investment of time and money. Whether trying to beat the clock or get to the next level, arcade games encouraged continual consumption and connected this to the acquisition of skills useful for digital play. Atari’s first successful arcade game *Pong* (1972) invited two people to compete against each other for the highest possible score. Arcades eventually motivated prospective players through the display of high-score

screens (citation needed). By rewarding players for beating the machine (and each other), videogames became a billion-dollar industry. In *Coin-Operated Americans*, Kocurek argues that the moral panic around games and their association emergent digital skills, led to the construction of a mischievous, but ultimately harmless and heroic male videogame player in major periodicals like *Life* magazine, and in movies like *War Games*, *the Last Starfighter*, and *Tron* (38-39, 115-116). As a result, the videogame market became increasingly segmented. Men were increasingly included in, and seen as representative of, videogames, while women were excluded, sidelined or not even considered a part of an emerging digital culture (xiii-xvi).

When videogames moved from the arcade into the home, a new set of practices in both digital play and temporal commodification were needed to entice consumers to keep playing and buying videogames. Atari's VCS was one of the first successful home videogame systems, and often featured ports of popular arcade games. As Ian Bogost and Nick Montfort argue in *Racing the Beam*, these were "transformative ports" that often featured multiple gameplay modes and styles and emphasized competitive play between family and friend (23). Playing at home meant extended play sessions that helped increase the perception of value. Bogost and Montfort note how different monetization strategies changed how games were played in the arcade versus how they were played at home:

In the arcades, it was imperative to drive players through short games in order to harvest additional quarters from them—no concept of pausing is compatible with coin operation. At home, companies were competing to have players purchase more cartridges. Long game sessions were perfectly consistent with this goal, as they still are today. (92)

In addition to length, quality and completion were also necessary components of a game's perceived value. In *Cheating: Gaining Advantage in Videogames* (2006), Mia

Consalvo analyzes the extensive paratextual industry that developed in conjunction with videogames. Magazines like *Nintendo Power* conferred advice on how to complete games for the Nintendo Entertainment System (NES), providing a “mini-strategy guide” with full colour maps and illustrations (26-27). Furthermore, *Nintendo Power* and other gaming magazines helped build up concepts of videogame quality. These magazines and other paratexts mobilized what Mia Consalvo refers to as “gaming capital” (3-4). Like cultural capital, gaming capital is something to be accrued and developed by players, through playing the “right” games as well as unlocking cheats, Easter Eggs, and secrets. (18-20).

Temporality is a part of Mia Consalvo’s concept of gaming capital. Paratexts like *Nintendo Power* helped players complete games so that they could move on to the next one, established that a platform had a numerous “high quality” titles (27-28, 31). They also had the effect of establishing canonical lists of what videogames were worth investing the time to play and complete (30-33). A crash occurred in the North American videogame market in 1983, due to a glut of videogame consoles and games, and that led to the perception that companies were cashing in on a passing fad (20). Nintendo’s work to cultivate a gaming audience through *Nintendo Power* was part of its project to ensure that the NES was viewed as a high quality digital entertainment product (23-24).

Consalvo demonstrates how Nintendo’s efforts, along with the strategy guide industry that arose in the ‘80s and ‘90s, helped overcome potential player frustration and wasted time so that they would buy future titles. Consalvo compares gaming magazines to periodicals like *Glamour* and *Seventeen*, which work to cultivate and sell products to specific audiences. She writes:

Gaming magazines, when viewed through this prism, function in the same way. They tell interested readers what the best games are, and why they are the best. They imply that readers need to be constantly buying games, or else they will miss out on these wonderful advances and milestones in gaming history (22).

Although videogame consoles were sold at a higher price point, prospective gamers were given the promise of engaging software that would give them dozens or perhaps even hundreds of hours of game time. This temporal adjustment led to the adoption of a premium model for selling and developing videogame hardware and software. In his article, “From to premium to freemium: the political economy of the app,” David Nieborg argues this premium model was the dominant mode of production for videogames from the mid-1980s into the mid 2000s (229). Due to this premium priced model, the three largest platform holders — Nintendo, Sony, and Microsoft — developed close, symbiotic relationships with videogame publishers and developers, creating a stable “two-sided” platform market (226). This intensive monopolization of the videogame market became necessary as the increased costs of developing videogame hardware led to consoles like Sony’s PlayStation and Microsoft’s Xbox being sold at a loss, with profits being made from the sale of exclusive videogame software (Dyer-Witthford and de Peuter 78).

In *Games of Empire* (2009), Nick Dyer-Witthford and Greig de Peuter refer to the ideal and highly cultivated male player as the “hard-core subject” (81). When Microsoft was designing its original Xbox videogame console this was the audience it sought to ensure that its new console would be a success as the average Xbox owner would need to purchase “about ten games, at least three of which were made by Microsoft itself” (78). Channeling Deleuze and Guattari’s concept of machines, Dyer-Witthford and de Peuter refer to videogame consoles as “time machines” designed “for using up the ephemeral

experience encoded in the game software, which must be played enough that the gamer gives up and then buys another game” (78).

Dyer-Witthford and de Peuter connect the need to increase player time on a console with the introduction of features like the online subscription service Xbox Live. By providing online access through paid subscription that increased the perceived value of a game through indefinite online play and created another revenue stream (77-78), the hardcore subject is construed as one willing to put in the time (generally between 20 to 30 hours a week) to play their favourite games. Dyer-Witthford and de Peuter place the relation of time on the player who is “paying back” Microsoft (or in other instances Sony or Nintendo) in their hours played (78). Dyer-Witthford and de Peuter signal the way in which the temporal relation is most beneficial to the games industry, but I would argue that they could better articulate the way in which the linking of temporality and videogames shape the perception of value. Players have fully internalized a marginal utility calculus when it comes to games, where a certain number of hours be equal to or above the money spent on the game. For games this has meant the promise of dozens, perhaps even hundreds of hours, of playtime, that is over and above the \$60 or more that is paid for a game disc or digital download. While the expense of premium hardware and software is tied to a need to guarantee extensive playtime, “freemium” games take the opposite approach.

The popularity of “casual” and “free-to-play (F2P) videogames has significantly and permanently challenged the premium model. A large part of freemium games’ appeal is that they are easy-to-learn, flexible, and favour shorter play sessions. They are also free to download and monetized through in-app purchases, or by asking players to watch ads

(Nieborg citation needed). Since they are free to download and try, there is not as much of an initial demand for a guaranteed amount of play. Also, “freemium” games are generally made to be downloaded and played on smartphones and tablets and thus do not require dedicated game devices. The temporal flexibility, initial free cost, and lack of specialized hardware has all lead to the freemium model becoming increasingly dominant, generating \$40 billion in revenue and accounting for half of the global games business in 2016 (SuperData Research).

In *Ready Player Two*, Shira Chess documents the use of time in “freemium” games as both a structuring force in digital play and as a consumption strategy. She focuses particularly on time-management games, which often have the player to manage the relationship between real-world time and in-game time (64). Chess uncovers a fraught relationship between temporality, games, and female players. Games like *Diner Dash* or *Cake Mania*, which can be played in short bursts, often present digital play as limited and controlled (65). Chess writes that time management games “often employ the thematic subtext of time management in both real and virtual worlds” (62). Chess argues that this acts as a reminder to women: “you should play with your free time but you also shouldn’t have it” (65). Chess’ case study of *Kim Kardashian: Hollywood* illustrates the complex relationship that exists between temporality and consumption in freemium videogames. *Kim Kardashian: Hollywood* is a game structured around managing both virtual and real-world time. Chess reports that in-game events must be completed in a specific time period for the player to reap the full benefits of promised in-game rewards (81). *Kim Kardashian: Hollywood* encourages its players to check the app throughout the day, playing in small bursts throughout the day so that you can get the highest possible rating

(85). *Kim Kardashian: Hollywood* and other similar games are referred by casual game industry developers as Invest/Express since they conjoin the investment of time and money (Invest) with personal expression through player customization (Express) (80).

In her article “Casual Games, Time Management, and the Work of Affect,” Audrey Anable discusses the affective elements, especially feelings about work, life, and leisure, that establish the appeal of games like *Diner Dash*. Time management games “work on us and through us” and often tell stories about working lives (Anable). Her key claim is that “game mechanics are themselves kinds of fictions” (Anable). She uses the term “expressive proceduralism” to highlight how devices like smartphones, which are used to facilitate digital labour, are transformed into ludic machines (Anable). However, time management games are still fundamentally concerned with and structured around work, emphasizing “speed and efficiency of tasks” as these games are designed to be played in the interstitial moments between work and life (Anable). Instead of representing “kitsch” or “occupational sentimentalism” Anable argues these games “create affective situations that call into question the myths and futures of the digital workplace” (Anable). Anable’s study of time management games brings into focus how temporality is embedded at several levels of contemporary digital play — in mechanics, in fiction, and even consumption.

