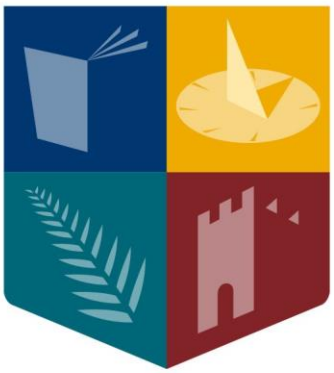

Maynooth University
National University of Ireland Maynooth

An investigation into how distributed creative communities engage in the creative process through a quantitative and qualitative analysis of Twitch Plays Pokémon's narratives.

John Kirwan

A thesis submitted in partial fulfilment of the requirements for the degree of PhD

Maynooth University Department of Media

February 2024

Department Head:

Dr. Sarah Arnold

Supervisors:

Dr. Jeneen Naji

Dr. Stephen O'Neill

Dedication

Dedicated to family, friends, and colleagues who got me over the finish line.

To my parents, Rock and Toni, who filled the house with books – I told you I wasn't playing Pokémon too much.

To Dr. Kavanagh who helped me navigate Maynooth University.

To the department of media, particularly Dr. Naji and Dr. O'Neill, for helping throughout the process.

And

Most importantly to Caitriona - you will not have to listen to theories of narratology or creativity half as much going forward.

Contents

List of Figures

List of Tables

Abstract

The aim of this thesis is to examine *Twitch Plays Pokémon* as an example of an online community engaged in distributed creative practice and to explore their creative process and the ways in which they understood the narratives that emerged from their creativity. How online communities engage in the creative process, and how individuals interpret their community's creative work are important to understand, as internet communities have become increasingly prominent in people's lives and artistic development.

Twitch Plays Pokémon (TPP) was a digital community that played the game *Pokémon Red* online in 2014, and during the sixteen days of play, they developed fiction and narratives to rationalise the events of their play in a distributed creative process. Through analysing these narratives and examining the development of particular elements over time, this thesis aims to further our understanding of the social processes of creativity and how individuals interact with a broader creative community when faced with conflicts. To reinforce the qualitative analysis provided in this thesis quantitative analysis of the corpus of comments from Twitch chat and Reddit highlight trends within the data.

This thesis makes use of theories of distributed creativity (Sawyer and DeZutter, 2009), the role of conflict in creativity (Rank, 1989), the narreme[1] (Hills, 2002) to form the creative engine model to explain the distributed creative process. Narremes are combined with the concept of hyperdiegetic narratives where much of the narrative is formed by the reader (Bronwen Thomas, 2011) to explain how individuals understand the creative work of their community. Through this analysis, this thesis identifies a simple creative process that shows how a narrative emerges as well as how individuals understand the broad and contradictory interpretations. The creative model may aid in studies of other distributed creative groups, and the narremes interaction with hyperdiegetic narratives provides a model for understanding how an individual forms a complete narrative from the creative work of a distributed creative community.

[1] The basic unit of narrative structure.

Introduction

The aim of this thesis is to examine an online community that engaged in distributed creative practice to explore both how the community engaged in a creative process and how individuals understood the conflicting narratives that emerged from their creative process. To explore *Twitch Plays Pokémon*, the community, and narratives of *Twitch Plays Pokémon* (TPP) are explored, theories on creativity such as Amabile (1988, 1996), Rank (1989) and Literat (2012) are studied, and the community's creative outputs are examined. TPP provided a useful community to study, as its short duration presented a clear framework to focus the study on a particular timeframe and a particular community. Online communities are increasingly core to how people experience the world, especially with respect to how they practice creativity. Understanding the motivations and methods of online creative communities is needed to further understand how people engage artistically with a networked world.

When I went to university, I wanted to study creativity in any way that I could. I encountered TPP at the same time as I was applying to universities and I noticed how it was both unique and a microcosm of other online creative communities that I was familiar with. My previous work in film and theatre exposed me to the complexities of creative communities, such as identifying where an idea came from and why some ideas captured people's attention and others disappeared. It has been my hope that, by better understanding what creativity was and how people engaged with it, it would help in making my own creative process easier to engage in. From the art and writing that was developing in the TPP community, it was clear that TPP was engaged in a creative process and had developed emergent narratives despite the community's original intent only being to complete the game as a community. I came to consider that TPP was worth examining, as it was a public expression of creativity that was a model for how we engage in creativity in an increasingly online world.

TPP (TPP Community, 2014) was a 2014 experiment and social media phenomenon that developed a community that engaged in distributed creativity. TPP was a streaming channel on the

twitch platform[2] where all watchers of the channel could control a single game of *Pokémon Red* (Tajiri, 1996) by inputting commands (left, right, up, etc.) into the channel's chat window. Links to the twitch channel quickly spread across social media, both drawing in users from other sites and establishing communities on those same sites. The large number of channel watchers[3] playing the one game simultaneously created a slow, chaotic, and unpredictable mode of play that would be called anarchy by the creator of the channel. As the community played, they began to create a narrative that fictionalised the events of this unique way of playing Pokémon Red. TPP's original playthrough took sixteen days (Twitch.tv, 2014) and left behind a wealth of preserved data (Internet Archive, 2014a) that recorded their play and art, as well as revealing the fractured fiction of TPP. This involved a conflict between anarchy and democracy and religious aesthetics and framed the community itself as an otherworldly external force.

While TPP can be modelled in a number of ways, for the purpose of this study, it is being examined as a creative community and then through the narratives that the community created about itself. Examining TPP through narrative analysis supported by quantitative methods can help deepen our critical understanding of how this community operated and formed narratives and provide further insights into how and why communities engage in creativity online. The value of such knowledge is clear now that the online medium is the main locus for much of humanity's art, creativity, and community activities. Additionally, insights into the distributive creative process may provide insights and understanding into how individuals perform creativity.

Chapter one begins with an overview of TPP in all its component parts, the community, the narratives, and the available data. TPP comprises of the game Pokémon Red and the streaming site Twitch.tv. The TPP community involves a variety of websites that were used during the community's period of play for discussion and hosting their content. A timeline of events and a brief explanation of what happened after the TPP community beat Pokémon Red are provided. A description of the community as it spread across social media helps in situating the ways in which an individual could become involved in the TPP community, as well as the different roles within the community, will provide an understanding of the phenomenon. As a community distributed online, the

[2] Twitch.com is a website where live video (a stream) can be watched live. This has most commonly been used by individuals to demonstrate their play in video games, but has many other potential uses due to how individuals can engage with the video content while events unfold.

[3] 100'000 concurrent players(Hollister, 2014), with additional nonparticipating viewers.

TPP community is comprised of individuals with different motivations, and lacks top-down authorial authority; instead, TPP relies on peer-to-peer processes to author narratives. This results in creative works that are connected as part of the community's broader narratives but can also tell contradictory narratives, allowing members of the community to have notably distinct narratives from other community members.

The major narratives will then be presented as prose and separated according to an alteration to Genette's narrative levels (1990) which define the relations between narratives: the ludic narrative, with the definite acts that occurred while the community played TPP; the discursive narrative, which is concerned with how the community interpreted events and the community's actions; and the fictitious narrative, which is concerned with the actions taken by the characters in the community's game of *Pokémon Red*. This separation is important, as attempting to describe and explain all three narratives concurrently is not a comprehensible approach because of the mixing of gameplay, discussion, and fiction because the TPP narratives were not narratives that were intended to be comprehensibly communicated but rather emerged from the natural course of play and the discussion within the community.

Finally, the corpus of data from TPP community discussions and chats is analysed to explore the overall trends within the community. Online creative communities potentially offer new methods for building on the insights of qualitative methods through data analysis of the large amounts of user discussions. As a social media community, TPP created a large amount of data that remained accessible. While some of the data became inaccessible due to data decay or changes to social media platforms, with Twitch and Reddit data, it became possible to accurately examine how much engagement there was over time, how prevalent particular narremes (Rosenbaum and Semiotic Society of America, 2019) were, and the impact of different events on both engagement and narreme engagement. This allows this study to determine more factually how the community acted rather than to rely on the most popular narratives that the TPP community stated about itself.

In Chapter Two, the literature review explores the question of 'what is creativity?' The definition of creativity can be addressed through the work of Amabile (Amabile, 1988, 1996), through descriptions of distributive creativity (Sawyer and DeZutter, 2009), through discussions of how people practice creativity through digital remixing (Knobel, 2017), and the nature of conflict in art between the

individual and the community (Rank, 1989). While the question of what creativity has long been a cornerstone of art and philosophy, as a modern topic of study, the question of creativity became a particular focus of attention when J.P. Guilford stated:

> "Creativity refers to the abilities that are most characteristic of creative people. Whether the individual who has the requisite abilities will actually produce results of a creative nature will depend upon his motivation and temperamental traits. The creative personality is then a matter of those patterns of traits that are characteristic of creative persons...which include such activities as inventing, designing, contriving, composing, and planning" (Guilford, 1950 p.444).

While the definition of creativity is important and far reaching this question has filled entire careers on its own, for the purposes of my study, Amabile's definition of creativity has been chosen as the basis of this thesis' definition of creativity. This is because it is a synthesis of definitions over time that accounts for these questions. The definition used here is based on products and ideas: "creativity is the production of novel and useful ideas by an individual or small group of individuals working together" (Amabile, 1988). Creativity is an immensely complicated term to define and has been explored in psychology, business studies, and sociology due to creativities broad reach across human experience. However, this study aims solely to understand a community engaging in developing and appreciating emergent media narratives. The work of scholars in other fields provides a framework to define the phenomenon of creativity, but this thesis does not focus on the psychological frame or a business frame beyond what is useful to understanding the TPP community. This thesis is concerned with distributive creativity as an emerging artistic trend that is part of the broad field of the humanities. TPP is a text, a complex and multimodal text with a brief and complex community that creates narratives on the fly, but TPP is a text all the same.

There is a dichotomy that complicates the definition of creativity, which is should the creative process or the creative product be the focus of the definition. This dichotomy is in some ways irrelevant when dealing with a digital community that performs creativity publicly and in real time while sharing their creative products as an essential component of their creative process. When we define creativity, the motivations of individuals in creative communities can then be explored in terms of how they relate to TPP (Adler and Chen, 2011), and TPP as a creative community can also be contrasted with the findings of researchers who have studied more traditional creative communities (Bennis and Biedermann, 1997). An overall exploration of creative models will help indicate where the creative engine model's approach is building on prior theories, and an exploration of the role of conflicts in creativity both between the individual and the collective (Rank, 1989), as well as when and what

forms of conflict lead to productive outcomes. In the case of TPP the internal conflict between anarchy and democracy faction, and the conflict between the individual and community form the most important conflicts for this study.

Chapter three, the literature review of narratology, establishes the narratological theories that are vital in describing what narratives exist about TPP, i.e. how they were experienced and understood by TPP Community members. The narrative of TPP is also fractured in ways that require the use of narrative frameworks to be understood correctly. TPP has narratives around its gameplay and discussions in addition to its fiction, which are best divided to provide a better understanding of events. Narrative levels (Genette, 1990) is an analytic concept used to define the relationship between narration and the acts being narrated. The TPP narratives are made of building blocks that are related but not necessarily reliant on each other called narremes (Rosenbaum and Semiotic Society of America, 2019). A narreme is the basic unit of narrative structure and is helpful in describing how community members use small narrative elements when imagining the complete fictional narratives. This process of using these narremes to form a coherent complete narrative is a process called hyperdiegesis.

The literature review concludes with an exploration of metamodernism, with particular attention to the concept of metamodern oscillation (Baciu, Bocoş and Baciu-Urzică, 2015, p. 35; Akker, Gibbons and Vermeulen, 2017, chap. 1). Oscillation refers to the tendency of metamodern creative works to oscillate between modern sincerity and postmodern scepticism. While not initially relevant to the research question, metamodern oscillation helped guide the creative engine model that concludes this thesis. Additionally, metamodern oscillation is a useful framework for understanding how narremes are experienced by members of the TPP community.

In Chapter Four, the creative engine model is explained, and examples are provided from the TPP community. This model posits that in distributed creative communities, conflict and obstacles during the pursuit of community's shared goal encourages creativity even if that creativity does not overcome that obstacle. The model is examined by exploring five particular prominent narremes. Narremes in TPP emerged from the community encountering obstacles in the gameplay that would drive discussion, discussion would then fictionalise the gameplay challenges into a narreme. In turn, over time, the narremes of the fiction drive discussion and lead to gameplay decisions. These

narremes are examined through the lens of metamodern oscillation to demonstrate the many ways in which they are interpreted. Furthermore, an example of how an individual player would form a hyperdiegetic (Knaggs, 2011) narrative from the TPP narremes (Hills, 2002) is demonstrated to illustrate how an individual could interact with the community.

The conclusion summarises what has been learned about the creative process through examining TPP as a distributed creative community, as well as insights into how the TPP community understood the emergent narratives of their creative works. Potential future research that could develop the creative engine model and the study of online distributed communities is discussed alongside the issues and limitations faced by this study, which could be addressed by future research.

1 – What is Twitch Plays Pokémon?

Twitch Plays Pokémon's unusual nature can best be summarised by an anonymous comment on 4chan during the middle of the community's play.

">45k+ people just staged a micro protest by repeatedly voting for a passive action on a online cooperaviely controlled japanese rpg from '96 in order to change the method of control

Living in the future is weird" (Anonymous, 2014).

This comment highlights why a description of what TPP is necessary before undertaking a literature review, as when I first encountered TPP while it was being played, it was not clear exactly what it was. TPP can be seen as belonging to different mediums, leaving an incorrect idea of what it encompasses. TPP consists of a game, streaming, and social media; however, none of those mediums fully encapsulate TPP. The simplest explanation of TPP is that it was a video stream where viewers collaborated to play the game *Pokémon Red*. The TPP *Pokémon Red* video stream is preserved with slightly more than two weeks of recorded play. This thesis will approach TPP as a community engaged in creative play so that we can come to understand the distributed creative process. Members of the TPP community are individuals who engaged in one or more of the following during the period where TPP played *Pokémon Red*: watching the stream, playing the game, engaging in social media discussions, and creating or sharing creative works inspired by TPP.

1.1 – Description of Twitch Plays Pokémon

Twitch Plays Pokémon is a channel on the website Twitch.tv[4], where viewers of the channel have control over a Pokémon game by entering commands into the channel chat room. The video, chat stream and community remain active as of August 2023. The original game played on the channel in February 2014 was Pokémon Red. Over 16 days and 7 hours, 750,168 people participated in playing Pokémon Red by inputting at least one comment into the chat, with approximately 40 million total comments in the twitch chat.

The people playing Pokémon Red on the TPP channel created communities on other social media platforms to make plans and collaborate more effectively as well as discuss events happening in the game. During the TPP community's interactions and discussions on Twitch and other social media community in-jokes started to form around the nonsensical events in the game. The developing TPP community's in-jokes would soon be reinterpreted by the community, and a fictional narrative began to take shape; for example, the unintentional attempts to use the helix fossil was jokingly responded to with 'Praise the Helix', which would develop into a stand-in or allusion to Christian churches (Ramirez, Dietmeier and Saucerman, 2014, p. 4; Dou, 2017, p. 39)

This fictional narrative lacked an authorial authority that could decide what events were canonical and, consequently, can best be understood as 'fan-authored, exemplifying fans as creator-consumers' (DeAnda, 2023, p. 235). As a consequence, the community was divided, and there were contradictory interpretations of events greater narrative meaning. However, the basic events and characters of the narrative were more concretely defined, as they were derived from the objective events of their gameplay in Pokémon Red. Despite the characters and events having an objective reality, the narrative elements the community created were highly subjective. An objective telling of the story would be mostly a list of events and times at which they occurred lacking in any real humour, pathos, or bathos.

In the narratives created, the TPP community itself was typically characterised as the antagonistic hivemind, an embodiment of the community's chaotic actions and fractured aims. This hivemind became divided over the political and religious ideas they developed, which they described

[4] https://www.twitch.tv › twitchplayspokemon

as democracy and anarchy, each being associated with a fossil that is treated as a deity by the community, the Dome, or the Helix. This dichotomy forms the core conflict that most narrative interpretations became concerned with, and both originated with the different philosophies of play and modes of participation in TPP. What we see at play is a microcosm of digital societies that can be usefully examined to gain knowledge about how we collaboratively story in online spaces. By understanding how we collaboratively tell stories, we may be better able to build creative spaces and understand how people create their personal narratives from what is seen online.

Twitch Plays Pokémon (TPP) is composed of many different elements, a twitch channel, and a community, and built on a foundation of the game Pokémon Red, which was streamed to the Twitch platform and discussed on various social media sites. To fully understand the complexity of TPP, grounding each individual element that comprised the original TPP event is useful. This description demonstrates how the collaborative creative community emerged and then developed narratives through discourse.

1.1.1 – Gameplay of *Pokémon Red*

Pokémon Red (Tajiri, 1996)[5] was developed by Game Freak and was the game that TPP played as a community[6]. The game was initially released for the Gameboy, a portable console developed by Nintendo. The game has a simple story, with the player travelling to different towns through the wilderness where they encounter new Pokémon and when in towns talking to various local people to learn more about the world.

Pokémon Red follows the player character, who is usually called Red by convention as the protagonist can be named by the player. Red is ten years old, and so is old enough to set out on his own Pokémon adventure as a Pokémon trainer. The word Pokémon is short for Pocket monster.

[5] Terms related to the game Pokémon Red are included in the glossary.

[6] *Pokémon Red* is one half of a pair of games that in Japan were called *Red & Green*, and *Red & Blue* in the rest of the world. The initial pair of games was later joined by a third game called *Pokémon Yellow*. They are typically referenced and *Pokémon Red & Blue*. Despite there being three different games, all three have the same basic gameplay and story with only minor differences mostly in the Pokémon creatures available in the game. Pokémon Yellow has some story changes inspired by the anime that followed the first two games, but the basic narrative events remain the same.

Pokémon are creatures that are found in the wild and are similar to real-world animals or objects, but they are associated with a broad range of elemental types (fire, grass, rock, fighting, etc.). The best-known Pokémon and most easily recognizable as the franchise mascot is the Pikachu species, known as the electric mouse, which has real-life inspiration from mice and is a type of Pokémon that uses electricity. Pokémon are caught by Pokémon trainers on their adventure in a Pokéball, which shrinks the Pokémon to be pocket-sized for travel, thus the term pocket monster. Notably, this capture is typically characterised as Pokémon becoming willing to accompany a strong trainer in hope of becoming stronger and becoming friends. The player can obtain as many Pokémon as they wish throughout the game, with a secondary goal being to 'Catch them all!', as the franchises' marketing slogan proclaims. The player is given a Pokédex to record Pokémon details and their first Pokémon, or starter Pokémon, to aid in the task of the player's adventure (Hollinger and Ratkos, 1999; Laato and Rauti, 2021)

Although the game world shows that Pokémon are helpful in daily life, the games focus is on Pokémon battles. The basic gameplay loop in a Pokémon game is that the player sets out to travel to a new town so that they will face both aggressive wild Pokémon and other Pokémon trainers who wish to battle the player. Defeating another trainer rewards money, the potential reward for battling wild Pokémon is to try to catch the Pokémon and 'exp' (experience) that levels up the players Pokémon, making them stronger. If the player loses a battle, they return to the previous town's Pokémon Centre, a location where Pokémon is restored to full health before restarting their journey, having lost a percentage of their money but hopefully now being strong enough to progress (Laato and Rauti, 2021).

In the next town, there is usually a Pokémon Gym to challenge and/or the criminal organisation Team Rocket to foil. Typically, there will be an obstacle preventing progress until the Pokémon Gym and/or Team Rocket are defeated. The final aim of mainstream Pokémon games is to defeat the Pokémon League once all eight Pokémon Gym badges have been acquired and after defeating the Pokémon League, the player becomes the Pokémon champion of the region. As Pokémon champions, the player can continue catching Pokémon to collect research data on all Pokémon available, a task that requires trading with another player who owns the paired game *Pokémon Blue* (Mallindine, 2017).

In the narrative of *Pokémon Red*, the player character Red is given a Pokédex and a starting Pokémon by Professor Oak to document the Pokémon encountered. Professor Oak's nephew, Blue, selects a starter Pokémon that is strong against the players Pokémon and appears throughout the game at inopportune moments to battle and antagonise the player. The player journeys to defeat the eight Gym leaders, who provide a badge showing progress and allowing the player to use further abilities, thus allowing the player to use stronger Pokémon and moves to allow the player to continue their adventure, such as Pokémon being able to move boulders.

As players travel, they encounter and foil criminal enterprises via defeating Team Rocket, which aims to use Pokémon cruelly for profit. The last gym leader is revealed to be Team Rocket's leader and, upon defeat, disbands Team Rocket, resolving that secondary obstacle. The player proceeds to the Pokémon League to beat The Elite Four and become champion; however, they were just behind their rival Blue. In a climactic battle, the player defeats their rival a last time and becomes the Kanto region Pokémon champion.

Pokémon Red was a major success, selling 3 million units in three months (Tobin, 2004, pp. 4–6) and becoming the top grossing global franchise[7] (Jones, 2019; Laato and Rauti, 2021). Since its release, Pokémon has become the highest grossing media franchise globally (Godfrey, 2019; Talaviya, 2019). *Pokémon Red* would lead to comic books, toys, spin-off games, and a series of animated shows that continue today. As expected for any modern franchise on this scale, there is an abundance of fan-created content.

A particular form of fan-created content that is relevant to TPP is ROM-hacked games. A ROM (Read Only Memory) emulator is a piece of software designed to allow games to be played on hardware; it was not designed to run on, typically a PC or phone, which can be illegal (Harding, 2018). The ROM emulator Visual Boy Advance (VBA Team, 2005) was used to run a *Pokémon Red* ROM on a PC instead of a Gameboy so that it could be streamed to Twitch and receive commands from the viewer chat room. This illegal method of playing *Pokémon Red* was crucial to the playability of TPP through Twitch streams chat.

[7] During its first 23 years of operation, the Pokémon franchise grossed over 90 billion USD making it the most profitable cross-media franchise of all time (Laato and Rauti, 2021).

1.1.2 – UsingTwitch.tv

Twitch.tv (referred to as Twitch hereafter) is a website that was designed for streaming video. While the video being streamed can have any content or format, the most prominent and successful is the streaming of individuals playing video games where part of the content is seeing the gameplay and part is the personality of those playing the game. Twitch also contains a chat feature where viewers can communicate with the streamer or each other. The video streaming and chat aspects of Twitch were vital for TPP to work.

TPP occurred in 2014 when streaming games were still a growing entertainment market compared with the success video game streamers would have in the following decade. TPP is a significant reason why Twitch, as a platform, has become recognised as valuable for streaming (Eadicicco, 2014) because of the volume of viewers Twitch has shown that it can handle, and the level of engagement that TPP has demonstrated is possible.

Importantly, TPP differs significantly from the most well-known content in that the Twitch platform becomes known in three major ways. First, the streamer did not play *Pokémon Red* but hosted the game and designed the software that allowed the viewers to control the game. It was viewers who were controlling the game by inputting commands to the Twitch chat were able to play the game collectively. Second, the main interest for the audience was to see if they could complete the game—it was not initially apparent to the TPP community that completing the game was actually possible. While other streamers have had goals such as total completion of *Donkey Kong 64* (Tannam, 2019) or completing a game at the fastest time, these streams are often performed for charity purposes (Sher and Su, 2019), and it is unusual for the community around a stream to have a specific shared goal aside from watching the stream, unlike the TPP, where the goal is for the community to win the game.

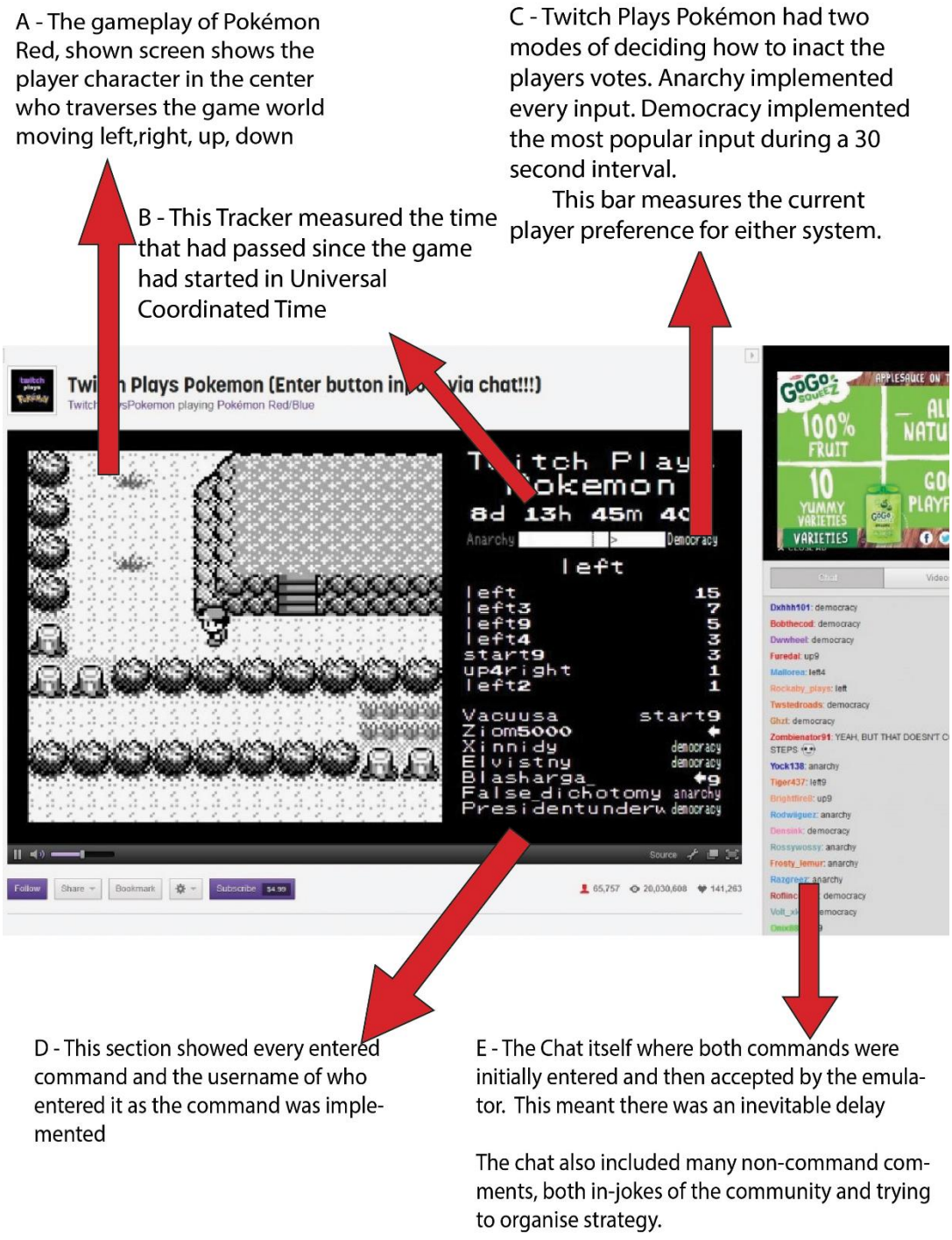

Figure 1 – A screenshot showing how Twitch Played Pokémon appeared to viewers.

The figure above provides an overview of how the TPP channel works. The streamer had an instance of *Pokémon Red* emulated on their desktop using Visual Boy Advance; the video of this game was then streamed to Twitch, allowing the game to be seen. Each Twitch stream has a

dedicated chat for viewers to comment; in the case of TPP, viewers can input commands (Up, Down, Left, Right, A, B, Select, Start) through the twitch channel chat. The commands are sent to the emulated *Pokémon* game in which the streamer is running and implemented. The comments were extremely fast paced with almost thirty each second[8].

Through this method, the viewers watching the TPP stream were able to play *Pokémon Red* collectively, although there was a stream lag of approximately 20--25 seconds because of how Twitch streamed video meant that the players were often responding to events that had already occurred (Saltarin, 2014). This 'Twitch Plays' method of play is designed for a chaotic and slow gameplay mode that becomes known as anarchy while making Twitch chat difficult to use for discussion because of the volume of commands. With Twitch reporting that there were in total 55 million views of the stream, with 120,000 concurrent views TPP demonstrated to the streaming site that the entire chat system had to be reworked (Furtner, 2017, p. 28).

In the rest of this chapter we will look at TPP as a community, as narratives, and what can be learned from the available data.

[8] Total seconds recorded-1,388,940 Total Comments- 39'599'436 Comments per second-28.5. The twitch chat could show only 30 comments at a time and updated with each new comment if it wasn't fixed in place. See table 3 for full details.

1.2 – The Structure of the TPP Community

As a community TPP was distributed across multiple websites and comprised of a variety of individuals who had different motivations, many individuals were drawn to the novel, others nostalgia (Furtner, 2017, p. 16; Mallindine, 2017, p. 125), and some found TPP to be a creative outlet. How these individuals and websites interact with each other can help our understanding of what drove the distributed creativity of the community. Furthermore, we can explore the ways in which the TPP community, as a distributed creative community, resembles the traits of more traditional collaborative creative communities examine how distance and technology have caused the two forms of community differ and/or resemble each other.

The TPP, however, was not only a video and chat stream on Twitch but also a community that formed around the twitch channel across many social media websites. To participate in the TPP community, an individual could play the game, discuss events, and create creative work. Participation in the TPP community did not require participation on a particular social media platform, be it Twitch or Reddit, this allowed many to engage with the TPP community in the manner they preferred.

In this, we can see how TPP was operating as a distributed creative community. According to Sawyer and DeZutter (2009, p. 82), distributed creativity refers to “situations where collaborating groups of individuals collectively generate a shared creative product”; they further refer to the creativity of unconstrained groups as collaborative emergence. It is accurate to refer to the TPP community as a distributed creative community, as it is distributed by nature both in the real-world locations of its participants as well as in its online community, which exists on multiple social media platforms. The community became more creative as it grew and attracted more members who could specialise in their existing skills in prose, artistry, music, and humour.

This section is concerned with three questions: what websites made up the TPP fandom and how were they governed? What type of creative community was the TPP community and, more broadly, the Pokémon fandom? Who participated in TPP, how were they motivated, and in what ways did they contribute to the event as a whole?

The TPP, as an event, occurred over multiple websites and had many forms of participation. This is not unusual for a modern online event, but it is important to establish the roles that different

websites play in organising the community and shaping its development. Furthermore, it is important to understand the different websites' choices in how they 'governed' their part of the TPP community and how they impacted discussion, creativity and minimised splits in the fandom from derailing the efforts to win the game.

With the websites described, the next question is to address what kind of community TPP was? TPP and the Pokémon fandom as a whole are both well-grounded in remix culture, which creates much of the content for the fandom. This is not unusual for fandoms; however, the breadth of the types of remix and media involved is quite significant. Tied to this question is describing the types of participants, as are how they interact with both TPP and each other. This will involve discussing the types of involvement, the anarchy vs. democracy split, and then the different figures involved in the governance of the community from the original TPP Streamer to the various moderators.

1.2.1 – Websites of the TPP Community

One reason why Pokémon has become such a pervasive force in society is its characteristic ability to build and foster community (Elza, 2009; Diker and Taşdelen, 2018, p. 299), this is a narrative told both in the games and by the games (Laato and Rauti, 2021). The main components of Pokémon video games are 1) collecting Pokémon and 2) the Pokémon battle, both of these are facilitated by having a community by the ability to link the games, and it is these components that help drive the community's ability to foster a community. The importance of interaction within the Pokémon franchise manifests in the form of widespread community building. Online battling competitions, sponsored events at gaming stores, and community-driven websites give fans and players physical and virtual spaces to meet, trade strategies, and share their love of Pokémon (Elza, 2009; Furtner, 2017, p. 33; Stalberg, 2021).

In the case of Twitch Plays Pokémon, the various sub-communities that sprang up on social platforms throughout the stream—and the relationships that those communities fostered—have greatly contributed to the experiment's rapid rise in popularity and diffusion in virtual space. As people with similar interests formed places in which to share TPP content, it increased the likelihood that such content was passed around among individuals and created virtual echo chambers that amplified

the effects of exposure (Lule 2016). TPP had further advantages in the speed at which it could spread as Furtner elaborates ‘the popularity of video games and streaming websites, the growing phenomenon of virality, and the universality of Pokémon as a genre’ (2017, p. 69)

The core of *Twitch Plays Pokémon* was the Twitch page that hosted the stream; it is from this site and page that the community organises. This page primarily functions to play the game and provide basic information. Individuals browsing Twitch find the stream and then link to it on various social media sites, bringing in new participants. As the number of participants increased, the ability to discuss play through twitch chats decreased significantly. Consequently, discussions of the stream migrated to social media sites, which brought increasing attention to the stream from each social media site. Increasing attention has spread the TPP stream to other websites and news sites as it has garnered attention. Both the majority of the video and chat data from the TPP are well archived and readily accessible.

Moving to the next orbit from Twitch.com is the collection of websites that are the main hubs for discussion, which can be split into two separate groups. The first group consists of established Pokémon fandom forums, sites that are wholly dedicated to the Pokémon franchise and the fandom (Merrick, 1999; Smogon, 2021). Many original Pokémon fandom forums are older sites often considered Web 1.0, which are founded by fans who are subdivided among the community’s different interests, collectables, competitive battling, animated shows, etc. Many such forums involve the most dedicated and knowledgeable members of the Pokémon fandom.

The second group of sites are the large social media sites of Web 2.0, which provide a place for a broad array of communities to gather around a particular topic and have larger communities, unlike forums, which also typically structure discussions with likes, re-blogs, and similar algorithmic methods rather than the simple chronological order of forums. 4chan, tumblr, Twitter, and Reddit all served to spread awareness of TPP to a broader audience and provide places for discussion of what was happening in the game and the lore, including strategizing how to proceed. The main fan communities and hashtags on these sites are intended for the broadest possible audience of Pokémon fans in comparison to fans who would participate in a dedicated forum, as the site algorithmic structure would expose popular TPP community discussions to an audience that was not specifically seeking Pokémon content.

4chan was the first known site to mention TPP outside of twitch on its dedicated Pokémon board /vp/ (Furtner, 2017, p. 27). 4chan continued to be a site for discussion and had an impact on TPP. However, while 2014's gamification would demonstrate that the site still had a major impact on internet discussions, 4chan's central relevance to internet culture had already declined by early 2014 (Chen, 2012). As a result, 4chan's involvement did not lead to significant disruptive behaviour, as might be expected. 4chan regularly deletes inactive discussions, and a search of a variety of 4chan 'archives' shows no discussion before April 2014 (4chan, 2022), two months after TPP *Red* concluded. Leaving any concrete analysis of the site's discussions reliant on screen captures and other sites discussing what 4chan was doing.

Tumblr is a well-established social media site that is better preserved but does suffer from a significant issue due to its poor archiving and searchability. It was not a site that was particularly well suited to strategic discussions; however, it was very effective for artists sharing their artwork on their personal tumblr blog, as 4chan was anonymous and reddit linked only to external images. Unfortunately, it has been difficult to search for specific topics and times and has suffered significant deletions of content and accounts since 2014. Since 2014, poor archiving has left advanced Google searches as the best option for finding content about TPP, which is less than ideal for gathering data.

Twitter in 2014 still had a 128-character limit, which meant that the site was effective at spreading immediate information about the TPP but was possibly the worst site for discussions about strategies or fiction about the TPP. Therefore, Twitter was not able to serve as a major hub of discussion. Twitter is easier to search for and access than tumblr and better archived, although it is still vulnerable to the issue of data decay from users deleting their accounts and past tweets and the expense of accessing its application programme interface (API).

Many of the community discussions and organisations occurred primarily on reddit. As a link aggregator, Reddit was designed to pull together content from other websites into a single location, allowing content from other sites to be readily distributed through the dedicated r/twitchplayspokemon community. The ability to upvote and downvote could function as an inbuilt way to promote the strategies and decisions the community favoured before they encountered challenges in the TPP stream. The ability to organise discussions by the best or newest comments provided an efficient platform for keeping track of popular discussions or catching up on current developments. For the

purpose of exploring how the TPP community discussed topics, Reddit provides our richest source due to both good archiving with appropriate metadata and a relative lack of data decay owing to community archiving (Jason, 2022).

Outside the first orbit or websites, we hit the tertiary sites that served to bring attention to the TPP community as well as expand its presence. There are three particular groups of websites to look at this level, all of which have content related to the TPP community or creative work but are not intended to be a part of the discussions or TPP community as a whole. The first of these are news and magazine sites that reported on TPP. The TPP community wikis (Helixpedia, 2022; twitchplayswiki, 2022) are hubs that are useful for people new to TPP to catch up on information and the story of the TPP. The third group includes sites that host artwork, music, fiction, and other creative work, such as DeviantArt or YouTube. These sites are tertiary, as there are only a few relevant pages from each site and no intent to form community or discussion threads; however, they should still be considered a part of the TPP community as a whole, as tertiary sites also serve as ways that people learn from TPP and enter the community.

Notably, as with all large internet communities, while the individual sites making up a part of the TPP community might appear distinct from one another, internet users are not as bound to singular sites as is sometimes thought. A participant in the TPP may have found the stream through a 4chan post, logged onto Twitch to watch it, reddit to discuss it, and then tweeted out about it. Therefore, each site is described as a part of the TPP community and not as discrete communities of their own, although we only have good data for two parts of the TPP community.

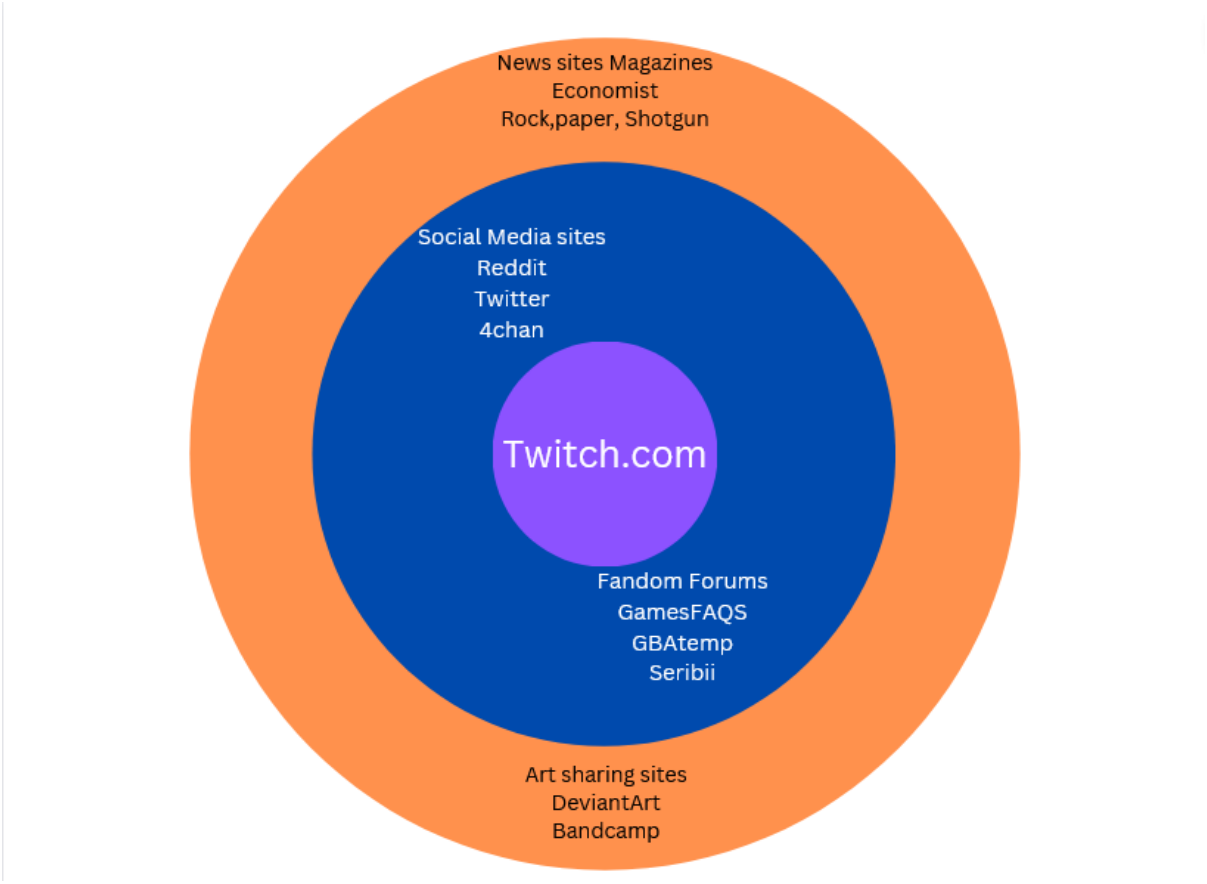

Figure 2 – An illustration of the orbits of websites in which the TPP.

1.2.2 – Governance of the TPP Community

Although the TPP community initially seemed to be completely anarchic, individual sites all had some amount of governance. As the best available data on the TPP community come from Reddit r/twitchplayspokemon and the twitchplayspokemon channel on Twitch, we look at these two community hubs. While the less visited community forums had their own moderators, they had less of an impact on the community as a whole. Social media sites such as 4chan, Tumblr, and Twitter use thread or hashtags instead of communities, which are typically only moderated according to the site rules on content or harassment. In regard to the actual governance of a section of the TPP community, reddit and twitch are important sites to explore.

Three groups had notable impacts on the TPP community through the actions they took. The first is the TPP streamer, who manages the channel and the *Pokémon Red* ROM, as well as being responsible for changing how the community would interact with the game. The administrators of Twitch then had a role in maintaining the twitch servers as more people joined to watch the TPP

stream as well as in promoting TPP across social media. Finally, there is the subreddit[9] moderation team and the decisions they make to keep the community engaged and civil.

TPP's streamer is likely the most contentious governing body of the TPP event because of the introduction of the democracy mode of play. The TPP Streamer was the individual who set up the original anarchic input system at the outset of TPP; however, the TPP Streamer did not set up anarchy out of any ludic[10] or community logic and thus introduced democracy to make the completing the game more achievable (McWhertor, 2014). The streamer chose to add a better method for the TPP community to decide on actions when they felt that the TPP community might not be capable of completing the game due to the difficulty the community had in navigating Team Rocket HQ's maze near the midpoint of *Pokémon Red*. This was due to a puzzle that required players to navigate a complex maze where a single incorrect step could completely reset the community's progress.

The decision to enact democracy as a means of voting was met with significant protests and Start9 riots by the community. The Start9 riots used the democracy voting system against itself, as the community could string button inputs together, so Start9 would simply open and close the menu nine times if enough of the community inputted it as the next command.

For many in the community, the aim of TPP was to show that players could win the game despite the chaotic nature of play. Democracy instituted a system where players voted on the next move, which significantly lessened the difficulty of distributed play. To many, this felt like the entire experiment was undermined. They would never get to know what would have happened under the initial conditions. Notably, while TPP is often described as a social experiment, the change from anarchy to democracy partway through TPP means that social experiment cannot be an accurate depiction of the community and its work, as the conditions of the experiment were changed part way through; rendering any insights into how the community played limited from a scientific perspective.

Aside from the notable shift in how the community input commands, the TPP streamer also played a normal administrative role in maintaining the stream. There was lag and down time that had

[9] A subreddit is a community on Reddit that is focused on a particular topic that users post content and discussions to.

[10] Ludic as in relating to play, in this case both the gameplay of *Pokémon Red* and the play of TPP as well.

to be minimised, and on occasion, the stream went down entirely owing to issues with the growing player base and lag.

The TPP streamer was removed as the main administrator years after the initial TPP stream due to allegations of doxing (Jackson, 2017). The TPP Streamer is an unusual example of governance, as they had complete control of the stream and utilised this to bring about radical changes; however, overall, they remained largely hands off when it came to the community during the initial stream and allowed the community to develop largely independent of their input.

The Twitch company is the next significant governing figure for TPP. They largely remained hands off as well and left the TPP stream run. Their primary roles were to promote the stream as an example of what their site could do and to ensure that the website could sustain many viewers for a single streaming event. Importantly, TPP played a role in the company being acquired by Amazon, as the TPP's large viewer base demonstrated Twitch's ability to keep the stream online.

Away from both the TPP streamer and the Twitch staff, the community organised on reddit. The subreddit r/twitchplayspokemon was created, and like all subreddits, it has to have a moderation team and rules even if those rules are limited. Reddit as a major social media site comes under significant criticism for its moderation, and administrators with communities frequently protest moderator decisions (Squirrell, 2019) and reddit users clashing with administrators over the site's direction (Centivany and Glushko, 2016). In the case of TPP, however, the moderation was largely in line with community needs and aligned with factors that have been found to be conducive to successful collaborative creative communities.

The main action taken by the moderation team was to ease discussion and communication. There were live action reports of major events. The most important developments were stickied, meaning they were always at the top of the subreddit page. There were discussion threads that existed expressly for catching new participants up on what the TPP event was and the lore around it. The moderation team took on the role of facilitating communication in the community more than they focused on moderating discussion.

There is an important distinction between positive and negative moderation. Moderation ideally facilitates discussion, establishing rules and norms for a community and removing content that does not fit into the established community. Moderation is usually the pruning of off-topic or

aggressive discussion, a style of negative community governance in which comments and topics that hinder productive discussion are removed. However, pruning discussion is not all that can be done to facilitate discussion. Positive community governance can facilitate discussion through the addition of things to the community, such as creating posts that focus discussion on major events or creating pages so that new community members can be caught up with what has happened to date. Traditionally, moderation covers both terms; however, it is important to separate the two terms, as while positive and negative moderation are both conducted by the same individuals governing a community they are seen and received differently, which must be recognised to understand how a community interacts with its governing members.

In the case of TPP the subreddit governance was incredibly important, as it focused mainly on positive facilitation. This style of moderation is not necessarily the correct way to moderate, but for distributed creativity communities this style matches the handoff leadership style that is often seen in collaborative creative communities (Schrage and Schrage, 1995, pp. 155–157). This indicates that if more negative governance is used, it could affect the creative output of the community and distract from the community's central aim.

It would be easy to create a hierarchy of TPP community governance into three groups: those governing Twitch.com, the TPP streamer governing the stream, and the subreddit moderation team. However, this hierarchal view of community governance obscures the importance of community governing itself. As shown, the TPP community was able to protest effectively to ensure that anarchy remained and that the TPP streamer would be removed from the community in later years, and the r/twitchplayspokemon moderators had no way to prevent the community from creating a new subreddit for the community if they felt that the moderation was in excess. It may be more useful in this case to look at the governance of the community as facilitators, be it the Twitch staff maintaining the hardware, or the moderators helping the community discuss events.

Additionally, the concept of community governance extends throughout the TPP community from the approval and sharing of narremes (Rosenbaum and Semiotic Society of America, 2019) or the community beginning to disfavour certain narremes, such as that of the player character as a robot. The audience of the TPP stream could only be maintained through consent, meaning that it is

likely that anyone attempting to use their power too blatantly risked derailing the entire short-lived community.

1.2.3 – Creative work in TPP

The differences between internet users have often been an area of interest for researchers and are important for understanding how social media interactions work. The internet is not used the same way by different users. A study conducted in 2014 indicated that 1% of users generate 73% of internet content, 9% generate 25% of content, and the remaining 90% of users contribute only 2% (Nielsen, 2008). This finding by marketing groups has been born out in academic research into digital health support networks (van Mierlo, 2014), which indicates that this finding can be assumed to be accurate across internet communities. The importance of this finding is summarised as follows:

> "Superusers generate the vast majority of traffic and create value, so their recruitment and retention is imperative for long-term success. Although Lurkers may benefit from observing interactions between Superusers and Contributors, they generate limited or no network value" (van Mierlo, 2014, p. 6).

In regard to TPP, we must acknowledge that not all participants interacted in similar or equal ways. While it is important to explore the community as an actor itself, it is also useful to explore individual participants' ways of engaging with TPP. The different types of participants are related to different motivations and websites, but these motivations and websites are not easily divisible into clear groups.

TPP, as a creative community, is naturally still reliant on individual contributors. There are a few broad traits we can assume about those who contributed to the TPP community despite the community's playthrough lasting only 17 days. There was a significant amount of content made in a short period of time, which relates to the Pokémon franchise and fandoms preexisting traits. We will now consider the traits that were common in the TPP community's contributors. *Pokémon Red* was targeted at children around 10 years of age in 1995 (Laato and Rauti, 2021); by 2014, this was the age cohort of 24–30 years. In 2014, this age cohort was the largest and most active age group online (Smith, 2014). Pokémon fandom, owing to its size and global reach during the early days of the internet, has fans ranging from casual to very committed in large numbers across the globe. This

means that an internet event (TPP), on a platform aimed at the same age cohort (Twitch), has an extremely large potential audience.

The prevalence of Pokémon among the 25–31-year age group further benefitted for the TPP community. First, such a large fanbase will include artists of many different styles and interests, many of whom must have already practiced their artistry inspired by Pokémon. Second, as the audience of TPP grew, it naturally created an incentive for artists to invest their time in appealing to a large audience. None of this is particularly unique in affect; however, it is unusual in scale and speed. The creators of ROMS and emulators targeted an older and more technologically savvy audience than the average 10-year-old Pokémon advertised towards. We can see that many older fans may have been recently reinvigorated to join the Pokémon fandom due to the most recent generation of Pokémon games, which were released in October 2013 and became the 3DS's fastest selling game (Karmali, 2013) and Pokémon GO two years later would also draw people back to the franchise and childhood dreams (Vaterlaus, Frantz and Robecker, 2019). The sixth generation of Pokémon games was the first to transition to a 3d art style, replacing the sprite-based graphics that the mainstream games had kept until then. Additionally, for the first time, it became possible for a player to acquire all Pokémon that existed in a single game without requiring close contact with another player. These two factors combined revitalised interest in the Pokémon franchise in advance of the TPP.

Following TPP, we have further examples of both the broad popularity of franchises and the effect on TPP. Less than a month after TPP Red was finished Google ran an April Fool's event where users caught Pokémon on the basis of Google Maps' locations (Gorey, 2014). Considering the timing, there was ample speculation that TPP was a major inspiration for the April fool's joke, and later, when the mobile game Pokémon GO came out, it was assumed that this project was heavily inspired by the Google event. When Pokémon Go was released, it was readily taken up by mobile users and has become one of the most successful mobile games to date (Kumparak, 2019). These events around TPP highlight that in addition to actively involved Pokémon fans, there was a revitalised interest in Pokémon shortly before TPP and after TPP. This indicates that the Pokémon franchise was experiencing a revitalised interest at the time, one that would recapture an audience from the now older players who played the original *Pokémon Red.* This provided TPP an established bas of fans and artists to begin with who were well familiar with the material and some of whom must have some artistic training.

Fan art is a useful indicator of how TPP was both grounded in the Pokémon fandom and in the broader remix culture of the internet (Doerr, 2011). Typically, fan art is used to refer to the creations that fans of a work create in homage (Leonard, 2018, p. 1; Seymour, 2018, p. 99), but the term is somewhat inaccurate to apply to TPP, as arguably all the works made by TPP players of TPP helped create the narrative and events of TPP and, as such, are not just fans of TPP. However, the term fan art is still useful for describing the creative work that came from the TPP community, as it can also be argued that, in many cases, the creators of one artwork were fans of someone else within the community's work (Noppe, 2011, p. 13). Consequently, the term 'creative work' will be used throughout this thesis. As all of the creative works were made by community members and helped shape the work—in contrast, terms such as 'fan art' or 'fanwork' are commonly used to refer to works that are reflective or adaptive of an established creative product. The term 'work' is similarly used to avoid having to determine what qualifies as art. While defining art is a valuable topic, this is not within the scope of this project, and many definitions could preclude some of the creative work performed in planning gameplay.

The first examples of fictionalisation was humour-based. Each Pokémon caught can be named, but the community cannot use the controls to name the Pokémon beyond gibberish text. This meant that the community had to find a consensus on what to nickname Pokémon on their team, sometimes taking inspiration and other times focusing on what was most funny to them. Figure 3 below is a wallpaper posted to the subreddit by the user larunex and shows how Pokémon's name could take shape, for example, the Pokémon named 'AAAAAAAAAA', a text string that could be seen as reminiscent of the catchphrase of *Happy Days* ('Happy Days', 1974) character the Fonz, 'Ayy!', leading to the Pokémon being nicknamed The Fonz and eventually depicted in artwork clicking his fingers in a manner reminiscent of the character. The community naturally built on each other's ideas in this way, coming to create shared creative works that began with simple issues, like naming.

Figure 3 – Image of the final team made from several artists' works (larunex, 2023).

1.2.4 – Viewer, Player, Artist, Moderator

For TPP, four forms of engagement can be readily identified: the viewer, the player, the artist, and the moderator. It is worth noting that these are not fixed roles that a participant occupies, but forms of engagement that could change moment to moment. This distinction is important as it also highlights that a participant could both help author a part of the narrative, while also being mostly a reader of others works. The roles of viewer player, artist and moderator describe what a user is doing in a moment, not a fixed attitude that an individual user holds to.

The viewer is the first core role and comprises most of the participation. Viewership is traditionally described as a purely passive role where a participant simply consumes content. A simple relationship that is quickly complicated with online content and TPP. A viewer of the TPP channel promoted both the TPP stream and the Twitch platform simply through viewing the TPP and having the stream appear higher on the main Twitch page; in this way, viewers also serve to promote passively. Additionally, we cannot solely see TPP viewership as passively watching the stream. Passive participation on other social media platforms, such as Twitter and Reddit, is also a part of the viewer type of participation, even if it solely consists of liking, sharing, upvoting, or downvoting.

The participants were focused on the ludic elements of TPP, i.e., the players, increasing the direct participation from simply passively viewing content. Player participation involves all engagement, from simple attempts to beat an immediate obstacle to those who are considering

issues such as how to acquire a water Pokémon to progress to the seventh gym, as well as those who are actively involved in the clash between democracy and anarchy. The active player level of engagement is more involved, but participants may be only engaged at this level for a few hours, or they may have been active players throughout the duration of *TPP Red*.

Viewers and players make up the bulk of how the community interacted with TPP, but two other methods of engagement are vital to the community's success. Viewership requires no particular knowledge or skills, though play could involve both. The creation of artwork and the governance of the community require both.

Artistic participation is a vital component of the community, as it creates more content to engage other members of the community. In TPP, this is most clearly represented by the fanart, but artistic engagement is also represented in prose descriptions of events, music, and memes shared by the community as well as other creative work. Artistic forms of participation are different, as they are not just simply participation in the event; rather, they add to the community by expanding on the ways in which the community engaged with TPP. The artistic community largely concerned itself with the fictional aspects of TPP, but also in the discourse and gameplay just as readily.

Artistic participation is naturally an outgrowth of viewership or play forms of engagement. As a section of the community, artistic participation requires a level of skill that is developed before and outside the TPP community. The community did not encourage the development of artistic skills because of its brief existence; it relied on the existence of these skills' prior existence, in the case of *The Helix Choir* TPP served as an inspiration to create art rather than to learn the skills (Dou, 2017, p. 39). The community provided a subject and audience for preexisting artists to engage with. As the Pokémon fandom encouraged many people to engage with Pokémon artistically, meaning that the TPP community had a significant base of artistically disposed participants. The skills individuals brought to the TPP community could have been as simple as understanding how to add text to visual memes or be as complex as being able to draw or compose music.

The last form of participation was in the governance of the community. The governance of internet communities, and fandoms, is unusual compared with how governance typically operates in traditional media and communities. Fandoms and internet communities are governed mostly by volunteer moderators, who are generally unelected, and often, there is little way for the community to

remove them. It is thus unsurprising that they often find themselves at odds with the community (Plackett, 2018; Squirrell, 2019; Gilbert, 2020). In the TPP community, these volunteers are governed according to the established structure of the social media platform. Consequently, the community is self-organised according to the constraints of the platform.

Moderating any social media platform requires a few skills to do effectively, as well as a large investment of time. TPP as a community benefitted significantly from both preexisting Pokémon-related communities and hashtags on social media. This meant that there was a preexisting group of participants experienced in organising a large community. Those who participate through governance are significant assets to most internet communities to facilitate community ideas and prune off-topic discussions. In the TPP community, the existence of well-organised and maintained communities was vitally important for facilitating discussion and keeping participants updated on current news.

Although moderation is not often considered a part of aiding creative endeavours, it is worth considering the following:

> "There are two ways of being creative. One can sing and dance. Or one can create an environment in which singers and dancers flourish" (Bennis and Biedermann, 1997, p. 77).

With respect to the TPP, we can identify three forms of governance and determine how the platform impacts governance. The first is Twitch itself, which by its nature requires an individual user to maintain a stream. This is naturally an authoritarian style of governance, which can be seen in how the TPP streamer was able to change to the input system from anarchy to democracy overnight without any consultation with the community (McNally, 2014). The Twitch page had a singular governing individual who had complete responsibility and control of the stream.

The r/twitchplayspokemon subreddit requires a hierarchy between users and moderators, and generally, the larger the subreddit is, the more moderators are required to govern the community. This group is by the site design oligarchical, and typically, it is the current moderators who select new moderators by whatever means they see fit. Subreddits may approach governance in a light-handed manner, avoiding the need to enforce rules, or they might have extremely exact standards and remove all content that fails to meet near academic standards as r-/askhistorians do (Gilbert, 2020). In

both cases, however, the moderators are a small subcommunity that can change rules and enforce them without input from the community if they wish.

Sites such as Tumblr and Twitter use hashtags, making for significantly more self-organised communities that lack a hierarchy or established leadership. Users and posts that use relevant hashtags are, for the most part, popular solely because the community enjoys a particular post without any obvious method of organising a database. This can seem like a highly libertarian or anarchic community, but it should be kept in mind that this form of governance is a function imposed by the design of the social media platform. Social media platforms have their own concerns and can remove content and rank and organise tweets according to unknown algorithms; creative communities of many kinds simply have to adapt to the platform.

There are additional sites that have other base structures that impact how parts of the community are organised. These include sites that hosted artwork, news articles and YouTube for those who were documenting the event. However, only 4chan is a remaining hub for the TPP community. 4chan's /v/ and /vp/ boards hosted significant discussions and were organised into video games and Pokémon games. It is difficult to know what role the 4chan community janitors may or may not have had, as community janitors often choose to remain a hidden force on the site.

The diversity in governance is interesting, as it allows the community to exist on many different platforms, allowing participants to engage with TPP in the manner that they prefer. This also meant that the different governing methods were able to provide the community with their different needs. However, the core of the TPP remains the twitch stream, which the TPP streamer has absolute control over. This led to the most fundamental divide in the community.