Chess’ and Anable’s analysis of the ways time management suffuses games designed for women accords with Wajcman’s discussion of the gender imbalances between women and men when it comes to leisure time. Although there has been a significant increase in women entering the workforce combined with men performing more domestic labour, the vast majority of domestic labour and childcare still falls on

women (68-69). Furthermore, gendered assumptions about leisure still abound, with men generally enjoying more uninterrupted leisure time than women. Wajcman writes: “Women’s leisure is subject to many interruptions, and men have many more hours of pure leisure undiluted by unpaid work. This means women’s leisure is more harried than men” (81). Freemium games often take into account and can reinforce this gendered imbalance in leisure. As Shira Chess argues, this can often be seen in the titles of games like *Diner Dash* and *Hungry Babies Mania*, suggesting a frenetic activity that only be done in short periods of time. Chess quotes a line from Flo, a character in *Diner Dash*: “I just don’t have time to relax” reflecting one way in which the industry views women who play videogames (71).

In freemium games, time is a successful monetization strategy. Whether its player impatience, the desire to unlock additional content, or being able to take advantage of a limited time offer, freemium games have developed clever strategies to ensure that at least some of their players are willing and able to spend money. In his article, “Crushing Candy: Connective Commodity,” David Nieborg reports that only 3 per cent of players spend money in *Candy Crush Saga* (Nieborg 2). This has led to F2P game developers spending significant sums of money to acquire players through online or in-app advertising (Nieborg 235). This has the double effect of creating a larger pool of players to potentially profit a significant player base and can also help boost overall popularity. App stores are structured around discoverability, and a high number of downloads can ensure that your app is at the top of the mobile charts. Furthermore, F2P app games are subject to network effects — this means that the more people use the app, the more valuable it becomes (Nieborg 2). As a result, developers collect and monitor significant

amounts of demographic, location, play, and hardware data so they can continually increase user retention and monetization (Nieborg 6). Time spent playing an app game is important as this not only generates more data for analysis but can also increase the likelihood that a player will spend money on in-app purchases.

Generic labels like “hardcore” and “casual,” which the games industry has adopted and promoted, can obscure the ways in which time has been used to make games profitable on different platforms. It is only more recently through the work of feminist scholars in game studies like Mia Consalvo, Carly Kocurek, Shira Chess, and Aubrey Anable that the relationship between videogames and temporality has begun to be elucidated. It is worth noting the way in which temporality and its commodification has been used to build up a highly gendered level of market segmentation. This is a level of segmentation in which men are construed as the “hardcore” subjects who have the time, dedication, and funds to play premium games and consoles, while women are “casual” gamers who can only play games in short bursts, with play being primarily structured around consumption (Chess 14, 20-21, 140). Some of these previously clear and essentialist categories are breaking down, but highly gendered assumptions about temporality, play preferences, and consumption still endure.

Whether “premium” or “freemium,” time has been mobilized as the primary point of commodification. I argue that these labels more accurately capture a particular temporal style that is produced, distributed and sold by the videogame industry. Furthermore, the content and playstyle of these games are also affected by how they are designed due to how they are meant to communicate to the player how they spend time in the game. Premium games emphasize longer play sessions and come with much more

content. This is to justify the high upfront cost of a dedicated console and premium priced physical or digital product. Freemium games support shorter play sessions, with a focus on rationalizing play into easily monetized parts. A successful freemium game is one that can build a large audience for monetization and data analysis.

Methods

This major research paper uses critical political economy and textual analysis as its primary methods of investigation. A critical political economy perspective is necessary to illustrate how the commodification of time affects the production, distribution, and consumption of videogames and videogame technology. I look at two different platforms, the Nintendo 3DS and the smartphone, and two different videogames on those platforms, *Animal Crossing: New Leaf* and *Pokémon Go*, and consider how each game has been able to achieve success in their respective segment of the videogame market. Vincent Mosco argues that as a method, political economy is grounded in a realist, critical, and inclusive epistemology that affirms the reality of the world and closely studies its institutions (10, 128).

I closely studied how specific events, like the Nintendo 3DS failing to sell when it was first launched, or the short amount of time Niantic was given to develop *Pokémon Go*, affected how each game was produced and promoted. However, it should be noted that political economic approaches to studying games has received some criticism for not considering the nuances of the subjective play experience. In Bart Simon's review of Nick Dyer-Witheford and Greig de Peuter's *Games of Empire*, he praises their use of political economy and critical theory approaches to studying the games industry, but critiques the authors' chosen case studies for being limited: "There is almost no

discussion in this middle section about how the games in question are actually played” (Simon). In “Casual Games, Time Management, and the Work of Affect,” Anable criticizes studies of videogames that focus exclusively on their operation and development as technological systems, arguing that ignoring the expressive aspects of digital play found in casual games can lead to their total dismissal as an object of study (Anable). She writes: “Even the term “casual game” itself performs this distinction: designating, implicitly and by contrast, an aesthetic, narrative, and procedural formalism to other types of video games” (Anable).

Textual analysis is deployed frequently in game studies as a method for studying the dynamics of play in videogames. Mosco criticizes some forms of textual analysis as being overly subjective, focusing too much on issues of cultural reception and not enough on issues of power (216). However, Mosco acknowledges that political economy has become more expansive in the types of questions it considers and its research methods (217). I argue that the perspectives provided by political economy and textual analysis can (and should) be reconciled and that it is vitally important to understand the expressive qualities of games. The fundamental goal of my major research paper is to uncover the ways that time is used and consumed in digital games. Both games structure digital play differently, and a textual analysis brings out those crucial differences in how time is shaped, played with, and manipulated.

I use a form of textual analysis derived from Mia Consalvo’s and Nathan Dutton’s article in *Game Studies*, “Game analysis: developing a methodological toolkit for game studies.” Both authors acknowledge that textual analysis has often been used for game studies without clear criteria. As a result, there can be little accountability for the claims

derived from studying a game's content (Consalvo and Dutton). The authors outline four categories that should be used when analyzing a videogame: Object Inventory, Interface Study, Interaction Map, and Gameplay Log. Each category helps the researcher to prioritize their research questions and provide accountability for what is studied. Briefly, Object Inventory involves categorizing each object the player can collect in the game, the value attached to it, its various uses, and the relationships between the player and these objects; Interaction Map tracks how the player can or cannot influence the game world, especially what is allowed or disallowed in interacting with non-player characters (NPCs); Interface Study looks at a game's user interface and the information that is communicated directly to the player as well as what is kept hidden from view; and finally the Gameplay Log covers the emergent possibilities of the gameworld such as its allowances for breaking gameplay, the presentation of NPCs, or intertextual references (Consalvo and Dutton).

Originally, my case studies of *Animal Crossing: New Leaf* and *Pokémon Go* were placed into separate sections, with one section focusing on political economy and the other focusing on my textual analysis. I found during my study of each game that taking a holistic approach that combined both methods was clearer than writing about them using separate approaches. For both *Animal Crossing: New Leaf* and *Pokémon Go*, there is a close connection between their production and gameplay. As a premium game played on a dedicated videogame system, *Animal Crossing: New Leaf* had a completely different trajectory in terms of how it was produced, sold, and consumed compared to *Pokémon Go*, which as a freemium game employs a completely different model of monetization. *Animal Crossing: New Leaf* was specifically designed to ensure more sales of its

platform, the Nintendo 3DS, as Nintendo benefits the most from combined hardware and software sales. While Pokemon Go is a spinoff of Nintendo's main Pokemon franchise, it has had to rely on Apple and Google's technology, services, and digital storefronts, since they completely dominate the F2P marketplace. Since I studied each game holistically, my analysis is presented in a similar way, with a connected narrative about how each game was produced, distributed, and sold along with a discussion of their most crucial gameplay elements.

Even though I do not explicitly demarcate how each of the four categories of Consalvo and Dutton's methodological toolkit were deployed in my case studies of *Animal Crossing: New Leaf* and *Pokémon Go*, they did help highlight specific aspects of each game I might have missed otherwise. For example, my Gameplay Log for *Animal Crossing: New Leaf* helped me realize how time is structured in that game to force the player to play the game as intended by its designers thus extending their engagement with the game. Likewise, the Object Inventory for *Pokémon Go* demonstrated that many of the game's most crucial items were distributed to the player for free to encourage later microtransactions, which is a common strategy in all F2P games (Nieborg x). Combining the insights derived from political economy and textual analysis into a unified account for each game provided greater clarity on the different approaches these games have to commodifying time.