1.2.5 – Anarchy vs. Democracy: The TPP Community's Core Conflict

The participants of TPP can be broadly divided into those who advocated anarchy and democracy as a mode of play. This divide was rooted in the mechanism that determined how the game interpreted inputs, either every input was implemented, or a vote was taken about which input to next take. Both were represented in the community by a fossil item in the game: Helix for anarchy and dome for democracy (Dou, 2017, p. 4). This section aims to highlight how the community became divided and how this divide speaks to the core aim of the community being interpreted in different

ways. There was a minority group known as Old Amber (Dou, 2017, p. 29), which was based on a third fossil that could be picked up later in the game. The Old Amber group advocated balance but failed to find any significant support. This group is an example of smaller narratives that could exist within the broader TPP community.

The aim of the TPP community was to 'beat *Pokémon Red* as a community'. This aim is an innate component of the TPP concept itself. However, the interpretation of how to achieve 'beat *Pokémon Red* as a community' was not universal across the community. The initial voting system, as anarchic being replaced by democracy unilaterally by the TPP streamer, highlighted that an unsaid part of that aim for many players was 'to beat *Pokémon Red* as a community *under anarchy*'. Until democracy was introduced, it was not even thought that anarchy existed in the TPP community, as it was only given that name when an opposing system emerged.

For a section of the community, the aim of the TPP was for a community of players to organise and beat the game. For victory-motivated players, the addition of democracy was not an issue. However, many players saw the aim of completing the game under the same conditions that they started with to be an essential part of the game. Simply completing the game did not matter if it was not under the anarchy conditions, changing the methods of mid-game to democracy to fundamentally spoil the experiences of anarchy-motivated players (Aiken, 2014).

The community would be divided, and the divide would fuel the artistic and fictive interpretations. However, aside from the start9 riots, the change to democracy would also result in attempts to 'troll' the stream. This division took a central stage but never managed to derail the basic aim of the TPP community. The most prominent example of this trolling was the streamer, Destiny. Destiny intended to use the democracy mode of play to release the player's best Pokémon by having his fans vote for democracy and then coordinate to deliberately release Pokémon. This trolling attempt failed, although it ironically occurred shortly before the Bloody Sunday, when the community unintentionally released many of their own Pokémon without the intervention of trolls (Hernandez, 2014). Destiny's failure could be seen either as an example of the difficulty of organisation that the TPP community was already struggling with or as an example of how anarchy protected the community from manipulation.

The failure of the anarchy/democracy divides to derail the community is very interesting and may point to the bulk of the community favouring middle ground over either side. Most participants favoured an input method, but the community could recognise that both had advantage. This allowed the community to focus on the largely immaterial fictional divide rather than on divides over issues that did have the potential to damage their ability to succeed, a sort of moderate conflict that did not hinder progress (Farh, Lee and Farh, 2010). AN example of a significant conflict such as the choice to try evolving Eevee, had a much greater impact on the participants' ability to complete the game and the fictive narrative. The divide over anarchy and democracy fuelled creativity and discussion, allowing a level of engagement that might not have occurred without this safe conflict. Importantly, this divide occurred because the community did not have a say that democracy was being implemented. The start9 riots led to a voting system allowing the community to choose between anarchy and democracy meaning this conflict was initially more intense, and the conflict did derail short term goals while leading to the innovation of the Star9 input allowing a group to derail goals (De Dreu, 2006).

This is an important reminder that the TPP community was entirely subject to the decisions and actions of the TPP streamer. The community did not have control over the game their community played until after the TPP Streamer was removed long after *TPP Red*. This is important not only for understanding the community but also for understanding the community's reaction to the TPP Streamer's interference. Considering 4chan'sinvolvement in spreading the stream, it can be assumed that many of the early participants shared the 4chan community's interest in absolute free speech and in anonymity and ephemeral 'chaos' (Bernstein *et al.*, 2011). These methods are manifested by the start9 riots, but they also occurred because many early members of the community were suddenly reminded that they had limited control of TPP.

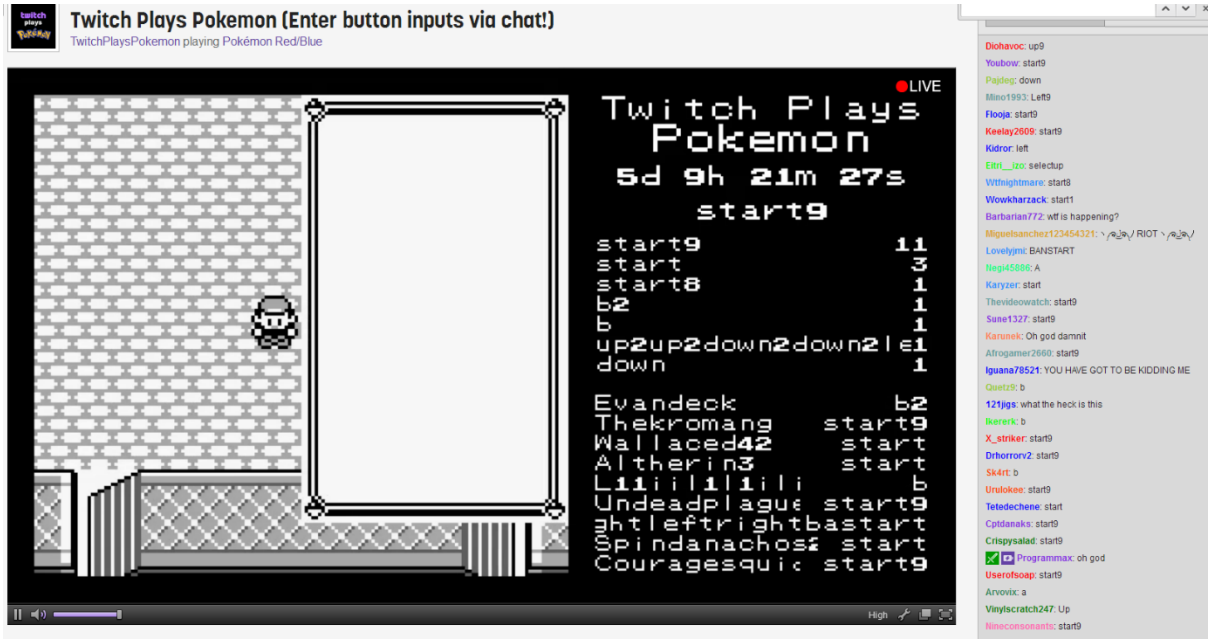

Figure 4 - The beginnings of the Start9 riots.

This sudden change to democracy demonstrated to the community that they were not an anarchic group trying to beat the game. Nor were they a democracy. They were the audience that could participate according to the rules established by the TPP streamer. Anarchy and democracy, becoming a fictional divide with a ludic component, allowed the TPP to continue , avoiding the community becoming focused on the split in political/philosophical ideas.

1.2.6 – User Navigation of the TPP Community

With the websites that together formed the TPP community's structure and how they were governed, the way that a user may have navigated through the community and its related websites is worth exploring to understand how the loose association of websites would have been approached by a user.

Although it has become a much more prominent website in internet culture and in the development of streaming, Twitch was a more niche site for gamers of a younger demographic. Streaming was difficult to view by mobile, so the most likely visitor to twitch.com in February 2014 was a young PC user with an interest in games who we would call Green. Green might have a few games that they either cannot play on their personal computer. Checking new streams Green would find the

TPP and, curiously, click on the channel. After some slight confusion, they might input commands into chat and enjoy trying to help guide the character.

After this, Green might think about their other social media and travel to Twitter or Facebook to share the strange new stream they had found. This would be mainly to attract new viewers rather than to start any in-depth or open discussion. Twitters' character limit makes it best for obtaining news, and Facebook is good for spreading the stream to family and friends. Green might have gone to forums they were a part of, and if they were artistic, they might have been inspired to post artwork they made to DeviantArt or Tumblr. If Green wrote any articles, particularly for sites related to gaming, they might have decided to write an article for the site on the basis of this unusual new stream.

However, Green has a problem. The TPP stream is nonstop; they cannot always keep watching it they need to work, eat, game, and sleep, with the greatest interruption. This is when they might decide to finally make a Reddit account, hearing that the r/twitchplayspokemon subreddit post discussions to keep updated every day. Stopping to Reddit before the stream is not only good for quickly checking out what is new in the stream, but there are also memes and comics being posted that build on the stream with comedy and drama.

Green then finds that the subreddit also helps organise things so that they have a plan of what to do next in the stream. The chat moves too fast for Green to get an idea of what people actually are trying to do, mostly it's just a fast-moving list of commands and people saying, 'praise the Helix'. It's a much better site for discussing what is going on with the stream, and Green keeps the subreddit open in a tab to refresh when they get a chance during the day.

When TPP truly starts to take off is when Green hears it briefly mentioned outside of the internet. Around this time, the stream changed, and the community divided as anarchy and the Helix battled with democracy and the Dome. The reddit community means that Green knows to spam the chat with 'Start9' to riot until anarchy is reinstated thanks to infographics posted to the site. The stream is more fun than ever now that it feels there are stakes and something that they are struggling against now.

The story and memes become slightly convoluted, so Green helps set up a Wikia site for the TPP so that new viewers know what has happened and who the characters are and keep a record of what has happened. Green has never seen anything like TPP and hopes that a simple Wikia will keep

a record of events and ensure that people know Dome and democracy's 'lies. By the time the stream ends, Green is happy to see that others have preserved the chat and video, and the community is trying to keep things going by playing a *Pokémon Crystal*.

Green's hypothetical experience shows how a link aggregation site can become a very useful hub for a disparate community such as TPP. This provides not only a forum of discussion for the community but also an obvious place for bloggers and artists to post links to their work and find attention from a community looking for content. The /r/twitchplayspokemon subreddit by its nature acts as a better centre for the community than Twitch itself does, as the subreddit preserves and links fandoms work far better than Twitch does. However, the actual footage was preserved by Twitch when the popularity of the streams was noted.

Importantly, many internet users are quiet users who do not comment or participate significantly (van Mierlo, 2014). This means that in Twitch chats, quieter users' voices are not heard because of the nature of the chat. However, Reddit's up- and downvote system provides a low-effort way for users to indicate their approval or disapproval of content. The constantly flowing comments on twitch chat contrasted with the voted-on comments on reddit do interestingly reflect the anarchy and democracy divide across the TPP community. In many respects, these comments can serve as a rough tool for determining what ideas thrived among the community, both artistic and strategic. Other members of the community could have a very similar type of experience as Green but without having any significant interaction with the community.

Reddit as with all social media sites, has its criticisms. The upvote and downvote mechanism is not intended for approving or disapproving of content; however, it is the practical reality of how it is used by users (Reddit.com, 2021). This results in non-mainstream opinions being marginalised in favour of the community's dominant views (Mills, 2011). In the case of TPP, this effect can be seen as the community editing the developing narrative without a central group deciding on canonicity.

The different websites used by TPP fans served different purposes for users: Twitch hosted the stream, Twitter and others promoted it, Reddit and 4chan helped the community organise, and many sites hosted creative work and articles that spread knowledge about the TPP. Members of the TPP community, such as Green, used these sites to enhance their experience with TPP.

It is important to understand how the community was structured in order to understand both how the community worked and how an individual interacts with that community.

1.3 – The Narratives of TPP

In exploring the distributive creativity of the TPP community, it is useful to look at the narratives that the community created, as it helps us understand in more detail the creative value in a community-authored text. TPP's narratives are the creative works of the community, the recording of the game the community played, the fiction and creative works created, and the community's discussions. Each type of narrative relates to and relies upon the other narratives, but separating them is important for clarity and to avoid any description of events being convoluted by tangents. It is only after the completion of the game that it is possible to interpret the narrative, as at the time of the narratives were being created their final form couldn't be known. Complex digital narratives such as TPP are not necessarily complex because of their content, but they are complex due to the sheer amount of content that exists that relates to a narrative lacking a definitive form. TPP is an example of a story being told by many people in many places using many digital platforms and tools. The importance of disentangling and breaking down TPP into distinct narrative levels (Genette, 1990) and narremes (Dorfman, 1969; Rosenbaum and Semiotic Society of America, 2019) is that it helps to highlight the creativity of the TPP community by showing the simplest narrative of gameplay events contrasted against their fictional counterpart. This method also helps us begin to understand how digital forms of narrative are experienced[11], which is increasingly important to attempt to address, as interconnected digital narratives are the dominant form across current society.

As outlined in the previous chapter, the TPP community contains a multitude of narratives, which are interrelated. TPP's narratives can be categorised as belonging to different narrative levels , defined by the narrative's relationship with the community's participants and the medium in which the narrative existed. The ground level of the TPP narratives is called the ludic narrative; the ludic level describes the literal and definitive events that happened on the TPP stream and can be verified by looking at the archived footage. The discursive narrative is an intermediate level. The discursive level consists of the various discussions that occurred among the TPP community in their social spaces. The discursive level is the intermediate level as the discussions the participants had effects and is affected by the events of the ludic narrative as well as effecting and being affected by the fictitious narrative. It is the discursive narrative level where the majority of the TPP community's conflicts over

[11] A depiction of how an individual experiences their hyperdiegetic narrative is in chapter 4.

anarchy and democracy were played out. The fictitious narratives are the topmost narrative level, having some effect on the lower levels, but it took time for the fictitious versions of ludic events to be fictionalised such that fictitious narratives typically affected later events in the ludic narrative. As there is no authorial figure to establish a 'correct' version of narrative events, the fictitious narratives are fractured and contradictory, and it is for each individual to determine what they consider to be the correct version of events out of the various narremes that exist in the narratives.

Beyond this is the hyperdiegetic narrative level is where the individual constructs their personal interpretation of events from the various narremes according to what could have happened (Hills, 2002, p. 137). With the fictional narrative consisting of comments, comics, and music that highlight individual events, there is no singular fictional narrative of the whole story of TPP. Though later summaries would exist that favoured particular interpretations. It is the nature of distributed creativity that the final arbiter of the narrative will always be each individual who experiences the community's narremes assembling their narrative at the hyperdiegetic level.

The purpose of this chapter is to describe the narratives in plain text, considering the length of time of the recorded play of TPP, and the disjointed nature of the discursive and fictitious narratives, it is necessary to communicate TPP's narratives in a clear manner for the purposes of this research. This also serves the purpose of demonstrating how each narrative level is built upon the other.

The ludic narrative will be described with citations to the particular time that an event occurred and as clear and simple a language as possible. The discursive narrative will make use of comments, images, and news articles to show how the discussions developed and changed the TPP community over time. The fictitious narrative will be described as prose fiction while making sure to refer to the more common different interpretations of events. As the nature of the hyperdiegetic narrative is related to the understanding of the creative engine, and how individuals relate to distributed creativity this will be explored in chapter four.

1.3.1 – Timeline of events in TPP

Before engaging in describing the narratives a timeline of events is presented here listing the events of the game next to the community events.

Table 1– Timeline of events

Start Date 12/Feb/2014	Game Events	Community Events
00d 09 h	First Pokémon Gym Challenged in Pewter City	TPP first mentioned on 4chan's /vp/ board
00d 10 h	Gym Leader Brock Defeated	TPP mentioned outside of 4chan on GBAtemp
01d 05 h	Helix Fossil is acquired	Viewer count begins to rapidly rise from 20 to 300 viewers
01d 06 h	1000 viewers reached	TPP mentioned on GameFAQ's and Reddit
01 18 h	2nd Gym Leader Misty Defeated	N/A
02d 00 h	N/A	/r/twitchplayspokemon subreddit created
02d 11 h	3rd Gym Leader Lt. Surge defeated	Stream goes offline for some hours due to an accidentally triggered soft reset
03d 07 h	Players eventually clear The Ledge, a minor obstacle turned major.	N/A
04d 00 h	4th Gym Leader Erika Defeated	N/A
04d 01 h	Eevee acquired, A Pokémon they hoped to evolve into a crucial water type	N/A
04d 14 h	Eevee evolved into the fire-type Flareon	Eevee named as The False Prophet
05d 00h	Democracy introduced, and attempts to release The False Prophet result in the loss of many Pokémon	Start9 riots begin whenever the stream enters democracy mode to protest the change
06d 02 h	Team Rocket Leader Giovanni defeated	Simultaneous viewers reach the all-time height of 123,224
08d 06 h	5th Gym Leader Koga Defeated	N/A
09d 13 h	Team Rocket Leader Giovanni defeated a second time	Community starts to plan on catching the legendary Pokémon Zapdos
09d 17 h	6th Gym Leader Sabrina Defeated	N/A
10d 7 h	Zapdos caught under anarchy mode	Throughout the day a streamer named Destiny attempts to troll TPP by having their followers vote for democracy to release the community's best Pokémon but leaves after four hours
10d 17 h	Twelve Pokémon lost during attempts to add Zapdos to the Pokémon team	N/A

Table 1– Timeline of events (Continued)

11d 10 h	Helix fossil resurrected as the Omanyte Pokémon nicknamed LORD HELIX	N/A
12d 8 h	7th Gym Leader Blaine defeated	N/A
13d 13 h	8th Gym leader Giovanni (Leader of Team Rocket) Defeated	N/A
15d 17 h	After some difficulty the players make it to the Pokémon league.	N/A
15d 19 h	Famed defeat of fourth member of the Elite Four by the Pokémon ATV. Players then defeated by Pokémon Champion Blue.	N/A
16d 7 h	Pokémon Champion Blue defeated, Players Pokémon enter Hall of Fame, credits for the game play.	Game ends with 92,588 viewers

1.3.2 – Limitations of Describing the Narratives

Having discussed the forms and levels of the narrative, we must first address the limitations of describing the content of the narratives of the TPP community contemporary to 2014; as well as the limitations that are presented in creating an accessible summary of TPP's narratives. The immediate consideration is how to discuss the narrative events of the game *Pokémon Red,* as they were expected to be experienced by a player. The first option is to separately explain the narrative of a standard playthrough of *Pokémon Red* and then to discuss the playthrough that the TPP community experienced. However, this method results in significant and needless repetition, as the ludic events of the TPP community's playthrough are quite similar to an individual player's experience. The unusual effects of the TPP community's mode of play should be clear to any reader.

The next issue in addressing the ludic narrative is the method of citation. The ludic events are recorded as a series of timestamped videos covering the majority of the 16 days and 9 hours of the playthrough. When I reference significant events, I will relate the timestamp and the video where the particular event can be seen. To do this, I will cite in the following manner [day hour minute second, video number], for more important events that occur over a number of hours, I will shorten the time stamp to a particular frame of reference [day hour-day hour, video number range]. This method should be useful both for being able to verify the events described here and for providing a sense of time for the playthrough.

Another issue that has no available workaround is the simple loss of data. Twitch does not archive chat or video data by default. Consequently, there is a period of time known as the ‘lost days’ (lostmediawiki.com, 2019) describing the period before the TPP channel gained much attention where the chat and video was simply not archived. For some of the lost video, there are no images baring a few screenshots and gif files until 1 day, 11 hours, 55 minutes and 48 seconds [1d 11 h 55 m 48 s, 1]. The Chat data begin slightly earlier at [01d 07 h 48 m 18 s]. However, the events are broadly known, and it is important to recall that while important events occurred during this time, for both the Discursive Narrative and the Fictitious Narrative. Notably, in addition to minor mentions on 4chan that are unrecorded bar a screenshot, the first discussions on GameFAQs and then reddit occur after [01d 06 h], and the /r/twitchplayspokemon subreddit was established eighteen hours later at [02d 00 h 54 m]

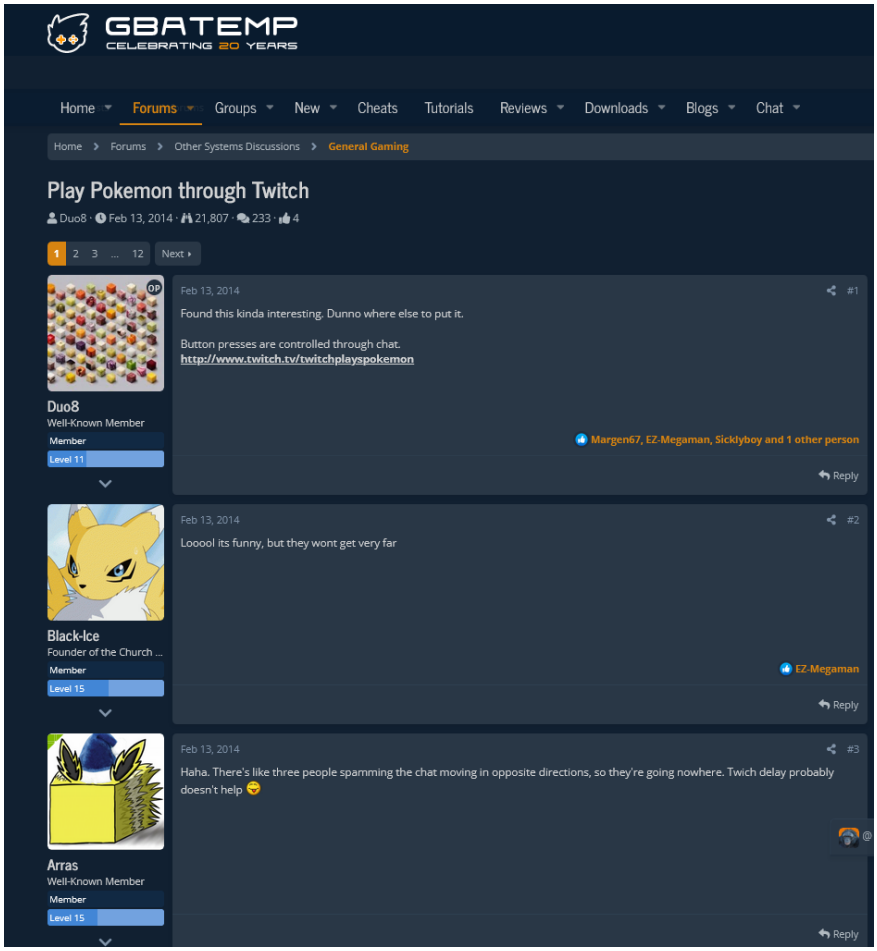

Figure 5 - GBAtemp-second mention of TPP off of twitch site.

The discursive narrative will be discussed in the context of its most notable discussion in this section will describe the broader events, however it is also the comments and chat of the discursive

narrative that provides useful data on the TPP community. The discursive narrative involves the process by which memes, narremes, and community conflicts begin to emerge by looking at particularly prominent discussions and news articles that highlight the discussions that the community and outside sources considered particularly relevant. This will primarily make use of r/twitchplaysPokémon's highest-rated discussions from the time period, news articles from prominent sources, and other social media discussions where relevant. The discursive narrative had effects on the mode of play the community engaged with, as well as the themes that became prominent in fictitious narratives.

The fictitious narrative will be presented as one individual's hyperdiegetic interpretation of events. The presentation of the narrative aims to tell the complete fictional story while making concessions to other notable alternate interpretations of events to convey a relatively balanced narrative. The choice to create a new interpretation is due to two particular issues. First, many prominent prose or video interpretations are also written after the time this case study looks and with an individual's bias as part of their interpretation. Second, the disparate narremes and creative works have to be brought into an encompassing narrative structure to be readable to an individual who is not experiencing the narrative the was the TPP Community in 2014 did.

The practice of adapting a narrative that originated in a digital space for an academic journal is needed, either to present the commentary from a community about a work such as Shakespeare (O'Neill, 2015) or to communicate creative work intended for an interactive digital space for academic analysis through a journal (Allen and O'Sullivan, 2016). In this thesis, it is necessary to communicate community commentary and creative work for any analysis to proceed.

1.3.3 – The Ludic Narrative

In this section, I will outline the ludic narrative. To discuss the missing events will begin with a summation of the events of *Pokémon Red* (Tajiri, 1996). The game begins in Pallet town, with the player character being sent to the Pokémon Professor Oak to receive a starter Pokémon and start a career as a Pokémon trainer. A starter Pokémon is a unique Pokémon in the game, with each game only allowing a player to pick one of three, meaning that they can never acquire the other two in the game without trading with another player in real life. The first day has fewer than 100 viewers. After

meeting Professor Oak, the player is introduced to their rival, Blue, the Professor's nephew. The players chose the fire-type Pokémon Charmander, who was in game named ABBBBBBK, but nicknamed Abby. The rival, Blue, then picked the water-type Squirtle, as this Pokémon type has an advantage over fire-type Pokémon.

Blue challenges the players who successfully win the Pokémon battle, defeating their rival. This provides both money that the Player can use to buy items and experience for the Players Pokémon to level up and become stronger. The player is tasked with retrieving a package for Professor Oak. This involves passing through wild grass where 'wild' Pokémon are encountered. These Pokémon do not belong to another Pokémon trainer and can thus be caught and join the players' team. The players successfully retrieve the package from Viridian city, deliver it to Professor Oak and receive a Pokédex, a computer device that documents information on different species of Pokémon.

With that completed, the players navigated the wild grass and other trainers of Viridian Forest and made it to Pewter city. This city contains the first gym leader in the game. Gym leaders give out badges once all eight are acquired, the player is able to face and defeat the Pokémon League in battle, which is the game's primary objective. The first known image of TPP *Red* and the accompanying timestamp are posted to 4chan's /vp/ board, giving a time of [00d 09 h 37 m 00 s] when the players are inside Pewter city Gym.

Figure 6 – First known screenshot of Twitch Plays Pokémon.

The players challenge the rock-type gym leader many times, presumably having difficulty, as Abby's strongest attacks are ineffective against Rock-type Pokémon until levelled up significantly. Brock is defeated at [00d 10 h 40 m 36 s], giving the players their first badge. In the seven hours that Abby evolves into a Charmeleon, Pokémon evolve into more powerful forms when they reach certain levels after gaining experience from battling. The players also catch their second Pokémon, a flying-type Pidgey, which is named aaabaaajss - but eventually becomes known as BirdJesus. For the remainder of the day, the players struggle to enter the next section of the game Mt. Moon. The IRC chat bot crashed at [00d 17 h 43 m 55 s], returning at [01d 01 h 09 m].

The number of players starts low again on this day but rapidly grows as the players navigate Mt. moon, acquire the Helix fossil and escape Mt. Moon at [01d 06 h 23 m 45 s]; unfortunately, the players have all their Pokémon faints. When all the characters Pokémon faint, they are sent back to the last Pokémon centre they were in, which in this case was the entrance to Mt. Moon. The players would finally make it out of Mt. Moon three and half hours later, making it to Cerulean city. The player base is now measured in the thousands at 3,345.

After failing to defeat the water-type gym leader Misty, the players go to the Nugget bridge to level up by fighting other trainers. They faint after losing to their rival, Blue. Before facing Misty again, the players acquire their third Pokémon, a normal-type Rattata, Jay Leno (JLVWNNOOOO). They

would face Misty and fail 11 times, evolving Bird Jesus in the process. However, the players would defeat Misty on their 12th attempt [01d 18 h 56 m 29 s]. The players help an inventor called Bill reverse a teleporter accident, receiving a ticket for the SS. Anne, and catch a second Rattata who would be nicknamed Digrat.

The players made their way to Vermillion city and taught Digrat the move Dig. They managed to board the SS. Anne, and once again lost to their rival, but managed to eventually clear the ship, acquiring the ability to teach the move HM01-Cut. HM moves are vital to progressing in the game; subsequently, the players managed to catch two Pokémon who could learn cut. The first was a psychic-type Drowzee who was nicknamed The Keeper due to later events, the other flying-type Spearow, which the players manage to trade in games for a Farfetch'd (Dux) who was taught cut. With the move cut, the players were able to enter the Vermillion city gym and solved a puzzle to fight Lt. Surge The electric-type gym leader who was defeated on their second attempt at [02d 11 h 29 m]. The game was briefly reset to the start menu but soon returned to normal. The players taught Abby HM-01 Cut.

The players then faced one of their most notable challenges on route 9 on the way to the Rock Tunnel, The Ledge. The Ledge for a single player is a mildly annoying obstacle where a jump down (a single input of down) resets progress, but for the players, it was an eight-hour trial of their ability to organise [02d 16 h 51 m- 03d 01 h 23 m]. The rest of day four is where Digrat earned his name, the move Dig used outside of battling Pokémon returns the player to the last Pokémon centre; between all Pokémon fainting and Digrat using Dig, it took the players ten attempts to get through the Rock Tunnel to Lavender town, after attempt eight, the players managed to deposit Digrat into the PC, which is what players use to change the six Pokémon in their team. This started at [03d 06 h 55 m], and finally, the players reached Lavender town at [03d 15 h 26 m].

The players soon left Lavender Town for Celadon city, and with Bird Jesus having evolved, they defeated the grass-type Gym leader Erika after two attempts [04d 00 h 46 m 41 s]. One hour after defeating Erika, players acquired the Pokémon Eevee. Eevee would become known as The False Prophet. The players would require a Pokémon who could learn HM03-Surf to complete the game. Eevee is a unique Pokémon who evolves into different forms on the basis of exposure to a particular elemental stone, which is a purchasable item. The attempts of the players to move Eevee

from the PC to their Pokémon team would prove disastrous. The players in this attempt released both Jay Leno and Abby, an irreversible action that permanently deleted these Pokémon from the game. Following this, they also evolved Eevee into the Fire-type Flareon and not the desired water-type Vaporeon. The initial disaster was soon followed by depositing the much-used Helix fossil [04d 01 h 48 m - 04d 15 h 42 m]. The players then proceeded to discover the hideout of the villainous Team Rocket, and after Digrat delayed their progress, they reacquired the Helix fossil [04d 21 h 15 m].

The sixth day fundamentally changed the ludic logic of the game. The Team Rocket hideout features a large number of puzzles that were thought to have been virtually impossible for the community to navigate. To address the puzzle that seemed impossible under the established gameplay mode of anarchy, a new mode of play was introduced: democracy [05d 08 h 35 m]. In anarchy, the game would proceed as it has with each input being acted upon after a delay; under democracy, the players would input actions as votes, and the most voted for action would be enacted after a delay. These modes of play were decided by the players, who input democracy or anarchy into the chat with enough votes changing the current system.

Many players found the change to democracy to be intolerable, changing the absolute fundamentals of the game they were playing, and it was not long before factions formed. A type of protest emerged whereby inputting start9 members of the anarchy faction could interrupt gameplay as the IRC bot pressed start nine times. The sixth day struggled between the two modes and led to the release of The False Prophet. By the end of the day, the leader of Team Rocket Giovanni was challenged at [05d 23 h 28 m] under the anarchy system; however, the players were defeated by Giovanni.

Giovanni would be defeated despite the Digrat resetting progress frequently by using the move dig. Upon defeating Giovanni, the players acquired the sylph scope; this item would allow them to deal with the ghost-type Pokémon in Lavender Town. They managed to get to Lavender Town and defeat their rival. During this time, they acquired many Pokémon that would be sent to the PC. The players now faced an issue where few of their Pokémon were able to damage ghost-type Pokémon that were abundant in the Lavender Town tower and had to be defeated to progress.

This led to many attempts to deal with the tower that ended in failure; however, at [07d 22 h 59 m 35 s], the players defeated and freed an actual ghost of a Pokémon that had come to reside in

the tower after Team Rocket caused its death. This gave the Pokéflute, which is essential to progressing in the game.

The players used the Pokéflute to wake the Pokémon Snorlax and then the players ran away. Despite not defeating or catching Snorlax, the Pokémon disappeared, allowing them to make it to Fuchsia city; at this stage, the players were very reliant on Bird Jesus, who was their most powerful Pokémon. In Fuchsia City, the players managed to beat the poison-type Gym leader Koga after two attempts [08d 06 h 31 m] and proceeded to catch a number of Pokémon in the safari zone, most importantly a Bug/Poison-type Venomoth who would become known as ATV. They would also acquire Air Jordan, a Lapras who could learn HM03-Surf.

The players left Fuchsia city for Saffron city, where they would once again face Team Rocket and Giovanni. The players would defeat Giovanni [09d 13 h 51 m 33 s] and Saffron cities Psychic-type gym leader Sabrina [09d 17 h 52 m]. For defeating Giovanni, the players were rewarded a Master Ball. This is an item that will catch any Pokémon. A group of players at this point conceive of a plan that would prove devastating.

Pokémon Red has three legendary Pokémon available before fighting the Pokémon League, the legendary birds. The players decide that to defeat the game, they require one of these, and the easiest for them to fight and catch is also the most powerful, the electric type Zapdos. This process requires them to navigate the infamous ledge again, reach a power plant, and catch Zapdos using the Master Ball under the anarchy system [10d 07 h 49 m 16 s]. However, Zapdos is sent to the PC under the name ‘AA-j,’. The attempt to remove AA-j from the PC resulted in an event called Bloody Sunday.

In the process of trying to add AA-j to the team, the players spend a disastrous day releasing many of the Pokémon they had caught, including Digrat and Dux [10d 08 h 17 m - 10d 17 h 14 m]. As Dux was the last Pokémon with a cut, the players had only one way to progress to the seventh gym badge. They returned to the starting point of the game at Pallet Town. In the process, they lose another Pokémon (Rick Gastly) to Pokémon Day care, which is used to level up Pokémon without fighting, but in this case, it is the same as depositing a Pokémon.

The players made it to Cinnabar Island (location of the seventh gym) at [11d 09 h 53 m] and promptly managed to use the Helix Fossil. This fossil became the rock/water-type Pokémon Omanyte. The players spend the rest of the day again trying to move Pokémon between the box and their team.

However, they eventually manage to defeat the seventh gym leader Blaine [12d 08 h 27 m] and try to return to Viridian City to face the last gym leader. The players manage to reach the Viridian City Gym, discovering that Giovanni is the Gym Leader, defeating him after two attempts [13d 13 h 53 m]. The players can now enter the Pokémon League, and as they enter, they are defeated again by their Rival. This defeat returns them to Cinnabar Island, where they spend a day training and attempting to return to the Pokémon League.

The players spend much of the day attempting to reach the Pokémon League, struggling with a ledge similar to The Ledge, which they clear in under thirteen minutes at [15d 00 h 03 m]. The players try to manage the last path to the Pokémon League, being sent to Cinnabar Island once again at one point and moving between the anarchy and democracy modes. Once the players make it to the Pokémon league, they face the Elite Four. The Elite Four are four very powerful trainers who must be defeated in sequence without healing Pokémon in a Pokémon centre. The players would fail to defeat the Pokémon League twenty-one times from [15d 17 h 18 m- [16d 07 h 06 m]]

At this point, we should discuss the team the players had. Air Jordan was a Lapras who was needed the ability to use HM03-Surf. The Fonz was a Nidoking the players had caught in the safari zone late in the game but became important reliable member of the team. AA-j was the Zapdos, which was the most powerful member of the team by far. Bird Jesus was both the longest surviving Pokémon and the Pokémon who had been most relied upon. Lord Helix, who had been the helix fossil, was important only because of the mythic status he had gained over the game. Lastly and importantly for unusual reasons was ATV, a bug type Pokémon Venomoth.

The last member of the Elite Four uses dragon-type Pokémon, with powerful damaging moves but because of the game's coding, opposing trainers always use super effective moves, even if these moves deal no damage or have no effect on their opponent. This would result in ATV, the weakest Pokémon on the team, becoming crucial for defeating the second most difficult trainer in the game, as moves that did not affect ATV were used repeatedly [15d 19 h 32 m]. With a reliable strategy to defeat the last member of the Elite Four discovered on their 5th attempt at victory, the players would sill frequently struggle to defeat Agatha and Bruno. However, once they managed to get past both on their 22nd attempt, the players easily made it to their final battle against their rival Blue.

AA-J, easily beat Blue. At [16d 07 h 45 m 29 s]. *Twitch Plays Pokémon* defeated the game. It officially ended at [16d 07 h 53 m 04 s], with 92,588 viewers.

1.3.4 – The Discursive narrative

The TPP narrative is not only the narrative of the gameplay of the community or the creative works they developed; there is also the discursive narratives that were a part of the community and surrounded the community. The discourse does not just involve the planning and debates over what course of action the TPP community should or might next take or the sharing of ideas about how to use fiction to explain the game events. It also includes the story the TPP community told itself about itself and the stories that others told the rest of the internet about the TPP community.

The discursive narratives can be difficult to establish due to the fragmented nature of the TPP community. There are several limitations in exploring any distributed community. The most prominent issue is the ever-increasing issue of data decay. Data decay (Jason, 2022)[12] occurs because of a number of reasons that overlap. The first is data simply being deleted; this can be users deleting comments or accounts or websites themselves deleting data after a while or the website being removed entirely. The other issue emerges from data becoming difficult to access, either because formats becoming outdated, such as Adobe Flash, or because the only record of a tweet or forum post being repeatedly uploaded and downloaded renders the image difficult to read and often impossible to verify.

The other major limitation in following the discourse of distributed communities is the interrelated nature of websites, which can make it difficult to establish where particular ideas first emerged and if they flourished on other sites different from where they emerged. Many social media sites are difficult to search, and it is increasingly difficult to obtain usable data from them using APIs with a non-existent budget. This is a significant reason why this case study chose to focus on Twitch and Reddit; however, it should be acknowledged that there may be information missing due to the lack of inclusion of other sites. This problem is also a part of data decay, where difficulty archiving data leads to further loss of data. Many sites were not archived during the time period, so any usable

[12] Data decay is the process by which data that was a part of a database of set degrades over time. On social media sites usually due to users deleting accounts .

data would still be fragmented in the passing years, and other sites deliberately delete older discussions. However, there is a fortunate consequence of sites being networked, which minimises the impact of data decay and sites being interrelated. Social media sites share each other's content very frequently, particularly a site such as reddit, which is designed to aggregate content from other sites. The aggregation effect alongside having the original twitch chat data should hopefully counteract the other effects to a reasonable degree.

The TPP community came together rather quickly from the time when the stream first began to attract notice; each time the stream was linked to another social media site, it quickly attracted more interest, with peak engagement occurring on day six[13]. The community saw themselves as all being part of a community that shared an aim, and had a sense that this was both an exploration of their nostalgia and an example of the strange new future they found themselves in. While they recognised themselves as a community, there were different groups throughout their play, with the conflict between those who wanted to remain with the anarchy system and those who wanted democracy becoming the closest to a major rift the community faced. A rift that even members of the community also engaged in with humour, considering that they shared the same goal.

The discursive narrative consists of the narratives that were told by the TPP Community to itself about itself, as well as those that emerged in articles reporting on the TPP. Two areas important to focus on are the conflict between anarchy and democracy and the discussions about strategy among the community (Aiken, 2014). These two areas of discussion show how the discursive narratives influence and are influenced by the other narrative levels (Genette, 1990) and demonstrate how the broad areas of the anarchy and democracy conflict as well as the discussions on strategy resulted in many different narratives during the community playing Pokémon Red. The origin of the Helix church comes from the community discussing why the Helix Fossil kept being used. This type of meme referencing is the beginnings of fictionalization with the majority of fictional religions being related to objects being used outside of their correct context (Dou, 2017, p. 43).

As discussed in previous chapters, a significant driver of the community relying on sites external to Twitch was the desire to organise and strategize effectively while the Twitch chat became unusable for planning. While Pokémon games are relatively straightforward in their gameplay, there

[13] See figure 9 to see comments over time.

are areas that require particular types of Pokémon with special moves. These special moves, known as Hidden Machines (HMs), can be taught to a variety of Pokémon and are used to move through obstacles. For example, Cut removed trees, Strength moved boulders, and Surf allowed movement over water. Flash allowed players to see in the dark and was rarely vital to progress, and Fly allowed the player to return to already visited towns for convenience more than progressing the game.

The first strategy discussion that had a major impact across the narrative levels emerged because of concerns about the players having access to HM03-Surf. Before having access to Surf, most water Pokémon were caught through fishing via a fishing rod, which required the TPP community to face a body of water, access the menu, choose items, and press A if a notification came up saying they had hooked a Pokémon, then they still faced difficulty catching the Pokémon by reducing its health without causing it to faint, throwing a Pokéball and catching it. This was a very improbable series of events for the TPP community to manage. Pokémon they could encounter on land that could use surf was typically rare, which led the community to consider their options.

The strategy that the community eventually chose to follow was relatively safe. Two Pokémon in the game who could learn Surf were gifted to the player, Lapras and Eevee. Eevee is received first and can evolve with a water stone into Vaporeon; both are popular Pokémon, and the TPP community immediately decided that they should evolve Eevee and have their Pokémon for learning Surf. The TPP community did not succeed, evolving Eevee with a firestone into Flareon, a fire type that did not learn surf and was the same type as their most powerful Pokémon Abby. The TPP community then compounded this misstep by releasing many of their Pokémon, including Abby, and the Eevee turned Flareon, now known as The False Prophet. The False Prophet would generally act as a scapegoat for the TPP community and be blamed for the disastrous series of events.

This “betrayal” by The False Prophet would soon be followed by the introduction of a new mode of play for the TPP stream, democracy, an event that is the only interference from the channel’s streamer. TPP was played by every input of a command being translated to the game in order, a mode of play that was quite chaotic and would become known on the stream and in the community as anarchy, after the introduction of democracy. Under democracy, every thirty seconds, the program selects the most inputted button option and sends that option to the *Pokémon Red* game. Making for

a slower but more controlled method of play. This was introduced due to a puzzle in the Team Rocket HQ that it seemed that the TPP community might be unable to complete under anarchy.

The introduction of democracy would prove incredibly unpopular, even when the players were given the ability to vote to change between the two systems, it created a divide that played out in the discursive narrative and into the ludic and fictional narratives. The issue of democracy came down to a question of what the community's values were. For some players, the abandonment of anarchy essentially spoiled the game, as the introduction of democracy changed the rules while they were in the middle of play; for others, the aim was to complete the game while playing together, with the method of play being secondary. Unsurprisingly, the anarchy/democracy system affected gameplay, but it also had a direct effect on the discourse at its most basic level. With the players' votes for either system appearing in the Twitch Chat, it was not uncommon for the entire list of inputs to be overwhelmed by votes for either system.

The anarchy supporters developed the start9 protests to try to make democracy untenable. The protests were possible, as the democracy system allowed for inputs to be chained; that is, StartUp3 would lead to one press of start and three of up. The supporters of anarchy realised that Start9 would simply open and close the menu repeatedly, delaying the games' progress. Furthermore, as more players often wanted to return to anarchy, this meant that start9 could often win the vote. The Start9 "Riots" are notable for continuing throughout the stream whenever democracy was the current mode of play and for being an example of a notable impact the discursive narrative had on the gameplay that is not explained in the fictitious narratives. The start9 Riots were also highlighted in a 4chan post about how strange the entire situation of playing had become: "45k+ people just staged a micro protest by repeatedly voting for a passive action on an online cooperatively controlled Japanese RPG from '96 in order to change the method of control."

Figure 7 - A screenshot of a post from 4chan that considers the unusual aspects of TPP.

The anarchy/democracy divide was of such importance to the community, as it divided the community between those that saw the aim of the game to see if it was possible to win under such chaotic conditions and those who saw the aim as seeing if it was possible for them to cooperate and win. These two factions would rapidly take on the guise of two conflicting 'religious' groups. The Church of the Helix followed anarchy and the oft-consulted helix fossil, the Disciples of the Dome saw democracy as a logical tool to achieve victory and followed the unchosen dome fossil. A smaller faction that chose to remain neutral also existed in the Followers of Old Amber, who largely aimed for an end to the riots and chose not to vote for either system. Notably, for many issues of gameplay, such as the issue of bots trying to force input system changes, the various groups were largely of the same mind, as shown in this comment exchange.

Figure 8 – A joke about the ability of the TPP community to tolerate each other's beliefs.

The Church of the Helix would win the conflict in the end. The major reason is that the game was defeated in anarchy mode, and their icon of the Helix Fossil was revived into the players' team as Lord Helix. The other major cause for the Church of Helix's victory is the major narratives, which are

told from the perspective of the follower of anarchy and the Church of the Helix. However, the Disciples of the Dome's thinking provide alternative interpretations of the ludic narrative that emerges in the fictitious narratives. For example, the Flareon that the players ended up with and labelled The False Prophet for its failure to evolve into Vaporeon and the subsequent visit to store Pokémon resulted in the release of Abby, Jay Leno, as well as the storing of Bird Jesus and the Helix fossil. This was a disaster for both the narrative and future gameplay. However, the Dome interpretation, which grew in popularity over time, is that The False Prophet was martyr. Taking the blame for The Hivemind's (fictional embodiment of the players) reckless actions under anarchy.

As the final Pokémon Gyms were defeated another strategic concern emerged, it may not be possible for the TPP community to achieve victory with their current team. It is entirely probable that a player could beat the game with a single mediocre, Pokémon (Green, 2018). However, this complexity of planning was far beyond what the TPP community had access to. They could not plan what moves for their Pokémon to retain with any reliability, and acquiring items to use in or out of battle was essentially impossible. Their team as a whole was poor in variety, many Pokémon were underpowered, and it was difficult to train other Pokémon to the same level as BirdJesus. As the last five battles of the game must be beaten in order without returning to a Pokémon centre to heal, the community began to consider a high-risk, high-reward strategy.

The capture of one of the three legendary birds, the game's most powerful Pokémon, is available before defeating the Pokémon league and winning the game. This would require them to backtrack to an early area of the game and surf down to the power plant area where they could attempt to capture Zapdos. Zapdos was caught at a high level and was an effective attacking Pokémon of the electric type, which the players lacked. Some argued that they could use the master ball and item that would guarantee a catch if they could successfully use the item in battle.

Convinced by the arguments in favour of catching Zapdos, the TPP community made their way to the power plant to face Zapdos. In an unexpected turn of the event, Zapdos was caught in anarchy using the master ball. The players then went to the PC to add Zapdos to their party, and much like when they attempted to eliminate Flareon, many Pokémon were released unintentionally in an event in which the community termed 'Bloody Sunday'. Part of the community feared that this was going to lead a divide among the players, with Zapdos being a new false prophet; however, instead,

Zapdos came to be seen as the Archangel, with the releases of the other Pokémon being seen as necessary sacrifices; ignoring that there had been a way to avoid these losses by using the much safer Pokémon day care to create a free spot on the team.

The release of The False Prophet and capture of Zapdos are interesting, as they highlight the impossibility of the community enacting a safe strategy. In both cases, there was a safer, more reliable strategy that might have avoided significant losses, waiting to receive Lapras or using Pokémon day care. Both strategies were in theory sound, but impatience by the player base and anarchy led to major losses. However, one Pokémon is “The False Prophet”, and the other is “The Archangel”. A ludic explanation for this is simply utility. Flareon was not useful for the players’ end goal; Zapdos was. While losses occurred in both, the players were less frustrated at their failures with Zapdos, as they succeeded in their aim in the end.

A discursive explanation lies in the increased importance of anarchy; it was after The False Prophet disaster that democracy was introduced. Over the subsequent 5 days, the conflict had taken absolute centre stage. With Zapdos being caught in such an unlikely way under anarchy, players could interpret the capture of Zapdos as ‘divine intervention’ from the helix, the avatar of their chosen system, and proof of the ability of anarchy to achieve much more than democracy advocates believed. Building on this success allowed for much more celebratory creative work and interpretations of what had occurred, a triumph followed by tragedy that was ultimately for the greater good. Compared with the Flareon incident, which was disappointment followed by tragedy, even interpretations kindly to Flareon are simple and sad in tone. The fictitious narratives explained the strange behaviour of the player character at the ludic level, but they also served as a method of rationalising the community’s behaviour after they took actions driven by discursive narratives.

A last important area of the discursive narratives was the sense of comradeship. While the players disagreed on strategy, the purpose of the event, and the story being told, a shared sense of purpose and experience was still present at all events. This is a core element described in studies of collaborative creativity. Importantly, the importance of bonds of trust and love is the clearest theme in the *Pokémon Red* game, and the franchise as a whole (Tobin, 2004, pp. 126, 170), for example, at the end of the game, the Professor Oak character says to the player character, “Y*ou understand that your victory was not just your own doing! The bond you share with your Pokémon is marvellous!*

Furthermore, the speed and anonymity of the game prevented any blame from falling onto any player. The game *Pokémon Red* was well chosen by the streamer, as it is certainly loved by many, and the new game he made from it could only truly be played by trusting that everyone was trying their best to actually achieve their aim. These themes often occur in discussions, the shared love the players have for the games, and the trust required to complete the game (Reddit Community, 2014)[14]. Furthermore, the same themes were filtered into the fictitious narratives.

This comradeship, however, was prone to frequent disagreement, as was also inherent in the game. Comfort in disagreement is also seen as an important part of what helps foster creative environments (Kurtzberg and Amabile, 2001, p. 290; Chiu, 2008, p. 385). This fundamental nature of disagreement also led to the players defining themselves as a disunited hivemind that haunts the player character. This creates an interesting situation where the Pokémon in the game come to represent comradeship and where the players are in a spirit of disagreement. Both important elements in creatively and inevitably collaborating become themes in fictitious narratives.

1.3.5 – The Fictitious Narrative

There is not a single fictional narrative of *Twitch Plays Pokémon*. Any story is one interpretation, although some are more popular than others. The story is in many ways best understood through its narremes, the individual building blocks of commentary, and creative works. Here, one interpretation will be presented that will focus on the most common interpretations, alongside alternative views of events. However, before that, it is important to mention how the earliest interpretation quickly fell out of favour.

The TPP player character was initially interpreted as a robot. The robot interpretation was common enough until the Flareon incident led to the Church of the Helix becoming the path the fiction would predominantly take [15]. This early interpretation saw the player character as a simple robot being controlled by many, explaining its bizarre and manic behaviour. However, the robot idea would be

[14] Appendix C – Sentiment Analysis adds some additional support for claims that trust was important to the TPP community.

[15] Appendix C – Sentiment Analysis helps highlight the importance of the Church of the Helix, by demonstrating the frequency of words related to the church being used in comments.

dropped, and a new interpretation would take form. The robot interpretation disappears from the narrative entirely as it falls out of favour, similar to other less referred to narremes such as a character called Bill being an unnatural creature, or the Church of Amber falling away from focus. The narrative presented here discusses events as they are interpreted with the advantage of knowing what form the narrative would take.

Twitch Plays Pokémon: The Helix and the Dome

A boy called Red on his tenth birthday was to set out on his Pokémon adventure; however, as he began to stumble out of his house, he became overwhelmed by conflicting voices that began to torment him and command his actions. This Hivemind of otherworldly origin began to haphazardly force him to move forward. Red's erratic actions gave him the impression of being a madman.

During the first days, Red was accompanied by Abby, his starter Pokémon, and Pidgey, the one Pokémon he was able to catch during these lost days that he struggled to recall as the voices gradually grew in number and their demands came faster and faster, clouding his senses. During the lost days, Red managed to defeat the Pewter City Gym Leader Brock, allowing Abby to evolve into what would be her last form a Charmeleon. The three companions journeyed through Mt. Moon and, in the dark, were given a choice between two fossils. The Helix spoke to them and gave some measure of peace to Red when he held it. Red had clung to other items for comfort, such as Moon Stone or Nugget, but they were both eventually disposed of. The Helix Fossil, however, Red could not dispose of. He came to consult it often, sometimes saying 'Praise Helix' as the phrase cut through the voices ringing out when he held the fossil.

As Red began to make his way to Cerulean city, he managed to capture another Pokémon, Rattata, Jay Leno. Red managed to make his way to a man called Bill, who gave them an S.S. Ticket. Some of the voices would attempt to convince Red that this ticket was what mattered not the Helix. Red managed to Defeat Cerulean Cities gym leader Misty and made their way chaotically to Vermillion City. In Vermillion city, Red faced a tree that needed to be cut. Red managed to catch and trade a Spearow for the Farfetch'd DUX and made his way through the S.S. Anne and use the S.S. ticket for its purpose. Red managed to help the captain of the ship, who taught him how to use cut.

The cut move allowed Dux to cut down the tree to easily solve the puzzle of the gym leader under the Helix's guidance, where Abby defeated Lt. Surge.

The Hivemind then sent Red to catch a Spearow and a Drowzee, finally giving Red a full team of Pokémon. Although The Hivemind felt that there was no task that they could not manage, they would be challenged by trying to guide Red over a ledge. The Hivemind struggled with dissent among the many dissenting voices within them and was unable to find the way past the ledge for many hours. This was the first sign of difficulties within The Hivemind; however, given time, they managed to get Red to the Rock Tunnel. The Hivemind now felt that no task could not be solved given enough time. As they made their way through the tunnel, they came to add a Rattata known as Digrat to their team. The Hivemind could not discover Digrat's motivations, as he constantly led them back to the start of the Rock Tunnel. Was he trying to slow their progress for the Disciples of the Dome, or simply a trickster? The Hivemind managed to get Red through the dark tunnel regardless, making their way through to the haunted Lavender town and to Celadon city.

At this time, The Hivemind successfully managed to remove Digrat from their team without accidentally releasing any Pokémon while dealing with the much-feared PC. Only Abby and the now fully evolved Pidgey (Pidgeot) were effective fighters. Pidgey now Pidgeot proved vital in the next gym, and along with Dux cutting down the trees that formed the obstacles of the gym. Pidgeot defeated much of the gym's trainers and gym leader Erika single handedly. The voices now recognised Pidgeot as the prophet of the Helix Fossil and dubbed him Birdjesus.

It was at this time that the Church of Helix and supporters of anarchy among the voices truly felt everything was possible; however, the first dark day came upon them as The Hivemind began to become lazy and impatient. The Hivemind knew that they needed a Pokémon who could cross water; they could wait and find something later, but with a free spot on the team, the voices called out for the immediate option. They were gifted an Eevee. Highly motivated from their successes, they went on the simple task of buying a water stone with which Eevee could evolve to the water-type Vaporeon. However, the voices were discordant, and Red soon spent his money on dolls, only acquiring a single Fire Stone. They had failed completely, and the anarchic voices were unable to achieve their goal.

Unwilling to take the safe option of depositing a Pokémon in the Pokémon day-care centre, the players chose to attempt the PC they so successfully negotiated before with Digrat. The Hivemind

failed even worse than they already had. In their attempt to remove Eevee from their team, they released Abby and Jay Leno, leaving only BirdJesus of the original three. Moreover, they once again added the dreaded Digrat to their team, which frequently could reset their progress. Although The Hivemind released them, it is believed that Abby would lead Jay Leno and the other lost Pokémon, to aid Red in his goal of freeing himself from the voices in the end.

This was the darkest time yet. Only BirdJesus was a capable fighter; they added an Oddish (xCabbage) to the team that did not make the team more effective, and it was Eevee who began to take the blame. There had still been a little hope that, after they got more money, they could still get a water stone, but in their panic, The Hivemind would unwittingly evolve Eevee into the Fire-type Flareon. For the Church of the Helix, it was clear that Flareon was The False Prophet sent by their hated foes The Disciples of the Dome to bring an end to their quest. They still tried to make progress in trying to take down Team Rocket's hideout, but they could not with Digrat constantly guiding them back to where they started. The Hivemind felt there was no way they could continue with Digrat. Perhaps when the PC is used, the False Prophet and the nuisance Digrat could be eliminated.

Instead, they deposited BirdJesus. Knowing there was no hope for them without BirdJesus, The Hivemind desperately attempted to rescue the Pokémon. They did so at the cost of the Helix Fossil, which took BirdJesus' place. It was thought that the Helix Fossil might even have "Died for their sins". The Hivemind tried to continue, but Digrat made progress so slow that it was impossible. However, BirdJesus kept the team and Red's spirits up while they were struggling with the voices, increasing frustration at their failure to make progress. BirdJesus knew that if there was any hope to be free of the voices, they would have to regain the Helix Fossil, and they would have to do as the voices demanded and defeat the Elite Four.

While The Hivemind once more tried and failed to dispose of Digrat, they did rescue the Helix Fossil. At the same time, a great change happened within The Hivemind itself. The Disciples of the Dome and democracy finally emerged as a force. Instead of the anarchy that The Hivemind usually spoke with the Dome forced order, a single voice spoke a command that the voices decided upon. From this time forward, there would be a constant battle in The Hivemind behind the voices between anarchy and democracy.

In the early days of The Hivemind's inner struggle, democracy reigned, although the voices of anarchy managed to riot, stalling Red's progress. When democracy reigned, he moved slowly and often with more focus; under anarchy, he returned to mania. This Hivemind continued the attempt to remove Digrat, and although that failed, they did deposit The False Prophet, leaving their Drowzee to be The Keeper of The False Prophet's imprisonment. Nevertheless, no progress was made through Team Rockets Hideout. Democracy would never hold the reigns unchallenged again and throughout the game. The Hivemind would find itself pulled between anarchy and democracy, Helix, and Dome.

The voices in The Hivemind that followed the Helix felt that a victory under democracy would be no victory; the voices of democracy argued that the puzzles and challenges they now faced were impossible under anarchy. Now Red was haunted not only by the voices of The Hivemind but their war between anarchy and democracy as well.

It was under anarchy that The Hivemind brought Red to the PC in hope of vanquishing The False Prophet of the Dome, who had brought much misfortune and split The Hivemind. Finally, The Hivemind succeeded, The False Prophet was released, The Keeper's job was complete. However, this is only one perspective; some say that The False Prophet was, in fact, The Martyr, who had been sent by Helix to bear the weight of The Hivemind's hatred for the consequences of their own actions. However, darker, others believe that The False Prophet was not the one who created the misfortune. It was The Keeper feeding on the dreams of The Hivemind, Red, and the other Pokémon, as the eating of dreams is what the Pokémon Drowzee does. With so many hopes and dreams pinned on The False Prophet, it was a feast for The Keeper that he would not be blamed for.

After the release of The False Prophet, the battles and riots in The Hivemind dominated everything; however, eventually, anarchy won, only ceding back to 'Domecracy' on brief occasions. The Hivemind managed to retrieve everything they had stuck in the PC, most importantly the revered Helix Fossil. With their newfound resolve the Church of the Helix placed itself in Bird Jesus's claws. The Hivemind, Red and the others were led to the heart of Team Rocket's hideout, coming close to defeating Giovanni Team Rocket's leader. They were led once again to Giovanni, only to be undermined by Digrat, but they returned a third time to defeat Giovanni. Before claiming the spoils, Digrat sent them back once again. The Hivemind once more wished to be rid of Digrat, but their love for BirdJesus stayed their hand. They retrieved what they needed from Team Rocket's hideout.

Team Rocket had been in possession of the silph scope, which The Hivemind needed to deal with ghost-type Pokémon, a type that would stay a constant fear owing to its immunity to many of the teams moves. Returning to the haunted Lavender town, it was apparent that they needed to train, as only two of the team had any way of damaging the ghost of the Lavender tower. Defeating every available trainer and even returning to the Rock Tunnel to train further, the players added two Zubat, X-wing and Dashbat, to the roster.

In search of even more powerful methods of dealing with the ghosts, The Hivemind dragged Red to acquire a move called psychic for The Keeper. However, they could not manage to teach it. They did win in a fighting Dojo being gifted a Hitmonlee, that The Hivemind thought would be a great asset to the team. The Hivemind rarely learned a lesson; this trip to the PC resulted in the loss of not only X-wing and the Hitmonlee but also The Hivemind deposited the Silph-Scope essential to their progress.