Each game was played for a specific length of time. I played *Animal Crossing: New Leaf* for a combined 85 hours across two different towns. My first town — Willowby — began as part of a casual playthrough of *Animal Crossing: New Leaf* that eventually evolved into a more critical study of its gameplay and systems. My second

town — Nookton — acted as a point of comparison to see how certain parts of the game would play differently with prior knowledge of *Animal Crossing: New Leaf*'s gameplay and systems. During each play session, I took notes and used the 3DS' screenshot feature to highlight important interactions. The screenshot feature also allowed me to cross-reference my notes with specific events in the game. I also studied relevant marketing materials, promotional videos, annual reports, and sales data to understand the importance of *Animal Crossing: New Leaf* to the sales and success of Nintendo's 3DS handheld system. I played *Pokemon Go* for 15 hours, engaging with its core systems. This included visiting designated PokéStops in the East Danforth neighbourhood of Toronto to collect virtual items, catch Pokémon, participate in Pokémon Gym battles, and making my Pokémon more powerful. I participated in a few events during my play like *Pokemon Go* Global Catch Challenge that took place between November 20-November 27 or *Pokemon Go*'s Valentine Day event. Each play session lasted about an hour to an hour and a half, and I would often take screenshots. After each session, I took notes and compared them to my screenshots to ensure that I captured the most important highlights related to the game. I extensively studied Niantic's Terms of Service, Trainer Guidelines, and Privacy Policy, all of which prospective players must agree to if they want to play *Pokemon Go*. I took into consideration reported revenue and profit for *Pokemon Go* via data aggregators like SuperData Research.

Down and Out in the Animal Kingdom: Temporal Extension and Commodification in *Animal Crossing: New Leaf*

Animal Crossing: New Leaf is a game that is never in a hurry. It wants you to explore, itemize, accessorize, and experiment for as long as possible in its virtual pastoral world. In an interview with *Animal Crossing: New Leaf*'s director Aya Kyogoku and its producer Katsuya Eguchi for Nintendo's promotional show *Nintendo Minute*, the interviewer, Krysta Yang, highlights how much time she's put into the game: "We've all played so many, many hours of *Animal Crossing: New Leaf*. I think I've put in 300 hours" (Nintendo "Nintendo Minute - Animal Crossing: New Leaf" 0:50-1:00). They then display a series of special badges you are awarded in the game based on the number of hours you play: Village Representative for 50 hours of play, Celebrity Villager for 200 hours of play, and finally Esteemed Villager for 500 hours of play. In the same *Nintendo Minute* segment, the interviewer emphasizes that *Animal Crossing* games are known for having "tons of content" (1:02) and Katsuya Eguchi explains:

In creating this game, we really kept in mind that we don't want the player to say...I've seen everything, I'm done. With all of the different kinds of furniture, the different kinds of conversations you can have with the animals, you can go back and say this is the first time I've seen this content (2:16-2:40).

Nintendo's emphasis while promoting *Animal Crossing: New Leaf* was the amount of time you can spend exploring its world and customizing your home and town. In a promotional video, Reggie Fils-Aime, president of Nintendo of America, gives viewers a tour of his *Animal Crossing: New Leaf* home, and even dispenses useful advice for the game. He says: "You must be wondering how a busy guy like me has all of the time to be earning Bells¹" (Nintendo "Reggie's Animal Crossing: New Leaf Home Tour" 0:24-0:29). One tip he gives players looking to increase their yield of Bells is to visit the

¹ Bells are *Animal Crossing: New Leaf*'s currency.

tropical island late at night to catch rare exotic beetles “that can be sold at a huge price” (0:42-0:46). His home tour focuses on how much customization is available to *Animal Crossing: New Leaf* players, like the ability to build their own personal museum dedicated to Nintendo history. The primary selling point of *Animal Crossing: New Leaf* is that it is an expansive game that you can sink hundreds of hours into playing.

The development of *Animal Crossing: New Leaf* needs to be put in the context of the reception of its platform, the Nintendo 3DS. The Nintendo 3DS is a handheld videogame console first released by Nintendo in 2011 and it initially struggled to sell in the first few months of its launch (Annual Report 2012). In contrast, the Nintendo DS, its predecessor, sold 154 million units (Dedicated Video Game Sales Units). Nintendo acknowledged in its first quarter earnings report for 2011 that the launch of the Nintendo 3DS was not smooth, with sales particularly slow in North America (First Quarter Earnings). In response, Nintendo eventually introduced a price cut from \$250 USD to just \$170 USD, and stated that anyone who had purchased the 3DS before the announced price cut would receive 10 Nintendo Entertainment System and 10 Game Boy Advance games as free digital downloads (Plunkett). While this price cut is generally credited with reversing the 3DS’ initial poor sales, the immediate success of *Animal Crossing: New Leaf* was also a significant factor in establishing the handheld’s eventual popularity.²

When *Animal Crossing: New Leaf* was first released in Japan, it was so successful that Nintendo experienced significant shortages of the physical version³ (Gifford). To make up for this shortage, Nintendo also released a downloadable version for the 3DS

² As of March 31, 2018, the Nintendo 3DS has sold 72.53 million units across all versions of the handheld.

³ *Animal Crossing: New Leaf* would go on to sell 12 million copies and become the 7th best-selling game for the Nintendo 3DS (Top Selling Title Sales Units).

through its eShop, which quickly became of the console's top digital downloads (Financial Results Briefing 2013). Nintendo also released a special *Animal Crossing: New Leaf* variant of the 3DS with the game pre-installed to further capitalize on its success (Financial Results Briefing). During a presentation at E3 in 2013, then President Satoru Iwata claimed that *Animal Crossing: New Leaf* was “crucial for the future of Nintendo 3DS in the U.S. and European markets” and furthermore demonstrated that the 3DS' hardware sales were “four times greater” in the week of *Animal Crossing: New Leaf*'s release in North America than the previous week (Nintendo E3 Analyst Briefing).

Although it might be overstating things to say that *Animal Crossing: New Leaf* was the sole reason for the Nintendo 3DS' success, it was important in establishing the console as a worthwhile purchase. 2013 was generally a good year for the Nintendo 3DS, as it also saw the release of a number of commercially successful and critically well received games for the platform: *Pokémon X and Y*, *Fire Emblem: Awakening*, *The Legend of Zelda: A Link Between Worlds* and *Luigi's Mansion: Dark Moon*. This led to the gaming website Kotaku declaring that the 3DS was the best console you could buy in 2013 (Schreier), and Nintendo noted that 2013 saw the 3DS' best sales in both hardware and software (Annual Report 2014).

The talk given by *Animal Crossing: New Leaf*'s director Aya Kyogoku at GDC in 2014 provides more insight about the game's development and its relation to the success of the Nintendo 3DS. Kyogoku argues that “*Animal Crossing: New Leaf* is a communications tool” and outlines how the game was built from the ground up to facilitate sharing between players (GDC “Animal Crossing Turning A New Leaf” 15:39). The development team built an application called Nintendo 3DS Image Share so that

players could highlight their progress on Facebook and Twitter (27:40-28:15). Other social sharing features include the ability to create a version of your town that can be visited by *Animal Crossing: New Leaf* players through a specially created code or the Happy Home Showcase, where players can actually share their homes to each other using the Nintendo 3DS' wireless StreetPass feature (25:18-26:10). According to Kyogoku, these features were built to keep coming back to *Animal Crossing: New Leaf* to expand their homes and build their *Animal Crossing* town, by tapping into the “desire to show other people the fruits of your labour” (17:24). At the end of the talk, the game’s producer Katsuya Eguchi credits *Animal Crossing: New Leaf* with helping increase the popularity of the Nintendo 3DS, arguing that “one popular franchise has the potential to not only evolve itself, but the scope of the platform” (42:50-43:05). At the time of GDC 2014, the Nintendo 3DS had sold 42.2 million units (44:06).

The success of a premium-priced console is often tied to the sale of exclusive software that can engage the player for an extended period. *Animal Crossing: New Leaf* was sold on the basis that it has enough content and features to provide 500 or more hours of quality entertainment. Crucially, the success of *Animal Crossing: New Leaf*, and the subsequent games released by Nintendo for the 3DS between 2012 and 2013, shifted the perception that it was a failed or struggling platform toward the view that the Nintendo 3DS was a console with lots of fun and interesting games that could provide hours of entertainment.

Compare the fate of the Nintendo 3DS to Sony’s PlayStation Vita. The PlayStation Vita is a handheld console released in 2011 by Sony as their follow-up to its

successful PlayStation Portable⁴, and was meant to compete with the Nintendo 3DS. Although moderately successful in Japan, the Vita never quite found success in North America or Europe and was all but abandoned by Sony in 2015. The high price of the Vita (\$250 USD at launch), its proprietary memory cards⁵, and lack of exclusive software,⁶ made it extremely unpopular (Schreier). Overall, sales of hardware and software for dedicated handheld consoles has generally seen diminishing returns, especially when compared to the success of free-to-play games. While sales from in-app purchases in free-to-play mobile games in 2013 were \$24 billion USD, the sales of handheld consoles games in North America in the same year were only \$4.4 billion USD (Nieborg 236). This trend has only intensified, with the sales of handheld consoles and games only earning \$1.8 billion USD in 2016 (Newzoo).