However, The Hivemind remembered their purpose, retrieved the scope, taught psychic to The Keeper and in the tower caught a ghost called Rick Gastly. While progress was slow, they did clear the Lavender town tower of restless ghosts. It was here that Digrat not only evolved into the more powerful Raticate but also proved invaluable in defeating the ghosts. The Hivemind saved Mr. Fuji and in doing so acquired the Pokéflute. The Pokéflute allowed them to awaken a Pokémon, Snorlax, while sleeping on the road. They failed to defeat or catch Snorlax, but the path was now open as The Hivemind desired.

The Hivemind piloted Red to Fuchsia City, where once again, BirdJesus managed to defeat the Gym Leader Koga, even surviving the gym's most powerful move, Self-Destruct. However, while celebrating their victory, The Hivemind overwrote Birdjesus' most useful move. For a time after Domecracy reigned, The Hivemind was managing money poorly, and a lack of money could prove to end the game early, stranding Red penniless, at the least it could slow their progress significantly. They had to access the Safari zone to acquire the move, Strength. In the process, they caught twelve Pokémon, most of whom would never join the team but were nonetheless apostles to Birdjesus.

The time had come to acquire a water Pokémon, and The Hivemind forced Red to Silph Co., which was under Team Rocket's control. It was here they acquired Air Jordan, a Lapras who learned both Strength and Surf, ensuring its place on the team. However, this led to the Digrat, who had come

to accept the Helix, being sent to the PC. Taking Digrat's place was a Venomoth from the Safari Zone, A.T.V., All Terrain Venomoth.

This team proved highly effective, defeating Giovanni a second time to acquire the Master Ball and facing the Gym leader Sabrina. On the second attempt, five of the six Pokémon on the team fell to Sabrina's first Pokémon. However, once more, Birdjesus saved the day, winning the sixth badge of eight. The Hivemind was once unsure of what to do next. Birdjesus was a powerful messiah, but the rest of the team was ineffective. They thought that leaving ATV with the Pokémon day care would free a spot for more effective Pokémon, but this plan failed. The Hivemind began to conceive of their most daring plan yet. The capture of Zapdos. A plan that would prove to be their last great test of faith.

Despite the great challenge, The Hivemind once again had to navigate The Ledge, reach the power plant, and catch Zapdos with the master ball under anarchy in a single attempt. The Church of the Helix rightfully saw this as a great omen, and they went to retrieve their Archangel of Justice (AA-j). Retrieving Zapdos would prove to be costly. Digrat, xCabbage, Dux and nine of the Pokémon caught in the Safari zone were released, leaving them with no means to cut trees. However, the Helix's faithful saw this as a test. Finally, The Keeper was sent to the PC, Rick Gastly left in the Pokémon day care, but the plan had worked despite its cost.

Zapdos would lead the team which was now annihilating all in their path. BirdJesus served his purpose and led them to anarchy's Archangel AA-j. Air Jordan sailed Red across the sea to Cinnabar Island. A place where fossils could be brought to life. The Hivemind drove Red forward to fulfil their final goal. The Helix Fossil would never be consulted again, as it has risen as the living Lord Helix. Lord Helix (Omanyte) guided the team in their goal of defeating the Elite Four and banishing the voices from Red. The Archangel AA-j, BirdJesus, Air Jordan, the newly added Fonz (Nidoking), and last and least of all ATV all joined the Lord Helix in their last battles.

Once they defeated the Pokémon Mansion, The Hivemind invigorated by Lord Helix's guidance swiftly dealt with the Gym Leader Blaine, returned to Viridian city, and faced a great obstacle. The Eighth Gym was fortified by a ledge, much like The Ledge. Although this obstacle slowed The Hivemind's progress, it soon entered and defeated the Final Gym Leader Giovanni of

Team Rocket. A battle that BirdJesus won as the last Pokémon standing, as he had done many times before. The path to the Pokémon League was now open.

Victory Road was full of ledges to slow their progress, but they made progress. It was in these caves that both the Church of the Helix and the Disciples of the Dome shone. Lord Helix took on his final form as Omastar, and Domecracy provided a way for Red to be guided through the puzzles of this last road. The Hivemind drove Red and his team at the Elite Four again and again, slowly making progress and slowly approaching their goals. It was near the end of their goal that the least of Red's Pokémon showed his mettle.

Having faced the ice-type Pokémon of Lorelei, the fighting-type Pokémon of Bruno, and the ghost-type Pokémon of Agatha, they faced the most feared member of the Elite Four. The master of dragon-type Pokémon, Lance. With all the other Pokémon fainted and Lance using his fearsome Dragonite, none had hopes that the feeblest of them would win. However, ATV proved to be untouchable, preventing Dragonite from using its most powerful moves. The name All-Terrain-Vehicle was better understood after that victory, as dragon skin is also terrain.

Finally, they faced the champion of the Kanto Pokémon League, their rival, Blue. Their rival lacked the strength of bonding Red's Pokémon had with him, as Red's team hoped to free him from being the vessel of The Hivemind. It was here that the need for the Archangel AA-j was proven. That his capture under anarchy was not chance but destiny. The Archangel defeated almost all of the Pokémon in the last battle, a victory that Birdjesus could not manage. As the last blow was dealt, The Hivemind lost control over Red, never to haunt him again. He would retire to the quiet Mt. Silver with his loyal team of friends. Treasuring the silence.

The Hivemind had achieved its goal and began to look for another…

With the narratives established we will now be able to discuss how the creative process led to the development of fiction in chapter four.

1.4 – Quantitative Analysis

The community of *Twitch Plays Pokémon* consists of a vast collection of comments across social media, which provide us with insights into how the TPP community developed and when it acted. However, the data must be selected and processed to be made usable for analysis. The narratives constructed around TPP are all formed from video footage and community commentary, and all have the biases inherent in any individual's perspective. However, to limit personal bias when constructing arguments, there is the option to explore a large dataset of comments and identify when the community developed ideas, why these ideas developed, and the general progression of the community. This also prevents the risk of repeating frequent or highly similar opinions within the TPP community as being factual when this may not be the case when looking at the actual comments. Quantitative methods can help both reinforce qualitative methods finding and provide a check against presumptions made during qualitative analysis. This is an important check in a media studies thesis to prevent my perception of events from being presented as definitive truth.

This thesis is concerned with the TPP community, as it was in 2014 when it was at its height, which means that the best available information is the data available from that time; additionally, as a study of distributive creativity, the focus is on the community as a whole, not any particular individuals. However, interesting research has been conducted on how individuals perceive a creative community such as TPP. Surveys and interviews about TPP *Pokémon Red* cannot tell us about the 2014 community, as there was a sharp decline in membership/viewership at TPP community sites, leaving any reference points for surveys lost. This means that any survey or interviews would not reflect the community at the time that is being studied or how it operated at the time but instead be a nostalgic reflection on events. Additionally researchers have also noted the difficulty in finding members of the community willing to participate in interviews, and especially difficulty in engaging the community to find interviews (Dou, 2017, p. 25). This difficulty in engaging the community was also found during this research, ultimately as this thesis is focused on distributed creativity this is not a particular issue.

In qualitative analysis, it is possible to explain the overall narratives that comprised TPP in a way that allows for an understanding of how and why TPP was played and the collaborative creative fictions that developed that will be explored in chapter one. This overview provides a context that allows for the identification of key narremes related to TPP. This in itself is substantive enough to

identify the narrative developments in TPP's creative fiction, but to identify the creative process, it is important to be able to identify when narremes rose and fell in prominence as well as the impact of obstacles in the game, and frequency of specific inputs over time. This is possible because of minimised data decay and the constrained sixteen-day time frame to study.

The TPP community created a substantial amount of data across social media, requiring sources of data to be identified and selected for their utility. The primary interest for identifying useful data involves first the data's accessibility and second, which data can be utilised well considering the technological limitations of an individual researcher. In terms of accessibility, data sources were evaluated on the basis of the difficulty of accessing the data against the data's potential value. This approach aimed to determine the simplicity of accessing social media data through the application program interface (API) and the level of discussion that occurred on the platform. This study uses two primary data sources, Twitch chat and comments on the subreddit r/twitchplayspokemon from the site Reddit. This is due to both the relative importance of these sources and the accessibility and functionality of this dataset compared with those of other social media platforms.

There are also technological limitations: to study even this constrained event, there was a substantial amount of data for an individual researcher with a consumer-grade desktop to process with simple RStudio code, which takes hours to process simple requests in many cases and days for others. This is the issue of data overload, which occurs when the amount of information exceeds the ability to process the information. This can be due to individual or other resources, such as time, budgets, and needed equipment (Roetzel, 2019). The data acquired for the TPP consists of nearly sixteen days of footage, sixty million comments across two social media platforms, and a large quantity of images and other fan creations. The processing of data had to focus on clear questions to obtain useful information and not expend time on every possible insight.

Ethically and legally, the primary concerns involve the use of comments and creative works, as while there are legal allowances for data scraping, there are limitations on what can be shared and how. This means that there are data as well as avenues of exploration that cannot be explored readily; for example, the use of usernames to identify particular social media users poses issues of privacy even with pseudoanonymous social media sites due to the difficulty of checking what

identifiable data users might have added that can be associated with themselves at the time or since. Only after addressing legal, ethical, and technical issues can the data sources be explored.

With these issues and the data sources prepared, I establish the methodology and organisation of the data used, which are more practical considerations related to software. The methodology relates to the software chosen and methods of data visualisation that were considered vital for demonstrating how the community operated. Data organisation is separate, as the data sources do not exist in an easily usable form and must be transformed before they can be used appropriately. It is important to establish exactly how the data transformations were performed, as it is relevant not only to the validity of the analysis but also for other researchers who may wish to perform similar work. With all this established, it will be possible to examine visualisations of the available data that demonstrate the TPP community's actions and activities.

One of the foremost questions for this thesis is how engagement changed over time in the TPP community and how this engagement relates to particular major events within TPP. It is possible to map this using the number of comments and their timecodes, with the archived video providing a reference point for the events. This can be done because both Twitch chat comments and Reddit comments have the time to be posted in their metadata. The Helix/Dome and related anarchy/democracy conflict can be explored via this methodology by selecting the number of comments that make references to/voting for either. This same method allows for tracking the impact of the start9 riots and when they first occurred and impact after their initial popularity.

We can then examine the more complex areas of analysis by starting with a consideration of what particular terms were used most. This helps form the basis for examining narremes over time, assessing which narremes tended to attract the most attention from the community, and identifying what events led to the rise of particular narremes. Together, all of these methods help form quantitative support for qualitative arguments about the nature of the TPP community and how they engage in the creative process.

A quantitative analysis alone would not be sufficient to answer the question of how the TPP community authored narratives: a qualitative analysis is required to make any findings of substance in this investigation. Quantitative analysis alone would tell us much about the community and its data, but it would not be able to sufficiently explain the narratives and narremes of TPP. Qualitative analysis

can reveal many narratives and narremes of TPP, but any claims about the community would be subject to researcher bias and errors in identifying what affect led to what outcome. A broad dataset of comments from social media sites during the period of TPP play and trends across the TPP community can be used to reinforce the arguments made during qualitative analysis and to identify the patterns of play and discussion that can help demonstrate the process of distributed creativity and community authorship.

1.4.1 – Ethical Considerations

The primary sources of data for this research include the text logs of the Twitch chat and comments and submissions to the TPP subreddit. These data include usernames, comments, and the time of posting. This information was shared freely and publicly by those who participated; however, this does not simply allow this research to make complete use of these data without adjusting the data for ethical considerations.

Article 4 of the EU Directive on Copyright in the Digital Single Market allows for a copyright exception for text and data mining for the purposes of scientific research (European Parliament Committee on Legal Affairs, 2019). This allows for the use of both the Twitch data that were available and the scraping of the r/twitchplayspokemon comment and submission data. However, it does not necessarily allow for the publication of that data in its entirety, only for the findings of that data. For this reason, the intended online public archive of comments has not been implemented, as it may not be in line with EU law and best academic practice.

Furthermore, the ethical consideration is that while users of both the Twitch and Reddit social media sites may have agreed to terms of services that permit the social media company to make use of these data, users did not agree that these data would be used by external researchers or anticipate being subject to EU directives. However, this conflicts with the ethical requirement to cite creators for their content rather than simply attributing all material to the social media website. For this purpose, usernames are only used in this thesis when a specific comment or image is referenced for the purpose of a qualitative argument that makes use of the work of a member of the community that cannot be highlighted through data analysis. The data field of the usernames is removed from the dataset after the number of individual users is counted.

There is also an ethical consideration of what this research might return to the community being studied. In this case, every aspect of the TPP community was publicly accessible, and comments made by members were known to be public. Regardless, it is still important to consider what can be provided back to the community. This research provides data analytics on communities from a non-social media source in advance of their tenth anniversary. It will also create an archive of videos, chats, social media, and images that comprise the community to avoid further data decay from erasing the TPP community's impact on the internet, which may be accessed by future researchers; in particular, those studying the history of live streaming in the future should find this useful. This preservation may not be immediately important, but it is important for data to be preserved in places unrelated to social media companies, whose archiving practices are often uncertain. This is increasingly important, as the presumption that social media sites data will be accessible is increasingly uncertain.

There is also the concern of the researcher contributing to the TPP community. It is difficult to prove the limited interaction that I had with the TPP community. Users could use many accounts, and there were accusations of "botting", which is the creation of scripts that repeatedly posted commands into chat on an individual's behalf. As a researcher, I contributed to the community in the Twitch chat in 2014, and I helped spread awareness of TPP as a whole. However, my interaction was limited and certainly diluted by the many other contributors. Owing to the semianonymous nature of these internet communities, it is impossible to ascertain how little an impact my interaction had on the community, but it should be considered a potential factor and bias.

An important final note to be considered by other researchers is the shifting nature of anonymity. We should look at two contrasting examples. The first is a commentator who used a username when engaging in TPP but later used the same username as their internet persona. While their comments or artwork on TPP may have been made under the presumption of anonymity at the time, they may have had their identity and work since they became more associated with their username. This would mean that the expectation of privacy when making a comment in 2014 may have changed significantly by 2023 (AoIR membership, 2019; Milligan, 2023). There is also the problem of artists who have contributed to TPP in the spirit of the moment and shared images that they intend to retain the copyright to. The artist might not have considered copyright when posting the image in the moment, but this does not reduce their claim of copyright on their artwork. This means

that their artwork cannot necessarily be shared, so they can be at best archived for future researchers. Neither issue has simple solutions beyond being especially careful in minimising what is used for research and being willing to remove images/citations if requested.

Data analysis of social media remains a young and complicated field in which intellectual property and fair use have yet to be truly tested. The present research aims to consider what it shares and uses in the future. Consequently, the sources and the material will be provided to researchers but not to the public, as was initially intended. However, an archive of three solid-state drives contains both the raw data and images and the processed data, which are stored in separate locations if needed. The original raw data are available through an internet archive (Internet Archive, 2014a, 2014b) and Reddit data dumps (Baumgartner *et al.*, 2020).

1.4.2 – Data Sources

While TPP has an array of possible data sources, this thesis focuses on two sources. The major theoretical justification for this focus is the volume of available comments and the relevance of the commentary. Additionally, there are practical reasons with the difficulty of gaining access to some data sources and how interoperable the data are. In what follows, I first discuss the two sources that have been chosen and how the data were acquired and second, the sources that were not included.

The primary data source is the TPP Twitch channel. The TPP stream and its chat data have been archived, and both remain available via the Internet Archive (Internet Archive, 2014a, 2014b) and, as part of this thesis, will be stored on an encrypted solid-state drive to ensure that the data are accessible. The stream is archived in video format broken into a series of FLV-formatted videos of approximately 30 minutes in duration starting at 1 day, 11 hours and 25 minutes. This is a substantial amount of footage but is important for establishing a timeline whereby events can be verified.

The Twitch chat archive begins at 1 day and 5 hours, which is the same time as when the TPP stream was linked to 4chan, which led to an increase in viewers. The chat logs are also logged with the Internet Archive and stored on a solid-state drive as part of this thesis. The chat log was preserved as a series of LOG files of differing sizes. These LOG files recorded three pieces of information as a basic text file; the time a comment was made, the username who made the comment

and the comment itself, with each piece of information delineated by a tab, and each entry indicated by starting on a new line.

The subreddit r/twitchplayspokemon was an important source of in-depth discussions during the play of TPP red. To acquire these data, a python script was used that downloaded the posts and comments from reddit, starting from the opening of the subreddit until March 2nd, 2014, when play ended (r/twitchplayspokemon, 2014). The Reddit downloader script created two datasets as CSV files. The first listed every discussion thread in the community, detailing its title, the body of discussion, the username, the time, and its reference code. The second database documents every comment made on the subreddit with the same data categories. Having the discussion threads reference allows for comments to be associated with the relevant discussion the comment was made on if it is deemed important.

The video data fortunately have a timestamp providing several key pieces of information: first, the video files provide the timestamp that both verifies when things happen and context for how the twitch chat and subreddit react; second, the video files provide the absolute verification that events happened as the community says they happened. This was used for the timeline and in providing the ludic narrative earlier in this thesis.

The Twitch chat amounted to approximately 40 million inputs, and the Reddit comments amounted to approximately 200,000 total rows. However, the Twitch chat LOG files were not usable as a database because they were simple text files, and the reddit CSV files were composed of 144 CSV files that, while individually readable in a spreadsheet program, were disjointed, thus making it difficult to gain any insights from the raw data. Consequently, the Twitch chat data and the two collections of Reddit discussion CSV collections had to be converted into data that could be analysed.

The datasets are composed of comments provided to social media sites, and any research follows the digital single market laws of the EU, as mentioned earlier. Images, videos, and music are on less certain copyright grounding, although they are permitted by law. The issue could be ignored; however, it is important to recognise that the legal standing of the TPP and every product of the community is permitted to exist because the Pokémon copyright is not pursuing legal cases over nonprofit infringements. While social media data are accessible and legally defensible, TPP is allowed

to exist because copyright holders do not pursue rights. This is also true of the derivative TPP creative works.

The different data sources require a level of standardisation before any data visualisation can occur. The archiving of Twitch chat and Reddit discussions is useful, but the datasets were not interoperable, so the file formats and data formats had to both be standardised, as discussed below. To achieve this, several pieces of software are required to transform the files and data; however, the raw initial data are also preserved to ensure that the process can be verified if ever required.

1.4.3 – Data Processing

RStudio (RStudio Team, 2023) is the primary software used to analyse the data acquired as part of this thesis. The ethical reasoning for using the R programming language and RStudio is due to both being free-software licences allowing for significant ease in the replication of data transformations and visualisations performed as part of this thesis. The practical reasoning is that both can be operated across a variety of operating systems and have an established history across multiple research fields, meaning that both are also less likely to be affected by changes in commercial software. Owing to difficulties in RStudio graphing the large datasets while it was working on the next query, once the data were processed and counted through RStudio, graphing was performed through LibreOffice to maintain the ability for replication, as LibreOffice is also free software operable across multiple operating systems. Data were acquired through RStudio processing, and then the data were moved to LibreOffice for visualisation.

The Twitch chat data were preserved as a text file recording the date of the post, the username, and the comment. The Reddit data had to be scraped into two sets: one with comments that had been posted to r/twitchplayspokemon and the other with the thread posted to the same place. A thread on Reddit was a link or a comment that other users of Reddit could comment upon. They were separated for Reddit structural design, but their linking data were retained in the CSV files if needed.

With the three datasets, it was important to make all interoperable. There are many data analyses that could be performed, but there are primary areas to focus on to reinforce the arguments

made in this thesis. Most important of these arguments are those that help us understand how the community operated throughout time. Through standardising how time was described across the datasets, it became possible to join the comments from all three into a single dataset that was named the corpus. The corpus of comments allows the entirety of the discussions to be explored for keywords relevant to TPP.

The Reddit comments have a Unix timestamp that is precise to the second. However, unfortunately, Twitch chat is not as precise. Twitch chat recorded to the minute of posting in a more traditional time format, converting this to the Unix timestamp, could not restore the missing data on the second of a comment being posted; however, these missing data are not needed, as looking at terms and entries on a daily level should be sufficient for studying developments over time.

The comments of the datasets are generally simple text, which allows for all or a selection of the comments to be brought together into a corpus that can be examined in RStudio. One particular use of this for TPP is the ability to separate the chat comments on twitch from the input comments, thus allowing for an examination of the effects of the changes that occurred to how TPP was played.

When dealing with a corpus of data, it is also important to consider what words are important. The immediate use is to focus on words that are particularly important, for example, ‘hivemind’, to track its use over time and highlight the rise and decline of different terms.

There are a series of steps that are important for performing more complex analyses that can be explained here. The first is the ‘tidying’ of the corpus to remove words that are irrelevant and to join words that are relevant to each other. The removal of words can be important when trying to identify terms that are frequently used and that need to avoid what are termed ‘stopwords’ (Sarica and Luo, 2021), slowing down the process. These are words such as ‘a’, ‘at’, ‘is’, ‘the’, ‘these’, and ‘this’. For this corpus, this process avoids the simple issue of stopwords appearing highly ranked in commonly used words, as this would not provide any useful information. For TPP, this can be further expanded to remove terms such as ‘http’ or common inputs such as ‘a’, ‘b’, and ‘start’. Building on this, when counting prominent words, it was then possible to remove repeated terms such as hyperlinks to websites and notifications that provided no particular insights.

There are also technical limitations to the methodology. The size of the dataset makes complex data transformations a slow process. This requires that certain choices are made for reasons

of speed rather than being the best theoretical solution. For example, the dataset can be separated into days, and days can be used as the primary metric for time. The Unix timestamp could provide much more granular data, but the benefit would be heavily outweighed by the time it would take to process and the difficulty in graphing the results. Any possible benefit would be heavily outweighed by the amount of time it would take to process the information. Importantly, extending the time axis to hours would turn 14 points on the axis into 336 points, which is not useful for data visualisation. This again relates to the issue of data overload.

Aside from the technical aspects of the methodology, there is the fundamental issue of identifying what data transformations to focus on. This decision is affected by practical considerations of what is most relevant to address, what information is best communicated by visualisations, and what data can be simply extracted by finding a particular comment. Being able to count the amount and types of comments made about TPP over time is the first important area for visualisation, as it can reveal the levels and types of engagement at key points during TPP and the actual size of different positions on anarchy and democracy as modes of play, despite what discussions might indicate where a small passionate group might appear much larger than the actual active group in play. This type of information is particularly relevant for identifying how large the start9 riots and supporters of democracy were. Furthermore, by examining how prevalent the start9 riots are among the inputs, we can identify how prevalent the rioters were among the player base from their emergence to the end of play. Similarly, we can look at how often democracy and anarchy are posted as inputs over time to see the back and forth between the two positions over time. These visualisations are able to demonstrate the effects of movements within the TPP community more effectively than just pointing at particular comments that both have a bias and do not have actual data.

Using the same methodology, it is possible to count the appearance of particular terms over time. This allows us to check for how prominent narremes and memes were over time. This can help show how some ideas fell out of favour, while others became more prominent and when they were at the height of their prominence. Charting this provides insight into when the community particularly focused on and developed particular narrative elements that may not be as close to when the gameplay events that inspired the community occurred. It also provides a methodology for choosing to focus on particular narremes in qualitative analysis over other narremes.

The final data analysis is that of counting the frequency of word appearances throughout the entire corpus of comments. To do this, additional data processing is required to remove frequently used words in the English language and numbers and transform all words to lower case. With the frequency of every word counted, this list of words can be visualised as a table or as a bar chart for the most prominent terms and as a word list in which the size of each word matches its frequency.

Each of these will be discussed in more depth, and the specific code and language used appears in Appendix A in relation to processing the data, and Appendix B for the RStudio code used to analyse the data. The large size of this dataset and richness of the data mean that many other analyses and visualisations are possible; however, for this thesis, only relevant visualisations to support arguments have been made, as not all visualisations are relevant or useful.

In addition to the tables of data and visualisations, the methodology used to acquire and read the data, the transformed data, and the software and environment used to transform these data will be preserved as part of this thesis to ensure that replication is possible but as part of preserving TPP as a whole. Additionally, Unix time codes allow for the preserved video of TPP and chat to be matched together accurately, ensuring that the timeframe remains consistent and interoperable for referencing particular events throughout this thesis.

1.4.4 – Data standardisation

To gain valuable insights into the overall community process, the Twitch chat and subreddit data had to be read by one program that could relate each dataset to each other. The first and most important issue was ensuring that the timestamps of both were correctly synchronised. This might seem to be a simple issue, but different website standards can make this difficult. Once the timestamp of all the entries is standardised, the next important step is to ensure that the different file types are brought to a standard under a piece of software that can read and interrelate all the data, which for this thesis was RStudio. RStudio was chosen because of its cross-platform availability at zero cost, open-source licence, and familiarity for the researcher.

Many of the twitch chat LOG files were too large to open in the basic software Microsoft Office or OpenOffice. This meant that the larger LOG files had to be separated into smaller files that

OpenOffice Calc could open. These smaller files could then have their plain text data converted into columns. Calc has the ability to transform data into CSV files that are readable by RStudio as data tables. Once each separated file was converted into a CSV file where the time, date, username, and comment were defined into columns, the files could be then recombined into a single dataset that had defined categories that could be related to the other datasets.

The Reddit datasets had a similar issue of being too large to be read by basic office software; however, the data had been captured and clearly categorised, meaning that they simply had to be joined into single files to make a consistent data series that could be ordered by time from the opening of r/twitchplayspokemon to the conclusion of TPP *Pokémon Red*. However, an important issue remains: the timestamp of the twitch data is based on the Twitch server location, whereas the Reddit data are based on Unix time.

Unix time is a common server standard that counts time from the number of seconds that have passed since 00:00:00 Universal Coordinated Time on January 1st, 1970 (Mashey, 2004). Reddit posts are timestamped on the basis of Unix Time (Baumgartner *et al.*, 2020). Twitch chat posts are also based on Universal Coordinated Time, but the chat records it in the hour: minute day/month format (Internet Archive, 2014b). To reconcile the end point of the chat logs, the Reddit comments were aligned to ensure that the time conversion was accurate. With both datasets in RStudio, it was then a process of converting the Twitch chat timestamp to the Unix Time format. The process for this is recorded in Appendix B. This meant that all sources of data could be placed on a definite timeline.

With the data now interoperable with the same timestamp, it was important to ensure that the data sources could be searched and transformed into visualisations that would highlight changes in the TPP community during the course of play. The Twitch LOG files were separated, each transformed into CSV files, and the Reddit data CSVs had empty or unneeded columns removed (IP, reddit gold status, etc…). These files were joined into large CSV files that were best read and transformed via the R language and RStudio software.

With the datasets prepared and accessible by the RStudio software, the next important question is how to use these data and what these data can reveal about distributive creative communities. TPP provides a wealth of data because of the short period of intense interest, which allows us to examine how the TPP community operated as a distributed creative community with

greater definition than more long-term or slower communities might allow. With the data prepared, it became possible to ask specific questions about the community as a whole about particular terms and ideas the TPP community created, thus gaining insight into the actual events and processes in the TPP community.

1.4.5 – Comments Throughout Play

The best method for evaluating the level of engagement with TPP across its existence is to track the number of comments from day to day. To do this, the datasets can be searched for comments matching each date, which can then be separated out and saved as seventeen smaller datasets for each date. We can further separate each individual day between the Twitch chat data and the Reddit submissions and comments. The separation of the main dataset into subsets allows us to look at particular inputs and narremes across time, as well as the prominence of particular inputs on days where the community faces particular challenges.

This data table shows each total number of engagements each day. The data about the inputs are acquired from the data discussed further in this chapter. This table serves two important purposes: the first purpose is to show the actual data; the second purpose is to show how important visualisation of the data is. This information is exact and clear, but it requires careful examination, as its trends are not readily clear to the human eye.

With the data available for study, it was not possible to look at the datasets through Excel or OpenOffice Calc. Consequently, the decision was made to use RStudio, although it was faster to adjust the visualisations for readability in OpenOffice Calc. As a consequence, these data came from counts made in RStudio, which were then entered into OpenOffice Calc and then graphed.

Table 2 - Comments per day

Date	Reddit Comments	Reddit Threads	Twitch Comments	Total
14-Feb	0	0	403,338	403338
15-Feb	683	161	1,256,964	1,257,808
16-Feb	3,444	791	2,334,316	2,338,551
17-Feb	9,020	1,802	2,953,765	2,964,587
18-Feb	22,872	2,776	3,858,465	3,884,113
19-Feb	21,804	2,919	4,012,335	4,037,058
20-Feb	16,019	1,726	3,207,839	3,225,584
21-Feb	13,228	1,747	2,521,878	2,536,853
22-Feb	4,615	972	3,224,294	3,229,881
23-Feb	25,543	1,820	3,289,991	3,317,354
24-Feb	17,936	1,174	2,812,873	2,831,983
25-Feb	7,643	866	2,854,072	2,862,581
26-Feb	12,558	861	2,773,870	2,787,289
27-Feb	8,763	515	1,550,274	1,559,552
28-Feb	5,153	860	1,925,696	1,931,709
01-Mar	12,536	1,468	570,414	584,418
02-Mar	3,163	243	49,052	52,458
			Total	39,805,117
			Inputs	12,845,917
			Comments	26,959,200

This table shows each reddit comment, reddit thread, and Twitch Comment on each day of TPP and the Total Comments. Below is a tally showing the divide between comments and inputs and the total TPP engagement between Feb 14th and Mar 2nd.

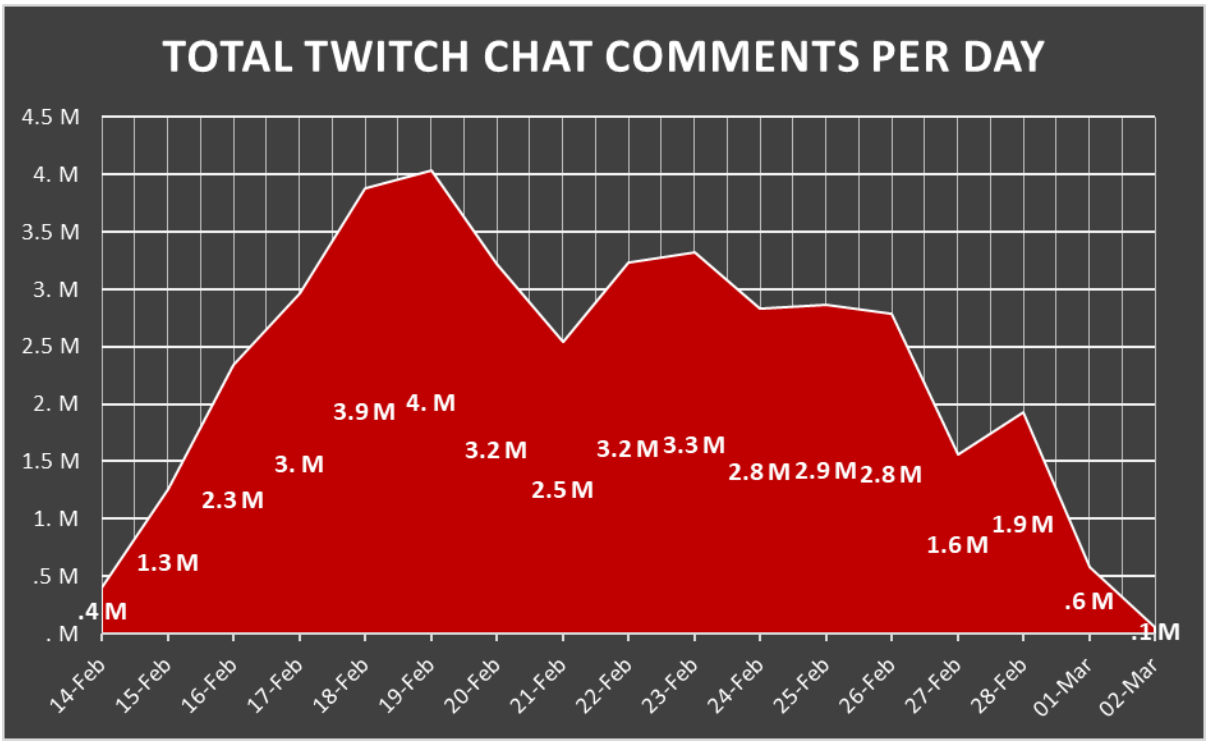

Figure 9 - Stacked area chart of total number of comments per day on Twitch and Reddit.

To visualise the number of comments over time, a stacked area chart provides a clear impression of the swift rise in engagement with TPP, with the fifth day, February 19th, having the highest number of comments at 4 million. This coincided with the evolution of The False Prophet and Team Rocket HQ's issues. This number soon declined to 2.5 million by February 25th after two full days remained in the Team Rocket HQ and remained steady between 2.8 million and 3.3 million comments daily. The final decline occurred on the 13th day, which was after the Helix fossil was revived near the end of the game; this decline continued as victory became increasingly likely.

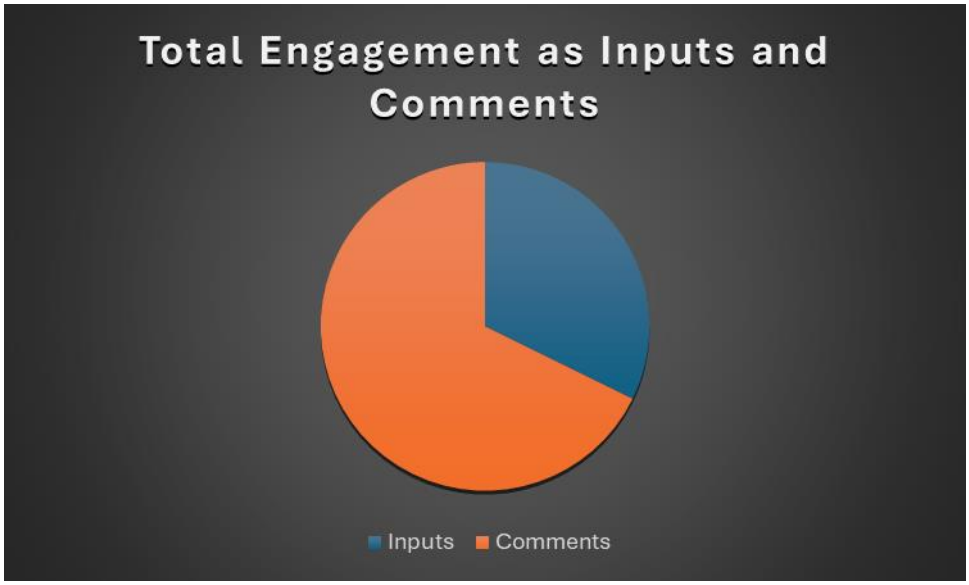

Figure 10 - Pie chart of inputs and twitch chat comments as a proportion of engagement.

Further insights can be gained from these data. By removing the totals of the inputs to the TPP (a, b, left, right, etc.), it is possible to identify how much of TPP was composed of comments compared with inputs as a proportion of the total. A pie chart was chosen for this visualisation, as it efficiently conveys that inputs made up 1/3rd of Engagement, and chats comprised 2/3rds.

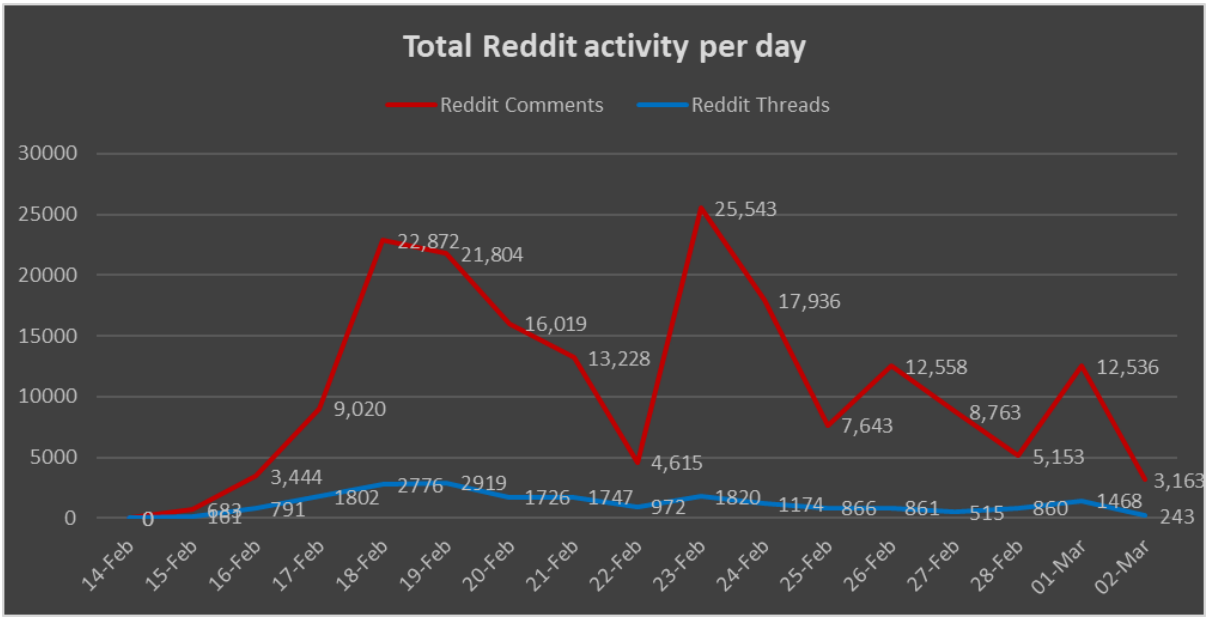

Figure 11 – Total Reddit activity per day.

There were attempts to visualise Reddit activity as a portion of total activity. However, this visualisation was deficient because of the vast differences in the numbers of entries on both datasets. The Twitch chat was fast paced and thus contained shorter messages, many being inputs, and of the remaining two-thirds many were memetic or repeated phrases such as ‘Praise the helix’ and similar memes. Reddit comments and threads are typically longer and more in depth, as they are archived and can be replied to for months after their posting; long after the TPP, Twitch chat would have been archived and inaccessible outside of the large log files. Reddit comments are written expecting response and knowing that an audience can take time to read what is written compared with a constantly updating chat where comments can often be more like joining in a chant at a soccer match.

A line chart was used for visualisation, as a stacked area chart made the trend line less clear. The shape of the Reddit comments mostly matches what was seen with the Twitch chat. With less of a peak during the events of the False Prophet, which is unsurprising as that peak was part of the two-day high of the entire internet looking at TPP. The dip of engagement while the community is stuck is also matched. However, for Reddit the peak engagement in comments was during Bloody Sunday, the community’s term for the event where they lost most of their Pokémon. This may be indicative of two factors: the remaining engaged users using Reddit more and the ability to attempt to organise on Reddit and mitigate the damage caused by retrieving Zapdos.

Importantly, Reddit threads do not rise in proportion to the comments; this is expected because of Reddit’s purpose as a discussion hub. The even larger scale of difference in terms of peak days highlights that the site function as a discussion and organisational hub. What is interesting to note is that highest number of threads posted to Reddit occurred during the first decline in engagement. As a hub for aggregating content, be it news articles or artwork, this is most likely a consequence of two factors. First, following the height of engagement, many articles are expected to follow. The second factor is that it is during this time that many narrative elements begin to take shape; The False Prophet, anarchy vs. democracy, Bird Jesus. With these in place, artists were able to explore these topics and share their interpretations.

1.4.6 – Game Inputs, Start 9 Riots, and Anarchy/Democracy

By looking at the data, we can also see how often different inputs were used, which can indicate trends in the data, particularly in relation to how strongly each day was embroiled in battling or difficulties dealing with travel. During days when travel issues were prominent, such as The Ledge, there was an increase in directional inputs, particularly near the end of the TPP when the community repeatedly challenged the Pokémon League, directional inputs fell. These data show that the directional and a/b buttons were used at quite similar levels, with the start button being much less used as it brought up the menu and select being almost unused, as it was a button typically tied to the bike or fishing rod to speed up either activity.

Table 3 – Frequency of each input

Input	a	b	left	right	up	down	select	start
14-Feb	51’567	36’625	41’244	43’770	54’986	39’423	4’908	25’928
15-Feb	99’622	67’623	110’199	120’222	155’696	93’943	11’764	68’488
16-Feb	129’084	119’041	114’650	110’992	136’603	89’369	10’034	52’033
17-Feb	90’482	117’374	125’720	119’060	143’056	127’701	8’557	63’109
18-Feb	62’040	114’699	157’826	135’155	123’568	143’320	6’911	57’696
19-Feb	108’103	99’585	87’934	77’932	119’835	99’864	5’422	34’963
20-Feb	74’790	68’375	66’746	67’625	75’953	63’253	3’203	20’008
21-Feb	67’808	59’359	52’837	49’005	68’226	52’755	4’067	21’460
22-Feb	122’556	121’746	82’274	70’070	121’467	88’789	6’820	57’933
23-Feb	85’207	88’598	79’071	85’746	96’101	74’494	7’039	38’538
24-Feb	83’055	68’060	55’845	49’306	87’861	97’302	2’528	42’341
25-Feb	85’101	76’250	72’205	62’599	136’237	136’237	2’638	33’903
26-Feb	50’452	51’775	96’220	80’545	117’577	96’376	1’785	23’176
27-Feb	56’203	46’282	37’356	36’625	58’819	51’214	1’250	18’887
28-Feb	75’499	44’666	35’922	32’381	60’183	44’481	784	23’997
01-Mar	79’318	37’661	25’608	22’462	49’943	24’007	1’473	10’449
02-Mar	1’727	779	440	204	1512	552	241	1’092

There is an important note to make before looking at the other three major inputs. A count of how frequently each word occurs across TPP will show that inputs such as left9 and down9 have

been used into their thousands. However, the above table focuses on the primary inputs, which were all used with much greater frequency. The table below shows that even the most commonly used input strings, the famed start9 riots, were still used much less than other inputs and yet significantly more than any other ‘input(number)’ style inputs.

Table 4 – Nonstandard inputs

Input	start9	anarchy	democracy	Total
14/02/2014	0	0	0	298’451
15/02/2014	0	0	0	727’557
16/02/2014	0	0	0	761’806
17/02/2014	1	0	0	795’060
18/02/2014	14’568	111’030	131’909	1’058’722
19/02/2014	10’715	236’982	267’406	1’148’741
20/02/2014	1’695	175’161	169’083	785’892
21/02/2014	8’778	132’596	175’601	692’492
22/02/2014	3’700	186’987	225’601	1’087’943
23/02/2014	4’719	219’878	268’179	1’047’570
24/02/2014	2’665	185’680	158’579	833’222
25/02/2014	2’140	164’994	209’999	982’303
26/02/2014	2’411	212’898	239’277	972’492
27/02/2014	885	132’657	106’470	546’648
28/02/2014	4’925	191’938	184’421	699’197
01/03/2014	916	80’376	58’902	391’115
02/03/2014	217	4’932	5’010	16’706

This table lists the three most prominent nonstandard inputs**.** That start9 input that served as a protest, and the anarchy vs. democracy inputs that would decide the mode of play.

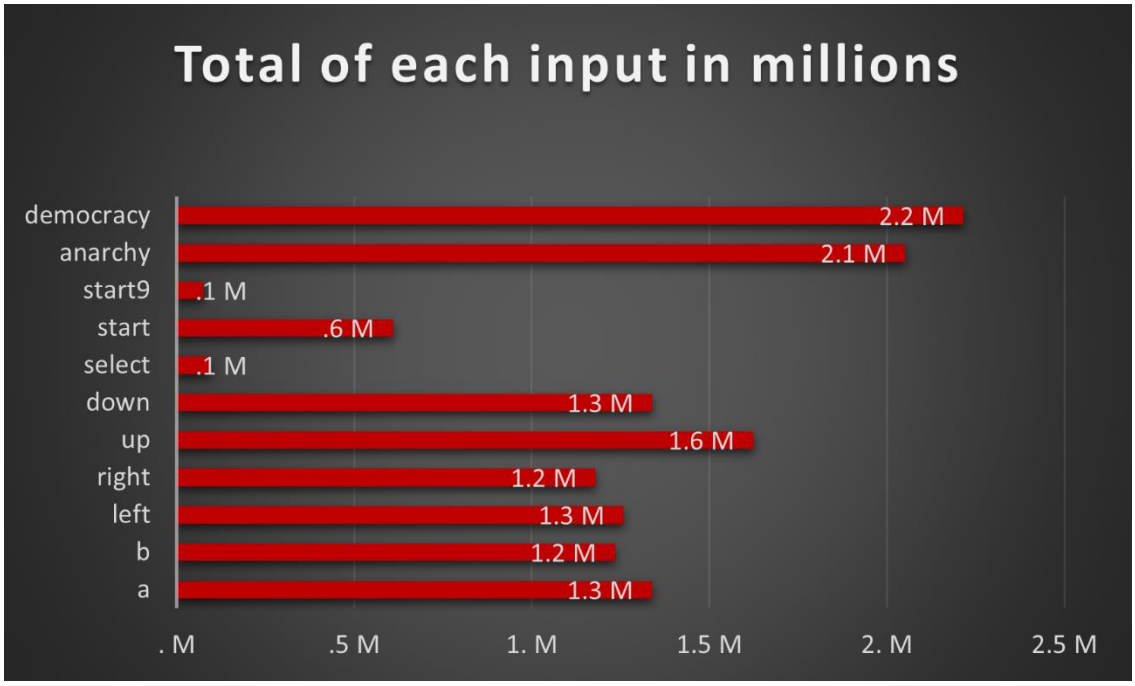

Figure 12 - Bar graph showing total standard inputs in millions.

Interestingly, looking at the total of all inputs as a bar graph results in a graph that is unusually uniform. The two primary buttons and the directional buttons are on a rough parr at 1.3 million, with the up input being higher. An interesting potential interpretation of these data is that the basic game *Pokémon Red* was very well balanced around inputs. The reason for the disparity of the up input is not currently clear, but it may be related to particular struggles with ledges while travelling. The start button was rarely used generally in the game, as it was only used to access Pokémon and inventory information, both activities that the TPP community was interested in attempting because it required an improbable amount of coordination. The select button is clearly the least used input, as it was not needed for gameplay and was often nonfunctional. The democracy, anarchy, and Start9 inputs are notable outliers among the inputs. Start9 is on par with the select input despite its prominence in discussions about TPP, and anarchy and democracy are both significantly higher than any other input but are much closer to each other than the popularity of the anarchy faction might indicate.

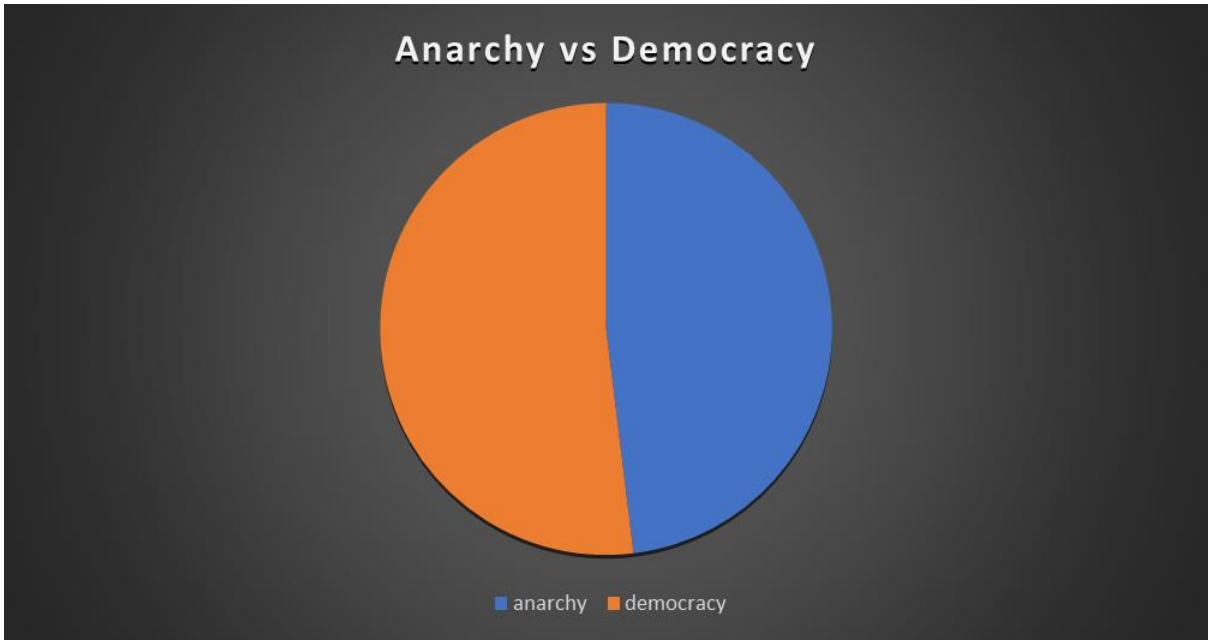

Figure 13 - Pie chart showing the anarchy and democracy votes.

While anarchy was most popular in the community, democracy was voted for more often. This might initially be considered a very surprising bit of information, but it may also point more to how consistently and determined democracy voters were while anarchy voters could easily seize and maintain control. Consequently, those voting for democracy did so more often, whereas anarchy was generally in control more. However, it does demonstrate that the pro-anarchy players were not as prominent as might have been believed for both sides to be so close in number of inputs.

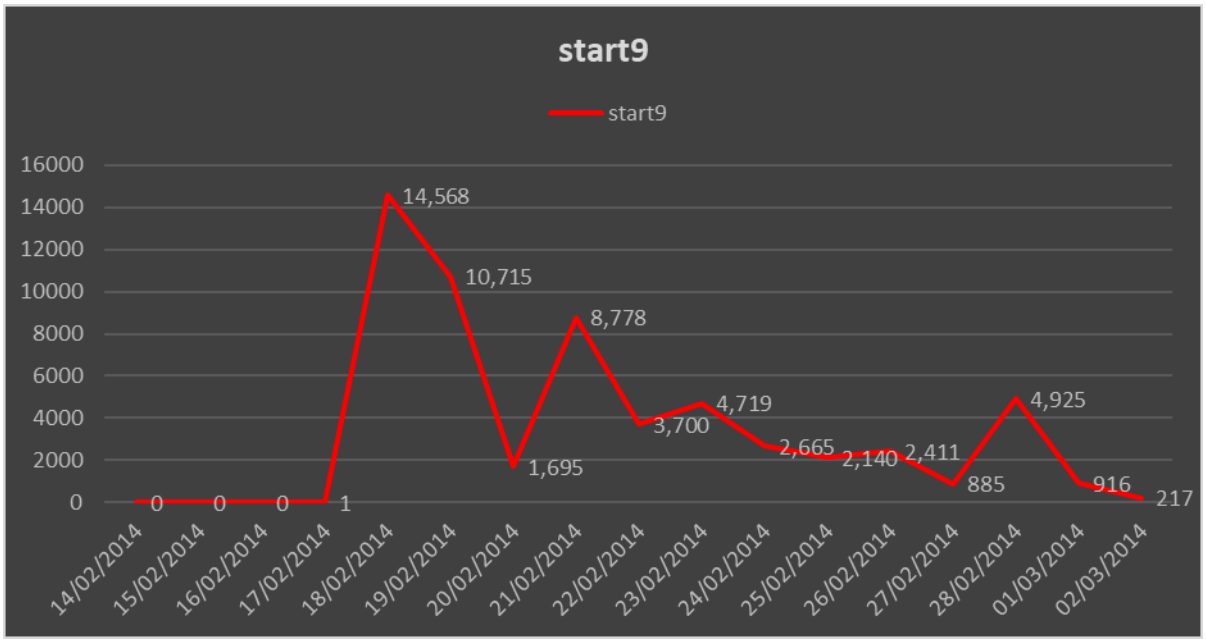

Figure 14 - The prominence of the start9 input over time.

In a similar issue faced by looking at the reddit totals against the twitch chat totals, looking at start9's effect on a graph that compares it to other inputs does not reveal its actual impact. When democracy play was much slower, every 30 seconds, the most input command would be picked and implemented. If the winning input was start9 the menu would be opened and closed repeatedly, and then voting would begin again. Essentially, a group collaborating to vote start9 could shut downplay for a time or at least slow play down significantly.

At the height of the start9 riots, the number of start9 (57'696) inputs is 4 times fewer than the number of start inputs and only slightly more than double the number of select inputs (6'911). This finding indicates that even at the height of the start9 riots, they were a minority compared with the majority of players who wished to keep playing under democracy rather than stop playing. Start9 would quickly decline and peak twice again after the start of the democracy/anarchy peak, while always having a slight presence at around a minimum 1000 inputs.

The second peak on day 8 is immediately after the Team Rocket HQ, which democracy was created to navigate. A clear push to return to anarchy now democracy was not needed. The next peak occurred while the community struggled between democracy and anarchy as failures on a victory road set them back a significant distance from Cinnabar Island. Ultimately, the decline of start9 can be attributed to the introduction of an option to vote to switch between the anarchy and democracy modes of play on the 17th.

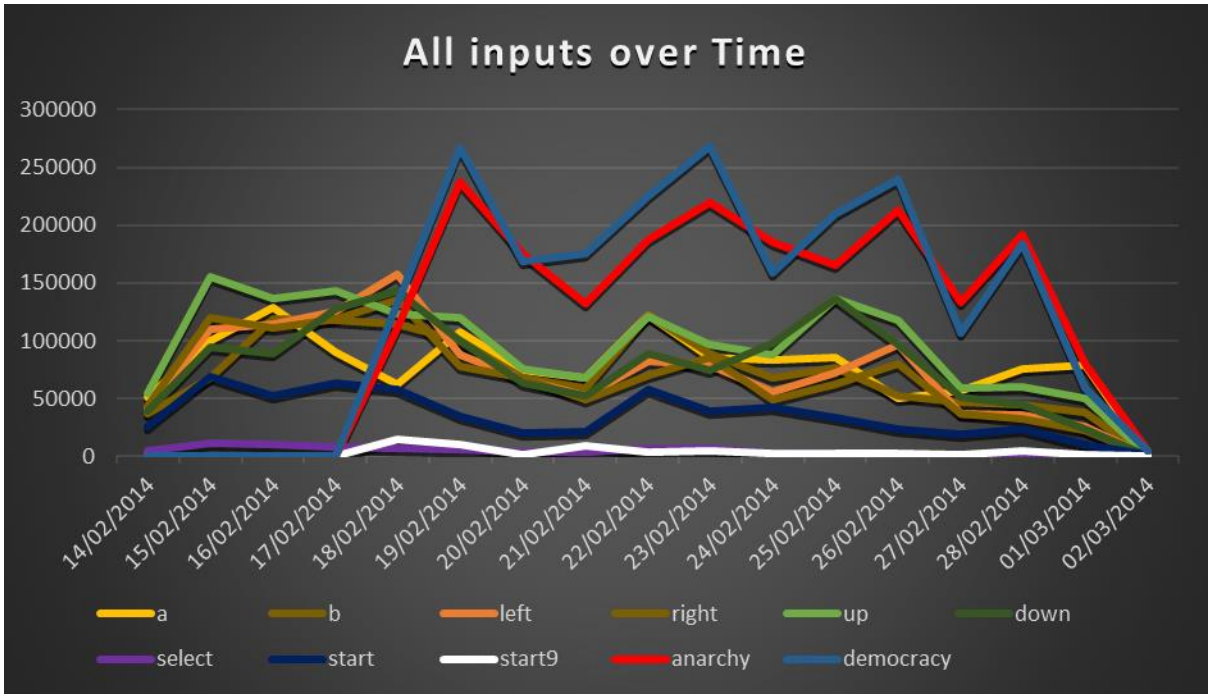

Figure 15 - A line graph of all inputs over time.

This graph clearly shows two important pieces of information. The first is how disruptive the start9 inputs were despite being a small group within the community. The number of start9 inputs may be small but had a significant effect on the community's enjoyment of play. The second is how immediately the anarchy/democracy split came to prominence and how close the two groups were in terms of the number of inputs. Among all the methods used to visualise the importance of anarchy/democracy and the Helix vs. Dome, this graph makes it clear that this split was significantly important to the TPP community, as the contest between both remained significant from its inception to the very end of the TPP.

1.4.7 – Most Frequent Phrases, Memes, and Narremes

To establish what the TPP community was focused on as a whole, it is possible to count how often every individual word was used by the community. The count of every single word amounts to 43,648,245 individual words, requiring a more focused approach to identifying the terms important to the TPP community. The first choice is to reduce the relevant words to the hundredth of a percentage of mentions. This means that every word above their 4364 mention is relevant. This provides a list of 293 words.

It is immediately clear that the list requires a number of words to be removed. For example, the second most common word is ‘left’ because the chat announces every user who left, and the third word is ‘joined’ because it announces every user who joined the chat. Following those terms are many that are links to twitch and the term ‘http’. Removing those and similar links gives us a very clear top three mentions of TPP, anarchy, and democracy oversize all other words by a significant margin. The third word Helix achieves a count of 655’270 compared to anarchy’s 2’140’382. Consequently, the TPP mentions, and anarchy and democracy were removed for their overwhelming mentions due to being inputs. Leaving Helix as the top mention across the community.

There are additional terms that must be removed. The first is links to sites, whose word counts are recorded simply as site name with no further detail. The next to remove are the special inputs, for example, right9. These inputs were typically used to overcome specific challenges when the community was playing in the democracy mode, and while important to note, they do not communicate the TPP community’s aims over the seventeen days or the creative process. The next type of input to remove is emojis, which are specific reactions to the twitch community at the time that they are recorded as words; ‘biblethump’ is the highest-ranking example, but ‘pogchamp’ and others are also removed. Following this removal is typos such as ‘dow’, ‘righ’ and other inputs that were intended to be standard inputs but mistyped.

These eliminations from the top word count are obvious, but the following exclusions are more subjective. The first was to remove nouns, verbs, and slang that are unclear in their relation to TPP, an example being the word holy. It might have relevance but is difficult to relate clearly to the TPP community without context. Similarly, words that are generic to playing *Pokémon Red*, such as ‘Pokémon’, were removed, and catch were removed. This was followed by contextless words such as damn, which lack a meme or narreme to clarify their purpose to the community.