Interestingly, as handheld consoles have become more advanced and powerful, and have faced tighter competition from other mobile platforms like smartphones and tablets, they have become increasingly subjected to the same pressures of their much more powerful home console cousins, having to demonstrate value for money through their ability to provide extensive playtime. In his article, “We play in public: the nature and context of portable gaming systems,” Christian McCrea argues that:

the period 2004–2011 represents a generation of hardware design and game design that while purporting to a deep convergence with other mobile devices, also significantly diverged. This divergence was marked in design, use, and

⁴ The PlayStation Portable (PSP) was released in 2005 and primarily competed with the Nintendo DS. It sold 80 million units (Campbell). By comparison the Vita has only sold an estimated 15 million units since its launch in 2011 (Baker).

⁵ Sony decided to go with proprietary memory cards that only work for the PlayStation Vita rather than allowing third-party SD memory cards. A new 32GB Vita memory card is still priced at \$100.

⁶ Many Vita games also have PlayStation 3 and PlayStation 4 versions.

business environment from the smartphones and tablets that would grow to threaten the game development ecosystem held by Sony and Nintendo (390).

McCrea claims that games for dedicated handhelds started to be organized around different contexts and playstyles than mobile games (392). Although Nintendo sold its DS based on games like *Brain Age*, *Nintendogs*, and *Style Savvy*, which could mostly be played in the spare moments of one's day, it also developed and published games like *Mario Kart DS*, *New Super Mario Bros.*, and *Pokémon HeartGold* and *SoulSilver*, which sell themselves on the large amount of content available over multiple hours of play. Also, being familiar with the mechanics and playstyles of past entries in these franchises could confer significant advantages to the player. *Animal Crossing: New Leaf* for the 3DS is no different, providing a game with multiple hidden systems and secrets that must be uncovered and mastered by the prospective player.

Animal Crossing: New Leaf is a game shaped by time and money. Since *Animal Crossing: New Leaf* is tied to the internal clock of the Nintendo 3DS it takes into consideration night and day, the changing seasons, and significant holidays. This means that most shops are only open from 9am to 8pm, that the leaves on trees change colour in autumn and that snow covers the ground in winter, and that holiday-specific items like jack o' lantern-themed chairs or Christmas-themed wallpaper will only be available during the months of October or December respectively. The player also becomes familiar with *Animal Crossing: New Leaf*'s versions of debt and capital investment as paying off your home loan or spending enough money at a local business is necessary to unlock more content in the game.

In my 85 hours of playing *Animal Crossing: New Leaf* across two different towns, I found that the game's combination of time management and finance ensured my

progress was consistently slowed down. The game's frequent temporal deferral creates an engaging loop of completion and anticipation. "Tomorrow" is the operative word in *Animal Crossing: New Leaf* as you must wait until then for public projects to be completed, fruit on trees to regrow, ordered items to appear in your mailbox, new clothing and furniture to appear in shops, or your new home expansion to be built. An illuminating example of how temporality and finance combine in *Animal Crossing: New Leaf* can be found in the ability to sell your town to Tom Nook, which was added in the game's "welcome amiibo" update.

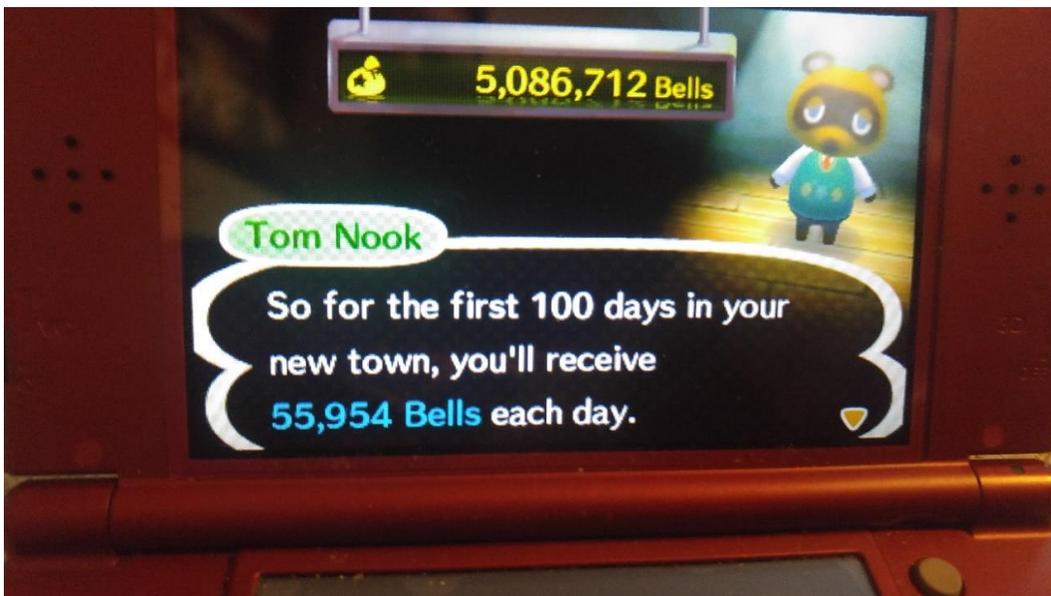


Fig. 1 Tom Nook makes an offer

Tom Nook is a wily raccoon that has appeared in every *Animal Crossing* game and his role is often that of the local banker, shopkeeper, and real estate agent who handles the mortgages attached to your home expansions. To be able to sell your town to Tom Nook, you must have played the game for over 20 hours or at least 20 consecutive days. Once you decide to sell your town, Tom Nook appraises it and makes you an offer

(see Fig. 1). In my case, he offered to initially buy my town for about 4.5 million Bells. This number increased to 5, 086, 712 Bells when I also offered to sell my current town catalogue and encyclopedia⁷ to him.

Tom Nook then made a further offer to me: I could receive it as a lump sum or it could be held in “escrow” and distributed to me over a period of 100 days in installments. The incentive for receiving it in installments is that it would accumulate interest and I would receive 595,400 extra Bells. I chose to have my payment sent to me in installments. An unexpected twist I discovered was that you only receive your distribution of Bells if you play the game that day. What this means is that if I wanted to receive my full disbursement of Bells as fast as possible I would have to play for 100 consecutive days. Otherwise, it would take much longer to receive the full amount.⁸

This example illustrates how time and money combine in *Animal Crossing: New Leaf* to define the gameplay experience. The player must make a series of crucial financial decisions, such as whether to accept Tom Nook’s offer, and then whether to have it paid out in a lump sum, or in installments to increase the total paid out through interest. Furthermore, a significant length of time must have passed before the player can even consider selling their town. By tying installments of your new funds to if you played the game that day, *Animal Crossing: New Leaf* finds a way to incentivize daily play. I could have made the opposite choice and received everything in a lump sum, but even

⁷ The town catalogue records all of the goods you have purchased. The encyclopedia records all of the bugs, fish, and deep sea creatures you collect. By selling them you are starting again from scratch in your new town.

⁸ To further clarify, you don’t lose out on any of the money by not playing. It’s just that you only receive Bells if you play for that day. Playing for 100 consecutive days would net me my full payout — 5,595, 400 — much faster.

with 5,595, 400 million Bells in hand the game would still find ways to stall my progress. As mentioned earlier, the player must always wait until tomorrow to complete a town project, have their home expanded, or for new events to occur in the game.

It is also notable that much of *Animal Crossing: New Leaf*'s gameplay is taken up by the purchasing, selling, collecting, and receiving of furniture, clothing, food, and other assorted objects. When constructing my object inventory for my textual analysis of the game, I tracked 115 objects that I had obtained in the game. At least 50 of the items I had collected, which include clothing and furniture, had been received for free, most of them as gifts from my fellow animal villagers. While you receive plenty of storage space, with the option of significantly increasing it with a new “secret storage,” if you want to make the most of your gifted furniture or special items you’ll have to expand your home. Ian Bogost, in his analysis of the original 2001 *Animal Crossing* for the Nintendo GameCube, has pointed to the close relationship between collecting objects, home expansion, and debt the game engages in:

While it is possible to refrain from upgrading, Nook, an unassuming raccoon, continues to offer renovations as frequently as the player visits his store. My son began to realize the trap he was in: the more material possessions he took on, the more space he needed, and the more debt he had to take on to provide that space. And the additional space just fueled more material acquisitions, continuing the cycle (268).

Furthermore, in the first *Animal Crossing* game, Tom Nook is personally enriched every single time the player pays off their home loan, expanding his store and the number of items the player can purchase, revealing the truth that “one’s own debt makes someone very wealthy” (269).

In *Animal Crossing: New Leaf*, much of the same cycle of material acquisition carries on but is a little more varied. While Tom Nook still owns a store, he does not

directly benefit from you paying off your home loan. Instead, debt is used to control how you access different areas in the game. For example, you must pay off your first home loan to access the game's tropical island. The island is important since it lets you access minigames, play with other people online, and also catch rare bugs and fish all year round.