Table 5 - Table of removed words

Original List	Number of uses	Reason for removal
twitchplayspokemon	23446299	High frequency of use
left	13016363	Frequent due to input
joined	11740845	Frequency due to automatic chat message
tmi.twitch.tv	3955454	As above
testserver.local	2504453	As above
democracy	2413631	Frequent due to input
anarchy	2140382	As above
start	655270	As above
http	367912	Frequent due being a standard internet protocol
helix	171885	
guys	88610	
select	88032	Frequent due to input
start9	69017	Frequent due to input
riot	55509	
kappa	54442	Twitch Emoji
imgur.com	54071	Website for hosting images
pokemon	51603	Does not provide any context
jesus	51199	
tinyurl.com	47971	Website for hosting images
bird	41780	
i.imgur.com	41421	Website for hosting images
lol	40076	Common internet slang
beat	39693	
codehero11	39390	Could be a bot, joins chat on average every 45 seconds during a weeklong period of time. Google search only returns a snippler page “Create the backup of your site using curl” Further indicating a relation to being a programmed bot
praise	39112	

This leaves relevant words but does not complete the refinement of the word count of the TPP community. There are highly ranked words that are related; for example, ‘guys’ ‘beat’ and ‘misty’

have rankings of 12, 24, and 27 on the list before any alterations, respectively. These three entries refer mostly to the TPP community's meme, 'hey guys we have to beat misty'. This meme was an early reference that became popular as a chant to focus on an aim early when TPP became popular.

There are many similar examples, such as consult, praise, and hail the Helix; all highly linked ranked words take up high spots individually. For the purpose of identifying how much the community cared for an individual meme and narreme the multiple words have been converted to being represented by the highest ranked word. Similarly, names of characters such as Bird Jesus (21, 19) have been similarly joined so that the term Bird Jesus would rank at 19, assuming no other changes.

The last changes made to the list involved removing terms such as spam and gg (good game). These terms and their frequency of use are highly relevant in specific situations, but as general terms do not help identify what narremes were important to the TPP community. Finally, the important ludic terms of teaching abilities to Pokémon have been removed, as their importance to the community is naturally related to gameplay and can be related specifically to events and TPP community plans. A list of 25 terms is left for identifying important narremes.

This process might seem selective in favour of the researchers' conclusions owing to the many alterations to the pure list. However, a paired list of the unaltered word count and the altered word count should show the importance of making qualitative choices from quantitative data.

Table 6 - Table of the most common terms used after joining words.

	Altered list of most used words		Number of uses
1	Praise Helix	Meme celebrating the Helix Fossil	171885
2	Guys we have to beat Misty	Early meme, often referred to joking about community's lack of focus	88610
3	Riot	Consequence of the Start9 riots opposing Democracy	55509
4	Bird Jesus	Name of most used Pokémon	51199
5	Game Plan	Planning of community's next steps	37160
6	The PC	Where Pokémon were swapped	36277
7	AA-J	The legendary Pokémon on the team	27153
8	Dux	An early Pokémon that was lost	16515
9	Red	Player character name	16466
10	Dome	The deific enemy of the Helix Fossil	16060
11	Don't Release	Concern over releasing Pokémon	14370
12	Rick Gastly	Pokémon put into Day-care permanently	13675
13	Air Jordan	Pokémon on final team	13434
14	The Ledge	The main navigational challenge the TPP community faced	12916
15	Secret/Lift Key	An item that replaced the Helix fossil with frequent attempted use	12705
16	R.I.P Digrat	Meme mourning a lost Pokémon	12415
17	Fight	Major game mechanic	10377
18	Grind	The act of repeating simple fights in order to level up Pokémon so they can face more challenges	10356

Table 6 - Table of the most common terms used after joining words (Continued).

19	Progress	No particular TPP meaning	10268
20	Die	No particular TPP meaning	10261
21	Love	No particular TPP meaning	10223
22	Flareon/The False Prophet	Notorious Pokémon and foe to the TPP community	10075
23	Hell	No particular TPP meaning	9717
24	Victory	Standard meaning, and name of major location Victory Road	9714
25	Maze	Rocket Maze was a major navigational challenge	8495

Tables should make it clear that the removal of some terms and the amalgamation of related terms are useful in creating a list of frequent words that is useful in describing and understanding TPP as well as choosing narremes to focus on. This does not make the unaltered list irrelevant, however, as it highlights how often ‘Imgur’ was used by the community. This piece of information first helps demonstrate the importance of the reddit community r/twitchplayspokemon, as Imgur, as an image host, was particularly used by Reddit users. The unaltered list also has highly ranked entries for words that look like ‘e5fxi’, this part of an Imgur link and allows for the identification of what ‘game plans’ were most shared in the TPP community.

1.4.8 – Popularity of Notable Narremes

Using the same methodology that was used to find the inputs, it is possible to track the prominence of narreme terms over time. This is achieved by ensuring that capitalisation is unimportant and that RStudio counts each instance. These counts were performed on the Twitch and Reddit community’s data, but the table of data below displays only the totals of both. The chosen narremes come from the analysis of the terms most used by the TPP community and their impact on the fiction of TPP.

Table 6.6 -Narremes frequency by day

Date Submissions	False Prophet	Hivemind	Helix	Dome	Bloody Sunday
14-Feb	1	8	364	4	0
15-Feb	13	29	2655	77	0
16-Feb	15	77	6639	378	0
17-Feb	325	88	12610	1158	0
18-Feb	715	143	18886	2576	0
19-Feb	419	123	14524	2618	0
20-Feb	287	116	15306	2686	0
21-Feb	180	84	10005	2353	0
22-Feb	251	100	16423	2724	1
23-Feb	673	165	16867	3599	182
24-Feb	298	123	24864	2914	353
25-Feb	171	96	19978	2402	155
26-Feb	132	148	19741	2341	133
27-Feb	324	509	14479	1340	89
28-Feb	1916	56	14727	1424	44
01-Mar	113	44	13957	1005	65
02-Mar	75	16	2805	189	22
Total	5908	1925	224830	29788	1044

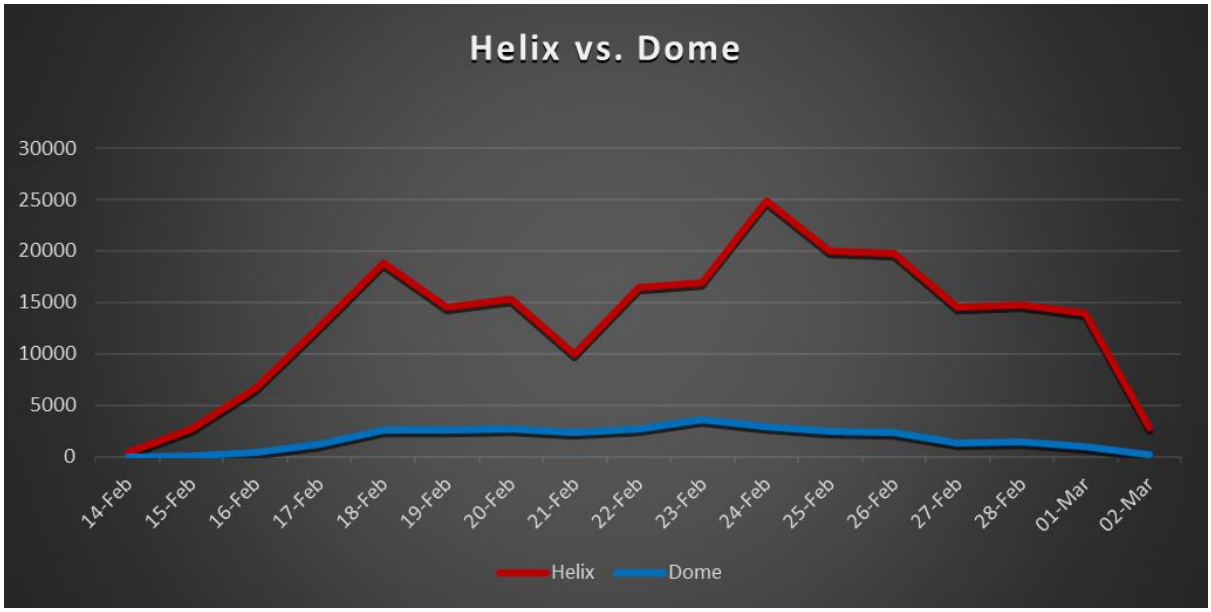

Figure 16 - Line graph of The Helix vs The Dome over time.

Two explanations exist for the disparity between this chart and the anarchy vs. democracy data. Democracy had a ludic benefit; it was useful to play under the democracy mode of play. However, anarchy and the helix fossil were far more fun for making stories and repeatable memes. Consequently, democracy and anarchy were contentious, but few people supported the dome versus the helix in a narrative sense.

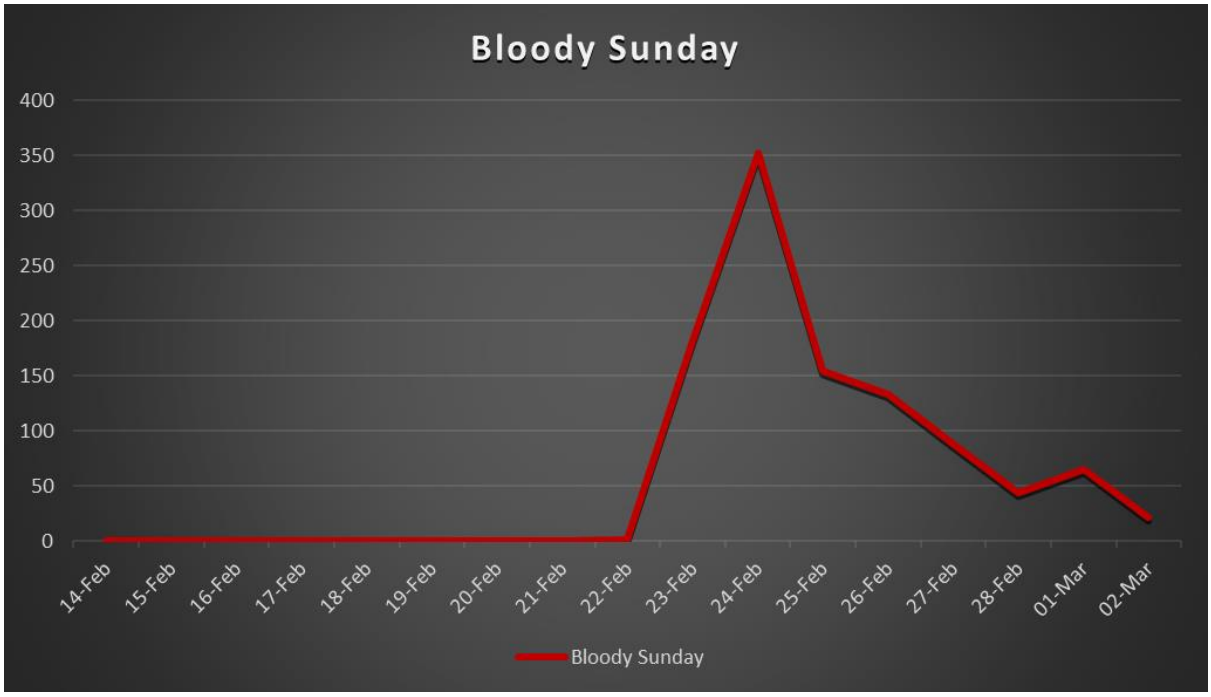

Figure 17 - Line graph of Bloody Sunday's prominence.

In the remaining three prominent narremes we will discover how late they become prominent. The first is Bloody Sunday. Unsurprisingly, these values peak immediately and decline reasonably steadily until the end of TPP. This is expected since Zapdos presence meant that Bloody Sunday had to maintain importance in discussions towards the end of the game.

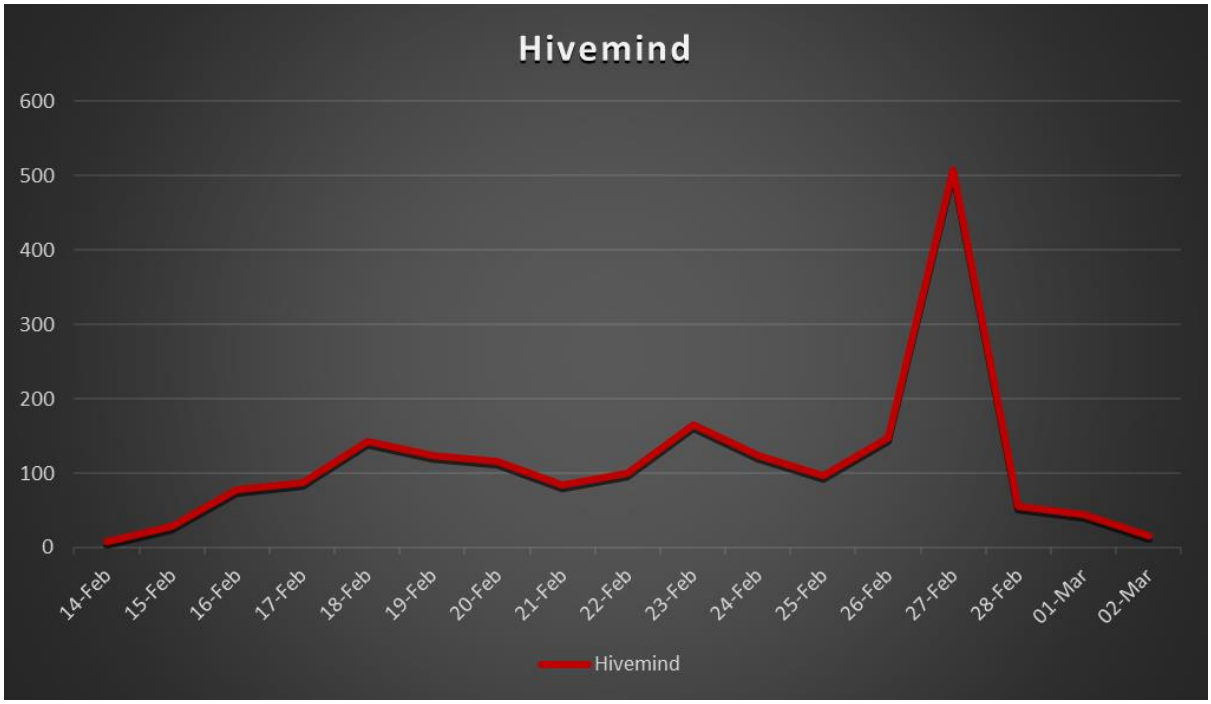

Figure 18 - Line graph of Hivemind's prominence.

The Hivemind shows a very interesting development. It has prominence as a narreme from start to finish, with a steady rise generally matching the growth of the peaks and troughs of the community, but on 27th February, The Hivemind hit a major peak, while engagement generally declined. This is best explained by the slow and steady pace of progress that had become apparent, which provided the TPP community time to fictionalise the events of TPP. The point at which The Hivemind came to prominence is ironically as it shrunk in capacity, but two important factors to consider are that creative work takes time and that the 27th February rise may be due to a rise in creative works. Second, after almost two weeks, the TPP community had taken on enough character that it felt like the community had to give it a mind to explain their actions.

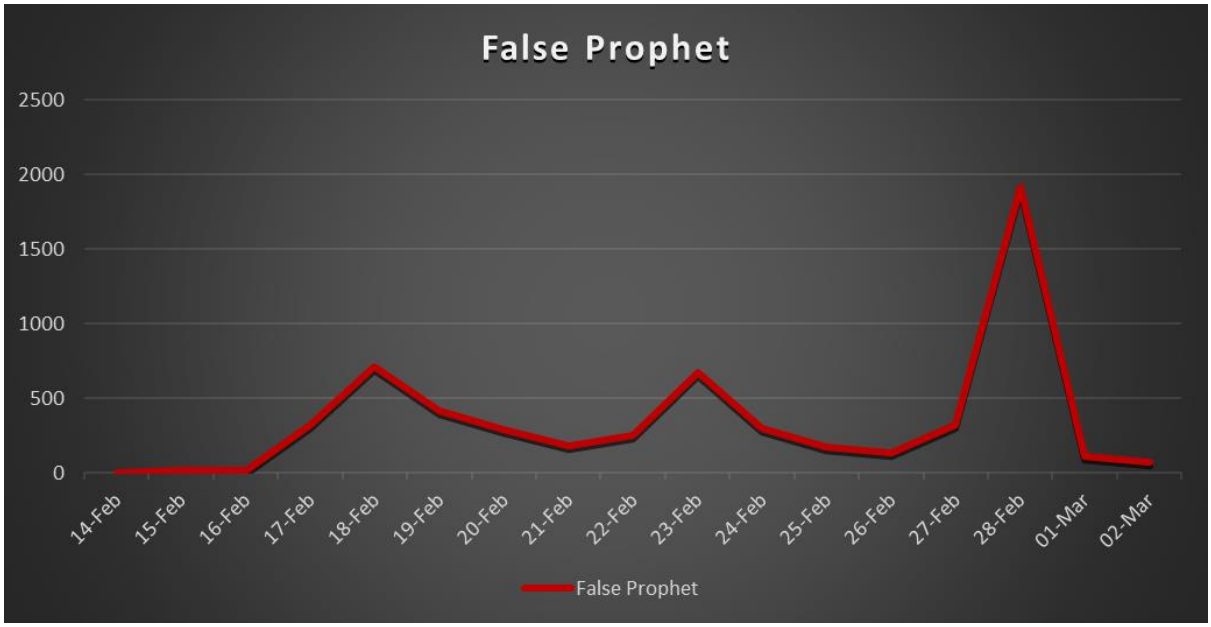

Figure 19 - Line graph of False Prophet's prominence.

The False Prophet is the very last narreme to peak. Unsurprisingly, the term first peaks immediately after Eevee evolved to Flareon and again reappears when Zapdos is captured and considered another false prophet. However, similar to The Hivemind, the False Prophet resurges again near the very end of TPP. One day after the term, Hivemind Peaks. Two prominent narremes rise very close to the end of the events of TPP: Hivemind and The False Prophet. Importantly, both terms that help define the fictional narrative of TPP rise to prominence near the end of events, possibly because events were near the end, meaning that few events could occur to change the inevitable outcome of the story. This might have made it easier for the community to focus on particular narremes. Though it is notable that fictional interpretations rise as engagement begins to fall, possibly indicating that a core of the TPP community was most interested in and responsible for the creation of the fictional narrative.

There are limits on the conclusions that can be drawn from visualisations of count data. These data and these visualisations provide supporting evidence and contrast with the popular narratives about and within TPP that will be explored in chapter four.

1.5 – After Twitch Plays Pokémon Red

Twitch Plays Pokémon ended on the 1st of March 2014; however, this was not the end of TPP story or impact. The community continues to play other Pokémon games to the present day, although the audience has dwindled significantly, and with the smaller player base, creative work has similarly dwindled. The stream brought considerable attention to Twitch as a platform. While many other streams have since been influential on the Twitch site, it is impossible to underplay TPP's impact, as the Twitch VP of marketing stated: "This is a wonderful proof on concept that we hope to see more of in the future" (Saltarin, 2014). Other versions of the "Twitch Plays X" formula are still being attempted, but none have the same level of impact as TPP.

Interestingly, the Pokémon Company (Owned by Game Freak, Nintendo, and Creatures), which is in control of the Pokémon franchise, has never officially acknowledged TPP. TPP has been obliquely referenced by some marketing events and potentially by games (Bulbapedia, 2020). However, the references made by the Pokémon Company have never been confirmed as intentional and are most likely the efforts of individual employees; thus, the impact of the TPP on the franchise remains unknown.

As of September 2020, the TPP community has played 62 different Pokémon games for more than 6 years (Wikipedia, 2020). The player base quickly played through every viable generation of mainstream Pokémon games (mainstream games are those that follow the established gameplay and introduce new Pokémon, often utilising new hardware), and they were able to make use of the many fan-made games. The use of fan-made games highlights the commitment that fans of the franchise have to the franchise and desire more content, as while some fan-made games are rather simple changes, others are full games that simply use (even add to) the assets of the original games.

This modification of the original games is highly dubious legally despite their popularity. The fan-made games, such as the TPP ROM, are played on a PC, not with Nintendo hardware. Although none are given away for profit, this type of modification has not been defended in court as of yet placing them in a dubiously legal area (Machkovech, 2016). The use of fan-made ROMs from the outset of TPP is likely not a small part of the reason it is unacknowledged by the companies involved in the Pokémon franchise. Nintendo is not favourable towards streamers (Wilson, 2017), and like most companies are not happy to have their IP used in ways that might breach copyright. Similarly,

acknowledging TPP may put their trademarks into question. Therefore, it seems that they have chosen simply to pretend that it does not exist, so the fanbase can continue without issue.

The original streamer left running the stream due to allegations that he harassed members of the community (Jackson, 2017), and since then, the stream has been run by members of the community. The TPP subreddit has declined to under 50000 members (r/twitchplayspokemon, 2020); however, the twitch stream has continued to operate continuously for the 7 years since the original stream. While TPP Red has long ended, both the community and its impact are still present.

Summary

Exploring TPP as a creative community, describing its narratives, and performing quantitative analysis on the community's social media comments provides the foundation for exploring the distributed creative process. In the following chapters literature analysis of creativity, narratology, and metamodernism will provide the theoretical framework for chapter fours creative engine model.

Twitch Plays Pokémon is a channel on the website Twitch where viewers of the channel control a Pokémon game by entering commands through the channel chat room. The original game played on the channel was 1996's *Pokémon Red*. Over 16 days and 7 hours, 1,165,140 users watched the stream, and 750,168 participated in playing *Pokémon Red* by inputting at least one command to a game that was originally intended to be played by a single player. The people playing *Pokémon Red* on Twitch Plays Pokémon channel created communities on other social media platforms to make plans, collaborate more effectively, and discuss events occurring in the game. During their discussions, community in-jokes started to form around the nonsensical events in the game. The in-jokes would soon be reinterpreted by the community, and a fictional narrative began to take shape within the community. In the rest of this chapter we will look at TPP as a community, as narratives, and what can be learned from the available data.

TPP, like many modern internet communities, cannot be studied by looking at a single website. The TPP community can be viewed as having the Twitch page as the TPP community's core, around which various major social media sites exist, allowing for more comprehensive discussion of the TPP stream. Social media sites can be seen as the discursive orbit around the core of the Twitch stream where the gameplay occurs. Finally, the sites around the community discussions hosted creative work and articles about TPP but were not primarily a community space themselves.

Different social media sites provide different methods of engaging with TPP and are governed in different manners. The TPP Streamer chose to have a largely hands-off control of the community, except for the major decision to switch to a democratic decision process, and then, after protests, a shared anarchy/democracy system. Twitter and Tumblr make use of hashtags that result in a lack of direct governance. Users see what is shared and engage with what they wish free of any individual or group controlling the hashtag. The subreddit r/twitchplayspokemon, however, serves a particular need because, owing to reddit's design, any subreddit community is governed according to its moderators.

These moderators chose to focus on facilitating the community, which Reddit was well suited for. Allowing the community to have live updates, and threads are pinned to the subreddits front page. This allowed participants to keep up to date, which was vital for them so that they could learn of developments while they were away. It also allowed for both organising and sharing strategies, as well as a place to centralise links with fan media.

The broader Pokémon fandom is related to the TPP community. The Pokémon Fandom of course also already existed on major social media sites, providing a large audience for the TPP to draw upon. Pokémon fandom was already heavily grounded in remix culture; most importantly allowing TPP to be a ROMhack and be played on an emulator. Second, the Pokémon fandom has long had a strong history as a remix culture that created its own games, Pokémon, and music. Consequently, the TPP community was built upon a preexisting community that had long embraced altering and reinterpreting the franchise and had established creative skills.

The participants in the TPP community shared a singular goal that they expressed in a variety of ways, all of which furthered the community's development and aims. Most participants were either just viewers who drew attention to TPP or had minor participation by inputting a few commands. While seemingly minor, this large group was vital to the success of TPP and significant in increasing the viewership numbers of TPP and demonstrating interest in the stream. Players constitute another mode of participation that was highly motivated to organise the community and further the aim of completing the game. Artists of all forms are the core group that created the fictional narrative around the game events. Both prose comments and artwork were vital in shaping the narrative of TPP. All types of participants were ordered and facilitated by the moderators. The moderators were the governing group who elected themselves to organise the community. Moderators are likely among the most involved, as they had to focus time on organising the community while also staying away from becoming too overbearing.

Regarding both governance and participation, there is an important additional layer. The TPP Streamer introduced democracy in the middle of the game, which resulted in riots by the community. This resulted in an ongoing clash between anarchy and democracy, as decided by the community. As a result, all participants and fiction would be viewed through this lens. It had a major effect on the fiction and community, leading to a divide that, while prominent, was not an impediment to the aim of

the community. It is probable that this conflict was instead actually important to helping to drive the creative process as conflict can be important to creative communities. With a clearer picture of the community this chapter proceeded to explore the narratives of TPP.

Separating the TPP narratives into narrative levels allows us to determine how TPP's narratives are related to each other and how important all three narratives are in fully understanding TPP. The ludic narrative is sterile without the community's discursive narratives, and both lack much of the drama and humour that is embedded in the fictional narrative.

In the ludic narrative, the definitive events of the TPP can be seen. An unusual playthrough of *Pokémon Red*, but following the expected story of the original game. It is the method of play through either anarchy or democracy that defines TPP events by turning relatively simple tasks such as changing the Pokémon in the TPP community's team into risky operations, as was seen twice with the loss of Pokémon when trying to remove their Flareon (The False Prophet) from their team and later when they attempted to add Zapdos (AA-j).

Through the discursive narrative, the TPP community and their views become clear, particularly the reasons for conflict over the introduction of the democracy mode. The start9 riots might have delayed play but had little effect on the events of the gameplay; however, they were significant in defining the divide in the community of the introduction of democracy. The process by which the community rationalised the irrational events of the ludic narrative became apparent through the discursive narrative, where the community shared their ideas and slowly, particular narremes about TPP began to be established.

This fictional narrative lacks an objective canon and is composed of contradictory interpretations of events, although they share the same core events and characters. In the fictional narratives, the participants in the TPP are embodied by the antagonistic Hivemind, which becomes divided over the political and religious ideas behind anarchy and democracy. Anarchy and democracy represented the different philosophies and modes of participation in Playing *Pokémon Red.*

Exploring the narratives of TPP provides a broad overview of what TPP created and the actual events of the game, as well as a summary of the disagreements and conflicts within the community. Next, quantitative analysis is used to explore the comments of the TPP community to

determine what can be learned about the community and their creative process through the community's own words.

The opening of this quantitative analysis presented the methodology of performing this analysis. The ethical and legal issues related to the use of users' social media comments that had to be considered in advance of performing the analysis were addressed. The technical issues of data overload and data decay were discussed. The issue of data decay in particular highlights the problems of expecting that social media data will remain available for future research.

Counting the use of particular terms provided important insights. Counting the community comments over time indicated the amount of user engagement with TPP over time, which demonstrated how obstacles that the community faced within the gameplay did reduce engagement, giving weight to some members of the community's concern that people would lose interest in TPP before they completed the game owing to obstacles. Counting the specific use of gameplay inputs demonstrated that the Start9 riots were briefer and less concerning than what was perceived in the community. The number of votes for the anarchy and democracy modes of play demonstrated that the split was quite even despite anarchy often being portrayed as the 'correct' mode of play through its importance throughout the fiction. It was also possible to determine the most frequently used terms, which provides a way to determine what narremes were particularly popular and demonstrates that there may have been some bot activity in the game, as was claimed by some. A selection of the most frequently used narremes over time allows a timeline of when they first emerged and when they were being discussed the most by the community as well as basis to select narremes to focus on in chapter 4's analysis.

This chapter demonstrates that data analysis provides methods for demonstrating the prevailing trends in the TPP community over time. By making use of different methods, this quantitative analysis provides further evidence for claims made through qualitative analysis. As an example, analysing the user numbers over time allows for claims to be made in regard to how engaged the community was and what events caused declines in viewership. Tracking the use of particular terms has demonstrated that many significant elements of the fictional narrative develop later during play than was initially expected.

As a case study of distributed creative communities, TPP may be able to show how fragmented in-jokes and ideas coalesce into more cohesive narrative elements and help provide a framework for our understanding of their creative process. This will provide a useful framework for understanding how people create narratives about their communities from the narrative elements they are exposed to. With an understanding of what TPP is it is important to explore and elaborate on the creative and narrative theories that have been touched on in the first two chapters and that will allow us to explore the TPP community and its narratives in depth, so that we might explain how the distributed creative process works.

2 – Literature Review: Creativity

In this chapter, the literature and theories about creativity will be explored, particularly those that build towards understanding the distributed creativity that TPP expressed. When examining creativity, this chapter considers both the different definitions of creativity in the 20th century that formed the basis of our understanding of the 21st century's creativity on social media. We also explore how the characteristics of collaborative creative communities are represented in the distributed creative community of the TPP and how those communities are identified as creative communities. The question of what knowledge an examination of TPP can provide regarding distributed creativity requires an exploration of what creativity is the broader theoretical context and how this thesis specifically both reinforces established theories and moves past those same theories.

2.1 – What is Creativity?

One of the most difficult aspects of the study of creativity has always been the definition of creativity. While creativity is a commonly understood term, it is so difficult to define that much of the study of creativity has been simply trying to find a definition of creativity to study the phenomenon. It is within this issue of definition where we can most clearly see the development of scholarly thought on creativity in the 20th century. First, creativity, creativeness and creation are not terms that have been defined in academia to describe an observed phenomenon; rather, they are expressions that are most often used by people in the arts, sciences, or day-to-day life as useful for describing their actions (Wehner, Csikszentmihalyi, & Magyari-Beck, 1991). As Batey and Furnham argue about the use of the concept of creativity, "{it's} usefulness means that the term has been applied in such a diverse manner that it has almost ceased to mean anything" (2006, p. 357). This highlights how the diverse use of the term creativity has obscured the ability of academia to define what exactly is being referred to when people say something is creative.