Many of the items I received for free were given to me for assisting the animal villagers in tasks like finding lost items or complimenting them on having nice homes. These items can then be sold to help save up enough money to pay off your next home loan. The game will reward curious enough players with hidden treasure. At least once per day, a certain rock in the village will be designated the "money rock" and it can be hit for Bells. Another random rock in your village can be smashed with a shovel to reveal valuable ore that can then be sold for lots of Bells. Finally, fossils can be regularly dug up from the ground to either be donated to your local museum or sold. I found that a crucial part of my daily routine when consisted of hitting rocks and digging for fossils as these can be lucrative sources for Bells. Players can also earn free items by randomly shaking trees or popping balloons that float into town with a special gift, often a form of balloon furniture.

The game's shops also have new goods every single day, providing a further incentive for regular play. Making purchases in these shops — whether it's the local used goods store Re-Tail or the Able Sisters fashion boutique — is necessary to unlock new stores and new animal characters. For example, the player must spend 10,000 Bells at the Able Sisters' fashion boutique for the hairdressing salon Shampoodles to open above the store. Shampoodles allows you to customize the hair, makeup, and eye colour of your

character. Upgrading the main shop in *Animal Crossing: New Leaf* also requires spending a certain number of Bells and even have a certain number of real world days to pass. For example, to upgrade the town's shop from Super T & T variant to the much bigger T.I.Y. the player must have spent 50, 000 Bells in the shop and over 21 real days must have passed. *Animal Crossing: New Leaf*'s item economy is very diverse with over 3000 different objects for the player to buy and use. By making purchasing items necessary to upgrade shops and unlock game content, *Animal Crossing: New Leaf* extends play by encouraging a diverse range of customization.



Fig. 2 Shops constantly change in *Animal Crossing: New Leaf*.

Other systems in *Animal Crossing: New Leaf* find ways of encouraging the player to build up their village or home in the game. One of these systems is StreetPass.

StreetPass allows *Animal Crossing: New Leaf* players to exchange home data between games if they have the feature enabled on their 3DS. Once you receive another player's StreetPass data you can visit their home in a section of your town called the Happy Home Showcase. While you explore their house you can order furniture from them to be delivered to you for a slightly higher price than what you would pay at a local shop in your town. I found the Happy Home Showcase useful for studying how other players

built their homes and for helping me complete my own collections. For example, during the month of October I wanted to have a complete set of Halloween furniture. While my local shop had random pieces that I could purchase each day I found it difficult to complete my collection since already purchased furniture would still appear. I relied on two different homes in the Happy Home Showcase that helped me complete my collection of Halloween furniture before October 31.

Having complete sets can be quite important in *Animal Crossing: New Leaf*. An agency called the Happy Home Academy gives you a score every single day. Higher scores are given for completeness and consistency. For example, having all thirteen pieces from a single set in a single room including wallpaper and carpet nets you 30,000 Happy Home Academy (HHA) points. If it's thirteen pieces of a special themed set, you will receive 50,000 points. The HHA also considers specifically defined "necessities" (i.e. having a chair, a bed, a dresser, a lamp), and even Feng Shui (having red, yellow, green, and blue objects in specific cardinal directions net you bonus points). The only way to know how you're doing with your HHA is to talk with Lyle, an extremely chatty and overcaffeinated otter who dispenses advice on how to increase your HHA score (see Fig. 3). Hitting specific milestones helps you get special pieces of clothing and furniture. When you see a player's home in your Happy Home Showcase you also get to see their HHA score. Both the StreetPass and Happy Home Academy systems in the game work together to provide helpful references and encouragement to the player to keep building up and improving their home. Since items you can purchase in your local shops are randomized, with new inventory available every single day, this encourages frequent play to ensure you have the items necessary to boost your HHA score.



Fig. 3 Lyle dispensing useful advice on how to increase HHA points.

Time management and consistency are key to being successful in *Animal Crossing: New Leaf*. This is because you're not just a resident of the town but also the town's Mayor. While your responsibilities are not extremely heavy, it does add an extra element of pressure. Isabelle, a friendly puppy, acts as your administrative assistant, and helps you execute your mayoral duties. Most of your duties consist of building public works projects that can add new features to the game or passing "town ordinances" that make slight changes to the gameplay. This light town management aspect of the game makes it similar to "time-people management" games like *Diner Dash* and its numerous spinoffs, where you must continually work to keep the other NPCs happy (Chess 74). Everyday, you can ask Isabelle for the results of a citizen satisfaction survey that lets you know if the animals are happy or unhappy with your leadership of the town. Isabelle always concludes the survey by telling you: "The citizens want more public works projects."

A public works project is a town amenity like a bench, a fountain, a new bridge, a campsite, or a town clock, and each new project costs a considerable number of Bells. Although each project solicits donations from your fellow animal villagers, it often falls

to you to invest the money to ensure its completion. This usually takes you away from paying off your home loan, so the choice you must make falls between expanding your home or expanding the town's features and amenities. Once again, this has the effect of extending your play with the game as it can take a long time to raise enough Bells to pay off either. The more you take care of your town and help your fellow citizens — usually by helping them retrieve lost items or collecting something they want — the more the general satisfaction of your town goes up. After a significant amount of work, you can eventually achieve “perfect” town status. Oddly, not every public works project increases citizen satisfaction, with brightly lit traffic lights or building a town dump actively lowering their impression of the town. The game doesn't directly communicate this to you and you must indirectly discover this fact through daily citizen satisfaction surveys or by looking through an online guide.

The game will frequently use its time management system to admonish you for not playing. One of the most prominent features of the game is that every single time you start it Isabelle appears, lets you know the current date and time, and after helping you start the game, will sometimes tell you if there are any special events in the town. However, if you haven't played for a long time, she'll instead say: “Oh! I haven't seen you in awhile. Were you on vacation? I've done my best to fill your shoes while you were away.” Every animal villager you meet will criticize you for not spending time with them, saying things like: “I thought you didn't like me anymore” or “I'm glad you're no longer giving me the silent treatment.” While the villagers in *Animal Crossing: New Leaf* are generally cute and charming, these interactions make them come across as passive aggressive (see Fig. 4).



Fig. 4 A typical interaction after you haven't played for awhile.

Furthermore, if you don't play for a while your character emerges from their house with extreme "bedhead" that can only be fixed if you visit Shampoodles and get a new haircut and style for 3000 Bells. Abandon your town for too long and weeds begin to infest the town. If enough weeds grow then a flower called rafflesia begins to appear, which attract hordes of flies. This will then cause most of your villagers to move out of the town. While rafflesia never appeared in my town, I did at one point neglect my town long enough that weeds grew everywhere. The only way to remove them was by playing a special mini-game with Leif, a sloth that acts as the town gardener. After almost ten minutes of weeding, Leif rewarded me with a special chair in the shape of a rose.

The above examples illustrate the clever ways the game uses the passage of time to encourage frequent play sessions. While the consequences of neglect are never dire, the game certainly taps into feelings of guilt for not setting aside the time to play. The temporal aspects of *Animal Crossing: New Leaf* add to its challenge as there is the fear missing one day may mean missing out on obtaining a special item, failing to interact with an animal villager, or delaying the completion of a project. During the month of October, I found myself checking the shops everyday just so I could obtain all the special

Halloween items. In December, I ended up buying extra items so I could have something to gift my fellow animal villagers during Toy Day, the game's version of Christmas.

Animal Crossing: New Leaf further taps into the relationships you build with your fellow animal villagers to curb a player's temptation to "cheat" the system. Since the game is controlled by the 3DS' clock, a player can change the clock to "time travel." However, the game keeps track of this and time travel can have numerous consequences for your town. Weeds will grow faster and take over your town more quickly, and any trees you planted will wither and die. Also, any bonding or friendship you've built with an animal villager will be completely changed, leading them to either not know you very well or to move out of the town completely. You can still obtain some benefits, such as quicker access to items or the ability to repeat special events, the game builds in enough checks to encourage you to play it the way its developers intended.

Animal Crossing: New Leaf is a game that connects time and consumption to produce an emotional connection that extends play. Although designed as a premium console experience, *Animal Crossing: New Leaf* bears some of the same features of the mobile casual games that Shira Chess discusses in *Ready Player Two* that target women gamers.⁹ She lists games like *Wedding Dash*, *Sally's Salon*, and *Supermarket Management 2*, where the player is tasked with taking care of a group of people in a brief period of time, with a game over resulting if enough of them are dissatisfied (73-74). While *Animal Crossing: New Leaf* moves at a much more leisurely pace than the intense play sessions of these games, it shares the same quality of constantly managing affection

⁹ In 2014, Nintendo heavily promoted the fact that the majority of *Animal Crossing: New Leaf* players are female, and that half of the game's development team were women (Hudson). This was also a crucial theme of their talk at GDC 2014 (Consalvo).

within specific periods of time. For example, in *Animal Crossing: New Leaf*, animal villagers will schedule appointments with you to visit your house or theirs. The player must remember the stated time they agreed to and make sure that they can open their 3DS then to meet with their animal friend. Furthermore, if you visit an animal villager's house you must give their house high praise to receive a gift afterward. Skipping this appointment doesn't have dire consequences but does represent a missed opportunity to further friendship with a particular animal villager and receive a new item for sale or display. As Chess argues: "The nonstop negotiation of other people's time in game worlds such as *Diner Dash* means that time management is always about negotiating the expectations of others" (85).

Gotta Buy 'Em All? *Pokémon Go*'s World of Temporal Consumption

As a free-to-play spinoff of Nintendo's multimedia *Pokémon* franchise, *Pokémon Go* has been immensely successful. The game was a sensation on its release in July 2016, garnering millions of downloads, and generating \$16-18 million dollars a day from in-app purchases (Newzoo). Within six months, it is estimated that *Pokémon Go* made over \$1 billion in revenue (Nelson). Although its player base has shrunk from its high of 45 million daily active users during its debut to just about 5 million globally, it still attracts significant attention and revenue (Hjorth and Richardson 11). The *Pokémon Go* Global Catch Challenge, an event that took place from November 20 to November 27, 2017, tasked *Pokémon Go* players worldwide with catching 3 billion Pokémon — a goal that was easily met and then surpassed (*Pokémon Go* Travel). In a short report on the top revenue-generating game apps by SuperData Research in March 2018, *Pokémon Go* is listed in fifth place (SuperData Research). *Pokémon Go* even gave a boost to Nintendo's

mainline *Pokémon* franchise. In 2016, Nintendo released two new Pokémon games for the Nintendo 3DS, *Pokémon Sun* and *Pokémon Moon*, that went on to sell 16 million units. In an analysis of *Pokémon Sun* and *Pokémon Moon* players' 3DS Activity Logs, Nintendo found that 17 per cent of players had previously never had a Pokémon game installed on their 3DS and praised *Pokémon Go* for raising awareness of the *Pokémon* brand (Nintendo *Annual Report 2017*).

Pokémon as a videogame experience is readymade for the flexible temporality of mobile games. The series first debuted on Nintendo's Game Boy handheld in Japan in 1996, with subsequent games in the franchise always appearing on Nintendo's dedicated handheld devices. One of the key aspects of *Pokémon* is its allowance for a diverse range of playstyles. In *Millennial Monsters* (2006), Anne Allison identifies some of the salient features that have made *Pokémon* such a successful global franchise. The games in *Pokémon* combine "collecting, competition, pet-raising, mastery, adventures, and role-playing" (172). According to Christian McCrea, playing *Pokémon* requires a deep level of "social knowledge," and it rewards those players who explore its deepest secrets (398). *Pokémon* is both a cute virtual pet-raising game, and also a game that rewards players for paying attention to its underlying statistics and extensive virtual item economy (Allison 190; McCrea 399). Knowing that a Fire-type Pokémon is weak to a Water-type or that a special item is needed to "evolve" one Pokémon into another more powerful version of itself is a core part of the experience that coexists along with the desire to "catch 'em all," the trademark slogan of the franchise in North America and Europe¹⁰ (Allison 174).

¹⁰ The catchphrase for Pokémon in Japan is much more direct: "Get Pokémon!"

Pokémon Go has been discussed in terms of its relationship to nostalgia, future game technology, and locative-based gameplay.¹¹ However, less attention has been paid to *Pokémon Go*'s production, its reliance on Google and Apple's app stores for distribution, or the way it monetizes itself through the sale of virtual goods. As a free-to-play (F2P) smartphone game that monetizes itself through in-app purchases, *Pokémon Go* brings public space into a series of commodified digital relations that extract as much surplus value as possible from the player. Although players are pushed toward productive play, they have no ownership or stake in the digital artifacts they develop and improve.

In its Terms of Service, Niantic is explicit that players of *Pokémon Go* have absolutely no ownership rights: "Niantic grants you a limited, nonexclusive, non-transferable, non-sublicensable license to download and run a copy of the app" for as long as Niantic has the rights to use *Pokémon* (Terms of Services). By agreeing to the Terms of Service "you acknowledge that you do not acquire any ownership rights in or to the Virtual Money, Virtual Goods or other Content" and your Virtual Goods and Virtual Currency have "no monetary value and do not constitute actual currency and or property of any type" (Terms of Service). *Pokémon Go*'s Terms of Service outline that all goods are sold to the player "as-is," meaning there is no warranty, and no possibility of a refund (Terms of Service). At such time that Niantic loses the *Pokémon* license and the game is shut down, players have no ability or right to use or access any of the content they have acquired in the game.

¹¹ See *Mobile Media & Communications, Issue 1: Special Section: Pokémon Go: Playful phoneurs and the politics of digital wayfarers* (January 2017).

As a game that uses an already established media franchise as its foundation much of *Pokémon Go* is made up from recycled content. This recycling of content is a widespread practice in the games industry, which frequently leverages a few core games or (“IPs” as the industry designates them), which receive extensive sequels, ports, and remastered versions, or properties licensed from other media (de Peuter 80). Nintendo is a prime example of this, relying exclusively on a few key franchises *Pokémon*, *Super Mario*, *The Legend of Zelda*, *Kirby*, and *Donkey Kong*, while continually porting older entries in these franchises to their newer platforms. Niantic benefits not just from reusing *Ingress* in designing *Pokémon Go*, but also for its access to the *Pokémon* IP, in which there are currently 800+ predesigned and predefined monsters from them to choose from and distribute in the game at any time. The 20-year history of *Pokémon* provides them with ample content to repurpose throughout *Pokémon Go*, especially those monsters that have the largest fan appeal.

The recycling of content in *Pokémon Go*’s production goes much deeper as *Pokémon Go* is not Niantic’s first F2P mobile phone game with a “mixed reality” interactive component. *Ingress*, a cyberpunk-themed hacking game that used real-world locations mapped onto the player’s phone, was released by Niantic in 2012 and provided the template for *Pokémon Go*. When Niantic’s CEO John Hanke was asked how the company decided which real-world locations would be made into PokéStops for *Pokémon Go*, he explained that they based all of them on popular “Portals” that players had created in *Ingress* (Bogle). In *Ingress*, a Portal is a user-created game hub that appears on a player’s phone and allows them to collect items and to compete with one another, much like *Pokémon Go*’s PokéStops and Pokémon Gyms. Niantic made 5

million PokéStops and Pokémon Gyms based on a list of 15 million user-created Portals (Bogle). This recycling of content, data, and gameplay elements is necessary in the F2P mobile videogame industry in which the average development cycle for a game is less than 23 weeks (Nieborg 6). F2P games are not static products but ongoing services, with changes and updates made based on user data analysis and feedback. Analysis and feedback are important parts of Pokémon Go's ongoing production, with users providing bug fixes, suggestions for new PokéStop and Pokémon Gym locations, and gameplay improvements. This is not unlike the process of "free labor" that Tiziana Terranova argued characterized early community management and open source software development. Terranova writes: "Free labor is the moment where...knowledgeable consumption of culture is translated into productive activities that are pleurably embraced and at the same time often shamelessly exploited" (37).

Like other F2P games, *Pokémon Go* relies on the App Store and on Google Play for digital distribution. Apple and Google exert significant control over the F2P market providing the hardware, the software (i.e. iOS and Android), and the services (their app stores and the ability to make in-app purchases). I found that most items necessary for playing the game could be freely obtained from visiting and interacting with designated PokéStops. PokéStops function primarily as item distribution centers, producing the virtual goods needed by player to continue collecting Pokémon. Giving away items (as well as levels or gameplay) completely for free is a widespread practice in F2P mobile games (Nieborg 2, 5-7). Giving potential players full access to most of a F2P games can ensure a higher level initial interest. It's notable that this is a standard practice for platform businesses like Google and Facebook, in which a crucial service is given away

for free (Google services like Gmail and Drive), while another feature is heavily monetized (like Google Adwords) (Srnicek 46). This is because F2P games, like the major technological platforms they rely on, are subject to network effects, in which the more people use the service the more valuable it becomes (Nieborg 8).

The player's right to privacy is curtailed when using *Pokémon Go*. Although specific identifying features are not collected, aspects such as user data, phone settings, account settings, and location information are used and analyzed by Niantic to "improve game services" (Privacy Policy). The use of *Pokémon Go* player data for immersive advertising opportunities and further profit is still a matter of speculation. However, Niantic does state that the information it collects while you play *Pokémon Go* is considered a "business asset" and could be used in the event they are purchased by a third-party company (Privacy Policy). Players must agree to both Niantic's Privacy Policy and its Terms of Service if they want to play the game.

Niantic has designed *Pokémon Go* to reward continual play. One such reward is a daily experience bonus for interacting with a PokéStop. If a player plays the game for seven consecutive days they receive a considerable experience bonus and are given a special item necessary to "evolve" some of the game's Pokémon into an even more powerful creature, like a Metal Coat, which is necessary to evolve the bug Pokémon Scyther into Scizor or the rock Pokémon Onix into Steelix (Daily Bonuses). Any deviation from a daily play routine and the player starts back at square one. The daily rewards of *Pokémon Go* establish a specific temporal rhythm to ensure frequent engagement with the game. The special items gifted to the player are crucial to crafting

some of the game's most powerful creatures. In this way, Niantic tries to ensure that players remain deeply invested in playing the game daily.

As mentioned earlier, you receive items from swiping a designated PokéStop on your phone. Some of these items include Poké Balls (necessary for catching Pokémon), and Potions (necessary for healing Pokémon after they have been injured in combat). A PokéStop will deactivate for a few minutes requiring you to go to another one until it is usable again. Interestingly, a few items can only ever be obtained by the player from visiting PokéStops, such as Berries, which you can use to make Pokémon easier to catch. Pokémon also tend to huddle around designated PokéStops and Pokémon Gyms, with a randomized assortment of Pokémon at each location. Although a church across from my apartment near the Danforth is a PokéStop, I still had to travel to collect items and catch different Pokémon. A special feature in the app called "Nearby" (see Fig. 5) shows you Pokémon that can be caught at PokéStops close to you, making it easier to map out your route for catching Pokémon for that day.



Fig. 5 Pokémon Go's "Nearby" feature.

A crucial aspect of F2P games is that the deeper a person gets into the game the greater the incentive to engage in in-app purchases. For example, in *Candy Crush Saga*, a large selection of levels are given to the player for free, with others locked behind a small fee. In *Pokémon Go*, I found that even though I had an item storage limit of 350, this filled up during each of my play sessions. Once you reach your item limit you can no longer interact with PokéStops to receive their benefits. *Pokémon Go* gives you the ability to purchase more storage capacity with real money, but only in units of 50. As a result, I was forced to delete items to keep playing the game and take advantage of its digital resources. This arbitrary barrier is just one method Niantic uses to encourage players to spend money otherwise they may be forced to delete important items needed to play.

Purchasing is accomplished through converting real money into virtual currency and then using the virtual currency to shop for digital items. In the case of *Pokémon Go*, the virtual currency sold to players is called PokéCoins, and these need to be bought in

bundles. 100 PokéCoins costs \$0.99 CAD, 550 is \$6.99 CAD, 1200 PokéCoins is \$13.99 CAD, and so on (see Fig. 6). The prices of virtual items are always given in PokéCoins, meaning the player is forced to constantly keep track of how much their PokéCoins are worth in terms of real world money. This becomes more apparent as virtual items ranging from bundles of Poké Balls to a snazzy new shirt for your avatar have prices ranging from 80 to 220 PokéCoins and do not easily map on the set amount of virtual coinage you purchase.

A player can conceivably play *Pokémon Go* without purchasing virtual items, but it's clear that regular players have spent significant amounts in microtransactions. *Pokémon Go* at the height of its popularity was generating \$16 million USD per day from microtransactions (Newzoo). Even though its popularity has been significantly reduced, *Pokémon Go* still generates between \$1.5 to \$2.5 million USD per day in revenue (Newzoo).



Fig. 6 Converting real money into PokeCoins

How can Niantic encourage this level of spending when it gives away so many virtual items for free? I argue that this is due to how the game mobilizes Pokémon's focus on competition and collection. In *Pokémon Go*, Pokémon do not level up through battle like they do in the main series, but instead have their Combat Power (CP) increased with two resources: Pokémon Candy and Stardust. You only obtain these two resources by catching Pokémon. Also, you must use the Pokémon Candy that corresponds with that Pokémon. For example, to level up Pikachu, I would need to consistently catch other Pikachus and use its specific Pokémon Candy. Increasing a Pokémon's CP in the game takes up significant resources. For example, when I chose to increase the power of a Pokémon called Gloom, my collection of Stardust was significantly reduced from 16,000 to a little over 405. *Pokémon Go* sells two items that can only be obtained from the item shop — lures and incense. Lures can be attached to PokéStops and attract more Pokémon at that location for a 30-minute period. Incense performs a similar function but is instead attached to you rather than a static location, meaning that more Pokémon appear close to you. Both items can help speed up the process of gathering the resources you need to build up the power of your Pokémon team, which is necessary if you want to participate in Gym battles.

Gyms are the most prominently featured aspects of *Pokémon Go*, even more so than PokéStops, and are an important aspect of its virtual economy. A Gym, like a PokéStop, is a prominent public landmark like a church, an arena, or a train station, that allows players from rival teams to guard them or takeover. Placing your Pokémon in a Gym can bring you significant rewards, the most important of which are PokéCoins. If

your Pokémon survives for eight hours at a Gym it will earn 50 PokéCoins. This the only way to earn this virtual currency beyond purchasing it with real money. Furthermore, it is only worth it to have such Pokémon in a Gym for 8 hours as this the maximum amount they can earn for your is 50 PokéCoins, meaning you must consistently open the up to see if your Pokémon have been defeated or reached the 8-hour time limit. The more powerful your Pokémon the more likely they'll be able to be at a Gym long enough to help you earn 50 PokéCoins. Attacking or defending Gyms are also a drain on your digital resources as your defeated Pokémon must first be resurrected with Revives, which restore some health, and then complete the healing process with Potions. It often takes multiple Potions to heal a defeated Pokémon, and numerous Revives if you want to bring back all the Pokémon that were defeated when attacking the Gym. This also encourages in-app purchases as more powerful Potions and Revives can be purchased from the game's item shop. |

Furthermore, Niantic has designed Gyms to sometimes be taken over by a “legendary” Pokémon (see Fig.7.) and interacting with these events are the only way to get some of the franchise's most famous creatures. If one of these appears, your phone receives a notification with encouragement to become powerful enough to catch them (e.g. “The Legendary Pokémon Ho-oh has been spotted in your area!”) A time limit is also placed on the appearance of these Pokémon, with some only staying for a period of 30 minutes. Not only that, but these rare Pokémon are often pulled from the game permanently in a matter of weeks. One catch is that you cannot engage these rare Pokémon simply by interacting with the Gym, like you can if just fighting normal Pokémon at the Gym. Instead you need a raid pass. Players can only receive one free raid

pass per day, and furthermore only have one in their inventory at any time. However, you can buy a premium raid pass from the item shop, and there is no limit to how many premium raid passes that you can possess. Legendary Pokémon are extremely powerful, making them difficult to defeat and catch. Buying premium raid passes ensures can ensure you have multiple opportunities to catch these Pokémon.

The use of time limits for rare and legendary Pokémon is a successful strategy to ensure frequent play and increase the chance that players will spend money since the game clearly communicates that they are available for a short period of time. By imposing artificial scarcity, Niantic increases the value of its digital goods and can encourage a more consistent level of player engagement. This can be seen in the Pokémon Go Global Catch Challenge in which players around the world were offered special rewards for catching Pokémon at different tiered levels. The reward for catching upwards of 3 billion Pokémon was unlocking one special Pokémon — Farfetch'd — which up until this challenge, had only been available to players in Asia (Pokémon Go Travel). The ability for North American and European players to catch Farfetch'd directed participation in the event, even though it's clear that it's restriction to Asia is arbitrary. Although the daily active users for Pokémon Go is only five million players, Niantic has the capability of directing these players toward specific goals.



Fig. 7 An example of a Legendary Pokémon

It's clear from studying the gameplay of *Pokémon Go* and its policies that Niantic — and the platforms it interfaces with — get the better share of the deal. Without a significant base of players contributing their time and money, *Pokémon Go*'s value would drop significantly. Players provide free digital labour in the form of bug fixes, setting up new PokéStop locations, and giving feedback, they are only given temporary access to the things they produce or improve while Niantic, Nintendo, Apple, and Google receive a much greater benefit. Furthermore, Niantic uses special events, the limited availability of “legendary” Pokémon, the intense competition of Pokémon Gyms, and other temporal events to create a high level of engagement. A significant amount of in-game resources must be spent by the player to increase the power of their Pokémon and to participate in the game's competitive challenges. The game uses this to encourage microtransactions so that players can shorten the length of time it takes to gather the digital resources to keep collecting and competition. As *Pokémon Go* demonstrates, major platforms are assuming greater control over digital play, setting both the time, place, and price of digital play.

Implications

In both case studies clear differences emerge between *Animal Crossing: New Leaf* and *Pokémon Go*, not only in how these games structure play, but also in how player time is commodified. Whereas *Animal Crossing: New Leaf* finds novel strategies to ensure that players are continually placed in a cycle of collecting, itemizing, and expanding, *Pokémon Go* monetizes itself through a combination of special in-game events and player impatience for obtaining their favourite Pokémon. In both case studies, I've demonstrated

the differing ways *Animal Crossing: New Leaf* and *Pokémon Go* shape their gameplay based on how they sell time to the player.

Animal Crossing: New Leaf is designed to ensure long, steady, and consistent play. It requires a significant investment of time and (virtual) money dedicated to unlocking content such as new game modes, new levels, new shops, and diversifying your range of items and accessories. In addition to taking care of yourself and your home, you're also tasked with managing a town and developing deep friendships with your fellow animal villagers. On top of this the game features holidays and special events as a way to entice continual play as these will often have limited-time only or rare items that you can display in your home. While a F2P game might include these features to increase opportunities for monetization, *Animal Crossing: New Leaf* includes these features to actively increase the total amount of time you have spent playing the game. The game is dedicated to ensuring that you take time, especially as it defers everything to “tomorrow.” As a premium game with high upfront costs it's primary demonstration of value is how much time you have spent playing it. One application included on the Nintendo 3DS — the Activity Log — confirms this. This application tracks the amount of time you spend playing games on the 3DS and how often you play them, complete with ordered rankings based on these two metrics. This is an important source of feedback for prospective players looking to track how much time they have spent playing their favourite titles and whether they were “worthwhile” purchases.

In *Pokémon Go*, the player is encouraged to complete their collections as quickly as possible through the purchase of digital items. Although you can play the entire game for free, it can be difficult to build up the resources or the powerful creatures you need to

capture the game's designated "legendary" creatures. The game deliberately ties this system of catching the game's most desired Pokémon to one that encourages buying premium raid passes and speeding up the gathering of in-game resources. Niantic has also found ways to increase player participation (and thus opportunities for monetization) through *Pokémon Go* Community Days. These are very short events (usually only 3 hours) that take place on a single day of the month and at varying times around the world that give players the opportunity to catch "rare" variants of fan-favourite Pokémon like Charmander and Bulbasaur (*Pokémon Go* Community Day). Due to these continual updates and events, *Pokémon Go* has generated significant revenue (\$2 billion) and currently has 84 per cent of the "augmented reality" game market (SuperData Research). Like other F2P game apps, the game grants only a temporary license to its products to current players, with purchase conferring no permanent ownership. This is despite the demonstrated value that players bring to *Pokémon Go* both in data and revenue. Once Niantic loses the Pokémon license and *Pokémon Go* shuts down, the game content purchased by players is gone forever.

Both games represent divergent trends for their respective companies and the future of the games industry. In addition to its struggles with the Nintendo 3DS, Nintendo also struggled with its Wii U dedicated home console that it released in 2012. The console only sold 13 million units (Dedicated Video Game Sales Units) until its eventual discontinuation in 2016, leading to diminished profits, and significant losses for Nintendo. In response to the failure of their previous home console, but the clear success of the Nintendo 3DS, Nintendo released a hybrid home/handheld console called the Nintendo Switch in 2017. The Switch has seen immediate success with its sale of 17

million units surpassing the Wii U in its first year (Dedicated Video Game Sales Units). With the Switch, Nintendo continues its trend of “reiteration” (Arsenault 112) focusing on releasing new and successful entries in established franchises like *The Legend of Zelda*, *Super Mario*, and *Kirby*, while porting some of the Wii U’s more popular titles to the Switch to even larger sales. Although Nintendo has recently made its own mobile phone games like *Miitomo* (2016), *Super Mario Run* (2016) and *Fire Emblem Heroes* (2017), the Switch represents Nintendo’s bid to keep its premium games business, offering long, engaging videogame experiences that require their hardware to play. As Dominic Arsenault argues in his book on the Super Nintendo, *Super Power, Spooky Bards, and Silverware*, Nintendo is “self-party firm” that unlike Sony and Microsoft sees third-party firms as a necessary evil (and even form of competition) that it tolerates so that it can continue developing and selling its own games (33). The Switch also continues the general trend of handheld consoles replicating the longer play sessions of their dedicated home console cousins (McCrea 390) until they are indistinguishable. In an environment where handheld console sales are diminished compared to the continued success of mobile F2P games, the Switch is meant to preserve Nintendo’s ability to sell premium games, combining the higher end production values of dedicated home console games with the temporal flexibility of portable play.

Pokémon Go is part of the continued platformization of the games industry. Building on Anne Helmond’s work on platformization of web applications, David Nieborg and Thomas Poell define platformization as a process that sees “the penetration of economic, governmental, and infrastructural extensions of digital platforms into the web and app ecosystems” that transforms the products of those ecosystems into

“contingent commodities” (Nieborg and Poell 1). *Pokémon Go* is a very contingent commodity, constantly changing itself based on intensive user data analysis. As Nieborg and Poell argue:

As cultural producers are transformed into platform complementors, they are incentivized to change a traditionally linear production process into an iterative, data-driven process, which is constantly altered for platform distribution and monetization (13).

F2P mobile games are completely dependent on the tools and services offered by major platforms like Apple and Google, and are frequently updating their games to not only increase user retention but to keep up with shifting platform standards, many of which are quite opaque (Nieborg and Poell 14). Niantic was well positioned to take advantage of the unique technological affordances in the F2P videogame space having begun life as a company called Keyhole that was eventually bought by Google and helped them make Google Earth, before spinning off as its own entity to make GPS and augmented reality focused AR games. This is an important aspect since F2P games exhibit strong “winner take all” effects, with only a few titles generating most of the revenue (Nieborg and Poell 12). The relationship between temporality and games will only continue to increase as games are continually changed to meet the demands of changing algorithms and a volatile base of users, which app developers must be able to keep invested in a game to increase opportunities for monetization. As a completely contingent commodity that is continually updating features and content, *Pokémon Go* exerts further pressure on players to take advantage of new features, content, and crucial events

Conclusion

In 2013, the then newly formed game studio Fullbright released *Gone Home*, a first-person narrative game that sees you exploring your family's new house to learn why no one is there. While it was well-received, the game was savaged by multiple anonymous users on websites like Metacritic. The central reason cited for attacking the game is that it can be completed in two hours and that this did not justify its \$20 USD price. In 2016, the small UK game studio Hellogames released the procedurally generated space exploration game *No Man's Sky*, which promised players that they could visit up to "18 quintillion" planets. The game was attacked for not providing the "endless" entertainment that gamers felt they were promised, with one person demanding a refund even after they played it for up to 72 hours (Parkin). What these two stories illustrate is the degree to which time has been so internalized as the primary metric of value for a game. This emphasis on time is not accidental but has been deliberately cultivated by the games industry.

I have examined the ways that videogames commodify time. It began with arcade games that monetized themselves through time limits and strict challenges and this evolved into longer games for home consoles and portable gaming devices that took advantage of the interstitial moments of a person's day. While premium-priced products helped create a stable two-sided market (Nieborg 226), this was eventually challenged by the rise of casual and F2P mobile games, which were sold based on their flexibility in both their price and their expectations of a player's time. Throughout this major research

paper, I have drawn on theorists like Carly Kocurek, Shira Chess, Sarah Sharma, Mia Consalvo, Judy Wajcman, and Vincent Mosco, to discuss the historical, social, and economic ways that time has been developed and sold as a commodity, especially within the games industry. I critically analyzed the way time is unevenly distributed and how unproductive leisure time is converted into entertaining and productive leisure by the games industry. Drawing on a combination of critical political economy and textual analysis, I performed a comparative analysis of *Animal Crossing: New Leaf* and *Pokémon Go*, revealing the divergent ways, in their production, distribution, and consumption that they commodify time. *Animal Crossing: New Leaf* was specifically designed by Nintendo to foster a long-term engagement and sold on the basis of the how many hundreds of hours a person could spend playing the game. *Pokémon Go* is the opposite in so far as it encourages players to move through the game as quickly as possible to finish their Pokémon collections, rationalizing the experience of playing Pokémon into easily monetized parts. While Nintendo continues to try to hold on to its premium business with the Nintendo Switch, *Pokémon Go* represents the continued platformization of games as contingent digital commodities.

One of the most intriguing stories from Sarah Sharma's *In the Meantime* is an encounter she has with a game developer who criticizes her and communications scholarship in general, for taking a critical view of ICTs and going so far as to say that being a "liquid man," a term appropriated from the sociologist Zygmunt Bauman, is desirable to him (27-28). As Sharma goes on to demonstrate, while one person is catered to and has the world adjusted so that they can benefit from an accelerated technology oriented lifestyle, others are forced to give up their time to accommodate them. It's

interesting nonetheless to see a game developer adopt an ethic of contingency in their own lives that is increasingly defining digital play. Videogames themselves continue to shift and change how they commodify time, building in systems of contingency, precarity, and harriedness that mirror the lives of their intended audiences. Future work should continue to closely study how time is measured and used by the games industry, further uncovering the material realities that underpin its use time as the primary metric of value. My comparative study of *Animal Crossing: New Leaf* and *Pokémon Go* has demonstrated that there is a need to imagine an alternative future for games — one that goes beyond the commodification of time.

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