As a concept, the two primary discourses around creativity in the mid-20th century focused on highly individualistic theories of creativity (Knobel and Lankshear, 2008). From early research into personality in the 1920s until the mid-1970s, creativity was considered a mental property an individual possessed, such as intelligence, neuroticism or conscientiousness. This led to the belief that what we referred to as creativity was thought of as a trait belonging only to exceptional people (Runco and Albert, 2010). The second discourse considered creativity as a holistic phenomenon, a view that emerged in the 1950s from the theories of Freud and Montessori; their discourse also considered creativity to be highly individualistic (Runco & Albert, 2010).

"The problematic definition of creativity is strongly tied to an issue of language. Creativity is understood by people through signifiers of creativity, such as novelty, success, or simply media portrayals of creativity. Creativity does not have an objective definition, and as Prentky explains, "what creativity is, and what it is not, hangs as the mythical albatross around the neck of scientific research on creativity" (2001, p. 97).

Guilford, in publishing the first argument that creativity could be studied, gave a definition in 1968:

"In its narrow sense, creativity refers to the abilities that are most characteristic of creative people. Creative abilities determine whether the individual has the power to exhibit creative behaviour to a noteworthy degree" (Guilford, 1968, p. 63).

Guilford's definition, however, is a tautological definition; however, it was primarily intended as a recommendation of what to study, which, for Guilford, was the personality of creative people, demonstrated by his statement "the psychologist's problem is that of creative personality" (1968, p.444). Guilford's definition also refers to novelty as a criterion for creativity (1968, p.444p. 452), which will reappear in later attempts by researchers. Guilford argued that creativity is a continuous trait in all people and that those individuals with recognized creative talent simply have "more of what all of us have" (Guilford, 1950, p. 446). Guilford's definition clearly highlights the main aim of those studying creativity from a person-centric approach, where the approach is to determine the specific traits, motivations, and capacities of the people who create creative products (Carroll, 1993; Eysenck, 1993). However, this perspective fails to consider the potential changes in the generation of creative ideas that can occur when the inputs and interactions of other people are introduced (Kurtzberg, 2000).

An ideal example of how Guilford's definition of creativity is lacking can be found in the *Torrence Tests of Creative Thinking* (Torrance, 1974). The Torrence test attempted to measure creativity by presenting participants with a stimulus and a myriad of responses. The reasoning was that different responses and the rarity of such responses could define the creativity of an individual. However, the test fails to account for most of the variance in responses (Almeida *et al.*, 2008). Failing to account for the variance in responses means that the test is too broad to measure creativity because of the many applications of these concepts (Kim, 2006).

Morris Stein has previously identified this issue of overly broad definitions of creativity (Stein, 1953), who argued that creativity requires three components. Creativity, according to Stein, must have some aspect of social judgement in relation to its usefulness; the creative individual in a culture identifies gaps in that culture, and the creative individual most be able to maintain their artistic direction while testing their hypothesis. Stein further argues that creative insight is related to a reintegration of prior existing ideas/thoughts and that personal creativity and historical creativity must be separated, as the pre-existence of an idea does not invalidate an individual's creativity. The concerns of historical creativity and personal creativity are referred to as P-creativity and H-creativity by Margaret Boden (Boden, 2004), whose work highlights how creative action is separated by influential historical creative ideas and the individual's creative ideas. Boden's work would in part lead

to the 4 C-models of creativity (Kaufman and Beghetto, 2009). However, Stein and Boden's definitions increase the difficulty of defining novelty.

The issue of novelty as part of the definition of creativity has existed since a few years after Guilford's paper. Some theorists argued that the product of creativity only had to be novel to the individual, in line with the individualistic concept of creativity (Rogers, 1954), with Stein arguing that it was up to society to determine whether the product was novel (1953) a sentiment echoed more recently by Csikszentmihalyi when discussing the systems method of creativity (Csikszentmihalyi, 1998). To further the positions in the debate Boden (2004) broached the issue of whether any individual can produce something entirely novel; a position that seems to argue that all creativity is in some part collaborative creativity. The core of the novelty issue for research is simple: who can evaluate the artifacts of creativity and how do we determine who is able to evaluate them?

If novelty is a key determinant of creativity, it becomes impossible to study how creativity develops since a product must be made first. It also becomes impossible to study the process, as the product must be shown to be valuable by evaluators where there is a lack of rigour in what could qualify them to judge the product of creativity, as it requires a measure to judge the judges of creativity. Guilford's tautology haunts the definition. Additionally, for researchers who argue that creativity requires the creation of a product labelled creative by society as a whole (Csikszentmihalyi, 1998), this makes it impossible to study how creativity develops or how the process itself as a creative product is defined after the process.

However, Rhodes (1961, 1987) considered a different way to separate forms of creativity. Research areas can disentangle issues in the field to some degree. According to Rhodes, there are four areas of study: the study of creators, the study of cognitive processes, the study of the creative environment, and the study of the products of creativity. Rhodes work began to set the stage for new thoughts about creativity, as Rhodes's observations of different fields within the study of creativity separate out the issue of the valuation of products, an aspect of creativity that currently dominates much of the discourse (Wilson, 2010; Boccella and Salerno, 2016).

In contrast to separating the areas of study for scholars of creativity, Pankhurst attempted a broad definition of creativity, arguing that definitions of the time were not specific enough:

"the ability or quality displayed when solving hitherto unsolved problems, when developing novel solutions to problems others have solved differently, or when developing original and novel (at the least to the originator) products" (1999, p. 18).

While Pankhurst's definition defines originality as its relevance to the creator and allows for the definition to be applied to groups and individuals, it still ignores the role of how creative or novel solutions can be defined or evaluated. Pankhurst's broader definition of creativity is a sign of the shift to considering creativity beyond the arts, during a period when contemporaneous discussions of creativity are focused on its importance to economic growth (Florida, 2014; Boccella and Salerno, 2016).

While the concept of collaboration is well understood, creativity as a concept has been difficult to define clearly. However, there have been several insights that narrow the spectrum of creativity. Teresa Amabile identified the issue (Amabile, 1988), discussing how some definitions focus on the characteristics of the individual's personality traits, others focus on the process of creativity, and others focus on the products of creativity. The definition that Amabile synthesized from prior definitions was that; "Creativity is the production of novel and useful ideas by an individual or small group of individuals working together" (Amabile, 1988: 126). It is clear that Amabile's definition is moving away from creativity as a solely internal process, a trend that continues.

However, other ideas of creativity have also emerged, with greater interest in the sociocultural factors behind creativity. One of the earliest theories originated from Lev Vygotsky (1923, 1971), a developmental theorist who focused on the sociocultural factors behind development. While prominent in Russia, Vygotsky's work was translated in the 1970s and then influenced Western thinkers. Vygotsky's work rooted a child's development in a "thought community" of caring adults. Vygotsky's developmental theories contrast with individual-focused theories of development, such as Freud or Piaget. Vygotsky's work valued collaboration as a basic human activity and argued for the preeminent role of communication in creativity, as described by John-Steiner, who summarized Vygotsky's belief that "language is the most of significant all tools that is central to shared creation" (John-Steiner, 2006, p. 194)

Vygotsky's work influenced those studying creativity, most famous among researchers influenced by Vygotsky's theories was Mihaly Csikszentmihalyi, who makes the point; "Creativity does not happen inside people's heads, but in the interaction between a person's thoughts and a

sociocultural context" (1996, p. 23). Csikszentmihalyi established a structure for the social interactions of creativity with his systems model of creativity and described it as a system with three main components: individuals, domains of knowledge, and a field of informed experts.

This move to creativity as a social process became more common in the 1990s, an economic/political view that workers in developed countries should be expected to "Ideas people" regardless of their place in the organization emerged. This fit with a growing emphasis on "rapid change" economically, which continued to be part of the growth of digital products and the advent of the internet, as is commonly conceived of. As a result, a sense that innovation and creativity were no longer the domain of the privileged few but necessary to prosper or survive in the economic climate began to emerge. (Gee, 2008). During the same time period, studies also began to explore how established groups of creators worked together. However, some studies have examined established groups of creators, such as informal friendship-talk (Coates, 2007), musical jam sessions (Sawyer, 1992), theatrical improvisation (Sawyer, 2006) or brainstorming (Paulus and Nijstad, 2003). However, such laboratory style studies are limited by a lack of research on the social interactions of artistic groups.

These conceptions of creativity establish the framework for distributed creativity described by Keith Sawyer and Stacy Dezutter (2009), which, in relation to their study of improvisational theatre groups:

> "that in cases of creativity such as this one, it is inaccurate to describe creativity as a purely mental process; rather, this case represents a nonindividualistic creative process that we refer to as distributed creativity" (2009, p. 81).

This description of distributed creativity highlights how Guilford's individualistic concept of creativity has moved from the idea of creativity as a social process, known as collaborative creativity. Researchers have argued all creativity is collaborative. In the case of distributed creativity the core difference between collaborative and distributed creativity may be primarily one of technologies used. However, as Sonnenburg (2004) argues, we are still in need of a strong theoretical basis for understanding collaborative creativity, and as Sawyer and DeZutter (2009) noted, we know little about how creative ideas develop within a group.

2.2 – Models of Creativity

There are almost as many models of creativity as there are definitions of creativity. Like the definition of creativity, the models often focus on individual creativity. An early conception of the requirements for creativity was that a minimum IQ was required (Torrance, 1962), in addition to other tests of the thresholds that indicated creative thinking (Torrance, 2012); however, more recent studies found little indication of an IQ threshold (Çetinkaya, 2023), which calls into question the threshold models of creativity.

Another contemporary theory related to this thesis' use of narremes is that of 'blind variation and selective retention' (BVSR) (Campbell, 1960). Although the BVSR is often compared with evolutionary theory, this comparison often leads to misunderstandings such as comparing genes and memes too strongly. The BVSR relies on assessing creativity on three parameters: the probability or originality of the idea, the utility of the idea, and the creative individual's knowledge of the final utility of the idea. However, this model is not adequate for assessing distributed creativity; a large number of participants means that the probability of an idea is much lower, and that utility remains relevant, but an individual's knowledge is difficult to determine. The BSVR model does indicate a method to assess an individual's creative output, but despite some recent attention that highlights the use of BSVR and was developed on the model (Simonton, 2023), BSVR is not appropriate for exploring the large-scale distributed creativity of the internet age. It does, however, indicate that utility is an important reason to retain ideas, which is important for understanding TPP.

Similarly, definitions of creativity have shifted from describing creative products and individuals to describing the psychosocial process of creativity models. Returning to Amabile, the synthesis of her work resulted in the dynamic componential model of creativity (Amabile and Pratt, 2016). This model demonstrated that group creativity comprises three factors: creativity-relevant processes, skills in the task domain, and intrinsic motivation. This model is much closer to approaching why TPPs develop a creative community; however, it lacks a fundamental part in which all task-oriented approaches are lacking. How creativity emerges from a task that is not an element of employment. While the work of Amabile and other researchers is vital to understanding creativity and creative groups, their models explore creative groups that are engaged in an employment-related task. This is not to say that Amabile neglects to discuss extrinsic motivations, but much like BSVR,

their theory provides great insight into a different form of creativity than this thesis is exploring. The TPP community was self-organized and self-selected because it was a distributed creative community operating online.

Having looked at models that focus on individuals and models that look primarily at business communities; we can now move to models closer to the TPP community. Csikszentmihalyi approached creativity with the systems model (Csikszentmihalyi, 1998). This model involves how a set of rules from a culture or domain are transmitted to an individual, who in turn produces novel variations in the culture or domain that are then presented to the society (or their field), which may or may not become included in the culture or domain. This model describes a recognisable process of how iterative cultural and domain-specific developments occur, although it does not fully describe how the social process of distributive creativity works because it focuses on the individual. In the case of TPP, communal effort is much more important than an individual's efforts in developing a broad domain, such as poetry, and the micro interaction between the individual and the community is much less apparent. The systems model demonstrates an ongoing cyclical process of creative development in a culture and domain that is a mediator between an individual's work and a society's acceptance; however, it does not explain what causes a creative community to seek creative solutions to a problem.

Kaufman and Beghetto (Kaufman and Beghetto, 2009) created the four-C model to categorise different forms of creativity. Within the Four C model, "Mini-C" describes how everyday people utilise transformative learning processes to make meaningful interpretations of actions, insights and experiences. Moving up the spectrum "Little-C" creativity is how people find workarounds, solve everyday problems, and small creative expressions. Stepping towards what many would typically describe as creative is "Pro-C" creativity, which encompasses vocational creativity, which is primarily differentiated from "Big-C" creativity by the recognition of the work. For example, "Pro-C" may be a standard formula novel such as the Goosebumps (Stine, 1992) franchise or ghost-written work with Tom Clancy as the listed title author, where "Big-C" creative works would be bestselling works or classics, such as "The Shining"(King, 1977) or "Anna Karenina" (Tolstoy, 1887). The main function of differentiating the types of creativity is to separate personal expression and genius, primarily through social or economic recognition. The Four C-Model model is useful, as by separating out different activities that may be described as 'creativity', it can define each more generally, avoiding a broad

general definition. This model while useful for most example of creativity does lack a place to fit the sprawling mixture of C-categories that TPP is spread across, from the game Pokémon Red, the idea to make it playable by others, and the many small voluntary contributions made by the community.

The last model that is of particular relevance to this thesis is the sociocultural model. The sociocultural model argues that the exclusive psychological model has been insufficient, and that creativity must be a multidisciplinary subject, which is the approach this thesis used as the beginning of its approach to developing an understanding of the distributed creativity of TPP. This approach noted that in the rehearsals of amateur theatrical performances, every performance differed even after months of rehearsal (Sawyer and DeZutter, 2009). These differences are not due to an individual interacting with a culture and a society; rather, the differences in performance are grounded in a group of individuals existing and interacting in a specific sociocultural context. This model is much closer to what can be seen in TPP, but it is not complete, as in distributed creativity, participants can be both the audience and the performers. Furthermore, as Sawyer writes,

> "As the world becomes increasingly interconnected, as the economy becomes increasingly globalized, as the internet enables more democratic and distributed forms of creativity, the nature of creativity is certain to change, and conceptions of creativity will change as well, as they have always occurred throughout history" (Sawyer, 2012, p. 429).

This shows that it is possible that individual creativity, collaborative creativity, and distributed creativity are all the same sociocultural phenomena but differ due to the changes in society and culture creativity occurs in.

2.3 – Online Communities and Remix Culture

The definitions and models of creativity have been discussed, however before discussing what environment fosters creativity and how individual and distributed creativity interact; the word community must be defined. When discussing how the word community is used Gusfield highlights two usages. The first is when referring to an all-inclusive public interest, such as ‘community welfare’, or ‘investing in the community’. The second use is referring to the relations between humans or a shared quality; ‘scientific community’ or ‘islander community’. Gusfield highlights that when studying communities in the second sense most look at how members in the community cooperate and conflict (Gusfield, 1978, p. xiii). When looking at TPP the term is being used in the second manner, the TPP community refers to the people who participated in TPP.

As an online community TPP was constantly developing narratives during the sixteen days it was playing Pokémon Red. The involvement of other social media sites aside from switch played an important role in communicating with potential and existing members of the community as it was impossible for anyone to watch all of TPP while it was developing. When studying how communities use narratives participants in the online Nerdfighter community reported that they shared narratives to clarify them for others, to involve others in the community, or to share motivational content. Additionally many of the narratives participants reported sharing were narratives about the community itself, members of the community, and about the community achieving their shared goals (Leyton Escobar, Kommers and Beldad, 2014). These findings are in line with what has been described with how the TPP community made use of its narratives; as a sociocultural tool, for example, sometimes to find an agreed upon narrative of the events by creating fiction, to involve others in the community’s gameplay plans, and to motivate the community when they are facing obstacles such as a ledge. The research on the Nerdfighter community also found narratives have a significant effect on participation in online communities, as well as serving a role in culture formation. Narratives serve not only to channel community participation in desired directions, but also to create a cohesive community.

TPP might not have through of itself as a creative community but that does not change that it was and that it had quite an impact. Darras describes similar creative communities of the past highlighting that:

"Few of these short-lived and festive creative communities would spontaneously describe themselves using that term. Nonetheless, those with the most talent and perseverance increase in popularity, sometimes attracting the attention of public, private, and commercial institutions. Thus, many informal, or unacknowledged, creative communities serve to inspire institutionalized creative communities" (Darras, 2019).

This quote highlights that though the community might not be formal and recognised community, their impact is not limited by their informality. With a definition of community and an idea of how narratives are used as a sociocultural tool by online communities to shape and promote the culture of the community we must look at the larger sociocultural context that the TPP community existed in which is the Pokémon fandom and remix culture.

Fandom and remix culture are two aspects of creative communities online that are important for understanding the TPP community. The term fan community (Jenkins, 1992; Coppa, 2006; Hellekson and Busse, 2006) highlights the social and interactive aspects of engaging with the text out of interest in discussing and further enjoying a text. The TPP community is related to the broader Pokémon franchise fan community as well as other specific Pokémon fan communities. The more specific communities tend to have a stronger feeling of community intimacy and require a more specific term to describe a community of fans within a fandom relating to the community's specific interests. For example, the larger Pokémon fandom also has communities focused on ROM hacks, knitting Pokémon, fan designs, or shiny hunters. ROM hacking in particular was an essential technological component of TPP, but the Pokémon fandom in particular has a strong culture of ROM hacking (Pokemoncoders, 2021). ROM hacking, fan made Pokémon, and even literal remixing of music demonstrates that the Pokémon fandom before TPP had already a strong remix culture that would be inherited by the TPP community.

Remix culture is present as a deliberate practice among most modern internet users and communities (Knobel, 2017, p. 41). Knobel defines remix as a:

"…collaborative and participatory act, as a process of making meaning that is shared with others, and as a process that builds on what's come before and that adds a new or innovative twist" (2017, p. 41).

Knobel continues to argue that many amateur remix cultures are completely divorced from economic interests, pointing to a high level of intrinsic motivation within communities grounded in remix culture. Although remix culture originated before the internet age, owing to both social networks and digital production tools being available to all, remix has become ubiquitous in the lives of many people (Navas, Gallagher and Burrough, 2017).

Online fan communities form an affinity space that Gee (Gee, 2006, pp. 70–81) describes as largely an online community that exists to support a shared interest. Affinity spaces as per Gee are not segregated and rarely have any significant senior figures or leaders; additionally, new members and the elder members are equally welcome and able to participate. Affinity spaces are ideal for the generation of ideas and remix practices, providing media resources, practical experience, and a community to support endeavours and appreciate them. The importance of the affinity space in online creativity and remixing is that it serves as a community that rewards self-motivation and direction important to both development or new skills and digital social norms.

Ioana Literat described a role that adds a new dimension to the broader category of collaborative creative conceptions of communities, that of the 'Alpha Artist' (Literat, 2012, p. 2973). Literat describes the Alpha Artist as the "project originator". Literat elaborates on the question of levels and forms of participation by describing the sympathetic relationship between the Alpha Artist and the Contributors thusly,

> "Without the work of the alpha artist, there would be no concept and no platform for participation; without the work of the contributors, there would be no artistic content to realize the artist's vision" (2012, p. 2973).

Literat consequently brings into question the relationships inherent to both affinity spaces, art worlds, and fan communities that are core to their formation and their success in failure to thrive. The question of authorship in such communities is addressed by Mark Amerika, who claims:

> "Authorship is not necessarily disappearing, as in all of these 'death of the author' scenarios, we keep hearing about. Rather, it is reconfigured into a more fluid, often collaborative networking experience" (Amerika, 2007, p. 6).

This concept of the Alpha artist and authorship relates to TPP, in that the community and its creative works could not have existed without the streamer who set up the TPP platform, with TPP community consisting of contributing participants. The two terms, author and alpha artist, describe different things; the streamer was the Alpha artist without whom there would be no TPP, but the TPP community authored the narratives as a method of reinforcing their culture, goals, and promoting their community. The TPP community is borne out of the remix culture that existed within the Pokémon fandom which allowed the streamer as the Alpha artist to create TPP. As an affinity space TPP welcomed anyone to participate in, however through using narratives the community retained its shared identity and goals.

2.4 – Individual Creativity and Distributed Creativity

The line between individual creativity and distributed creativity must be discussed, as distributed creativity is naturally composed of smaller creative works. With Amabile's (Amabile, 1988) previously quoted definition of creativity as:

> "…the production of novel and useful ideas by an individual or small group of individuals working together" (Amabile, 1988, p. 126).

As well as Sawyer and DeZutter's description of distributed creativity:

> "…in cases of creativity such as this one, it is inaccurate to describe creativity as a purely mental process; rather, this case represents a nonindividualistic creative process that we refer to as distributed creativity" (Sawyer and DeZutter, 2009, p. 81).

It is clear that these definitions are compatible with each other issue. Creativity and distributive creativity are not separate concepts.

Together, the above definitions highlight how we envision creativity. In the definition of distributive creativity, Amabile highlights how creativity is a nonindividualistic process. In the second definition, Amabile defines creativity as involving an individual or small group of individuals. However, in most distributive creative projects, there are elements of individuals and small groups making specific creative contributions to the overall level of distributive creativity. This is not a new issue; previously, the issues that collaborative creativity brought to approaching film studies had been approached by theorists using autism theory, which focused on the creative actions of many individuals on a single individual; the autoencoder approach continues within digital spaces where an alpha artist is considered the sole creator despite possessing a team. However, with many examples of creativity online, auteur theory becomes an impossible approach because of the anonymous nature of internet-distributed creativity and the lack of a clear central author of the text.

As an elaboration on auteur theory (Staples, 1966), we can consider how the *Star Wars* film franchise was understood as a product of George Lucas (Lyden, 2012) as a director/producer despite the many different artists involved in the film, a problem that grew as more individuals became involved in the franchise. An example of a distributed community that lacks an identifiable alpha artist is the SCP foundation (Erin, 2017), where an anonymous post leads to a distributed creative community. TPP is a step further, as the creative work and interpretations of the creative work are the product of community discussion. This results in a lack of a repository or a definitive list of entries into

the creative works related to TPP. Consequently, we must focus on the general community's expression of creativity and the individual expressions of specific creators that reflect and focus on particular expressions.

The nonindividualistic element of distributed creativity defines how many parts of creative work or ideas are not driven by individuals or separate teams working on separate parts of creative work but by all participants in a process that, while open, is difficult to pinpoint, as while each individual makes a personal choice about what they think is novel or useful, the distributed collective also makes choices about what is useful and novel. This means that ideas are being removed or edited out as the distributed process of discussion takes place without regard to any one individual. Therefore, how is it that so many disparate elements of a "hivemind", such as what we can see at play in TPP, manage to work together to achieve a unified goal? This is one of the questions that this thesis is concerned with by providing an analysis of what I term. The creative engine is a framework that employs hyperdiegetic and narrative methodologies to examine creative processes within digital creative communities.

A simple example of nonindividualistic creativity in TPP is the naming of Pokémon. Starting with the players' input button choices inevitably results in meaningless jumbles of letters, as the community struggled to end the naming process; then, through discussion and exchange, a name begins to emerge as Pokémon's name. The nicknaming process is not final, with many Pokémon names being renamed due to events in the gameplay, and in some cases, alternative names retain appeal within the community. Naming is an area where distributed creativity is most clearly demonstrated.

The contributions of individual creators are interesting when the question of distributed creativity versus group/individual creativity becomes interesting. The contributions of individual artists cannot be characterized universally, as in some cases, an artist simply portrays events that have occurred during gameplay or how these events have been discussed in the community. The portrayals range from humorous elements such as the players struggling to engage in battle with the head of the team rocket, instead, simply roving about the office and taking the elevator back out again, as well as the more dramatic portrayals of their losses and victories. Some players, however, have artists adding significantly to the pool of ideas by giving a strong personal interpretation of

events; this can most easily be seen with the different portrayals of events from a particular character's perspective.

It could be argued that individual creative acts are simply a part of the overall process of distributed creativity and do not have any more weight than any other form of contribution (Dennett, 2019, pp. 20–22). All participation in TPP was the result of being inspired to one degree or another to contribute to the overall project, from the initial streamer to the most casual participant, and separating them is not conducive to understanding the overall process. However, there is a significant difference where art, prose and music are considered beyond discussion. Individual creative works are a part of the creative process of the creative community, but they are also individualistic creative expressions of community members. They are distinct in both effort and stylistic decisions compared with the usual contribution to discussions.

To separate the individual pieces from the whole would require a method to weight or privilege some contributions over others, to ask questions of how many words is an image worth, how many button inputs equal a word, or how valuable participation on one forum is compared to another. To do this is to misunderstand distributed creativity and why it is to be studied; distributive creative communities must be explored, as they are how many individuals have come to experience and express creativity. Distributed creativity is the result of many individuals contributing often in many different ways, such as discussion, the governance of forums, artistic works, and novel approaches to approaching the game. In considering the line between the creativity of the individual and the community it is worth considering Durkheim:

> "There are in the consciousness of each one of us two consciousnesses: one that we share in common with our group in its entirety, which is consequently not ourselves, but society living and acting within us; the other that, on the contrary, represents us alone in what is personal and distinctive about us, what makes us an individual. The solidarity that derives from similarities is at its maximum when the collective consciousness completely envelops our total consciousness, coinciding with it at every point" (Durkheim, 1893, chap. 3.IV).

This thesis is concerned with the shared consciousness of the TPP participants and not the consciousness of anyone participant. In the pursuit of their shared goal the creative output of an individual participant was enveloped within the collective creative output of the TPP community.

One of the key characteristics of distributive creativity is the shared goal, be it the creation of an album, comic, film, or game. By looking at the shared goal of TPP as the completion of *Pokémon Red* together as a community, we see that the individual contributions are all a part of that goal, in the

same way that concept art and storyboards are a part of the collaborative creative process of creating a film. This does leave one important question: if the shared goal was to complete *Pokémon Red* on the Twitch platform as a community where and how do the narratives and art produced in TPP fit into the shared goal as an explanation for the community's activities? The answer lies in creativity as an expression of frustrations the community faced when achieving their goal.

The question of why the goal of victory led to the creation of narratives is addressed by pointing out that narrative is a part of our lives (McAdams, 2001, p. 1) and not something that an individual or group has to explicitly set out to create. It is how people understand their lives, and any event will have individuals work as a community to create an understanding of what they are experiencing. If we follow this look at narrative as part of how people understand their world as McAdams argues, then we must conclude that not only is TPP an example of distributive creativity, but all creativity can also be seen as distributive creativity. There are individual creative acts, but they are a part of creativity as a generalized process.

For TPP, the individual creativity shown in discussions and creative works is an individual expression of the general process of distributive creativity. The narrative tended to emerge from events and actions that made little sense within the narrative presented by the original *Pokémon Red* game. The frequent checking of the Helix fossil item, the release of Pokémon, and, of course, the inability of the player character to navigate simple obstacles. The elements of the narrative started to emerge as 'novel and useful' explanations for the unusual behaviour in the game.

The novel and useful explanations were important not only to allow for discussions that were not only about the players' frustrations with their own gameplay trapping them in difficult situations but also to link the experienced narrative in the real world of the TPP community playing *Pokémon Red* to match the fictional narrative they were constructing. The fictitious narrative provided a mirror between the frustrations of the players struggling to organize themselves and the difficulties that the game protagonist Red faced with the voices of the TPP community's hivemind in his head. In this way, players' annoyance and frustrations at their failures, such as getting the wrong Pokémon or releasing many of their Pokémon, could be viewed as narrative development instead of a gameplay setback. This meant that individual expressions of creativity could guide the general creative process.

In this way, the fictitious narrative level itself has been a creative solution that emerged from the distributed creativity of the TPP community, which has prevented the setbacks and frustrations of the player base from becoming the primary point of discussion and potentially damaging the group as a whole, which is a core of the creative engine model that this thesis identified. It should be noted that while in this section Durkheim is used to highlight where the individual's creativity is subsumed by the community's creativity, there is a conflict between the individual artist and the community that will be discussed in 2.6 Conflict and Creativity.

2.5 – Creative Environments

In regard to massive internet-based creativity, the term that has come to describe the disorganized creativity that TPP is representative of, distributed creativity seems to be the most appropriate term. Although it shares many traits with collaborative creativity (Literat and Glăveanu, 2016, p. 340), which is used to describe bands, companies, theatre groups and similar creative communities, distributive creativity is more often used for networked views of creativity. The aim of distributed creativity is not to locate the people, place, or creative objects as the focus but instead to consider creativity as existing between people, places, and objects (Glăveanu, 2014, p. 2); in this study, creativity is distributed across the community. The TPP community is a distributed creative community, as it lacks any identifiable individuals who are representative of the process of producing the novel and useful ideas that guided TPP, and these novel ideas are interlinked creative works that are reliant on each other.

Creativity is a notoriously difficult phenomenon to define and has been approached in a very ad hoc manner across many disciplines (Wehner, Csikszentmihalyi and Magyari-Beck, 1991); however, Teresa Amabile's definition of creativity as "creativity is the production of novel and useful ideas by an individual or small group of individuals working together" (Amabile, 1988, p. 136) encompasses most definitions that are used both colloquially and academically. This definition is quite broad, as creativity is a phenomenon that occurs in many areas of life. It is also accurate for our purposes, as TPP consists of people trying to solve a known problem given radically different tools as a large group.

Amabile's definition clearly states a small group, which shows that our conception of creativity has come to shift from an individual characteristic to a process. As researchers shifted from seeing creativity as an individual trait, as Guilford did, a social process led to the study of collaborative creativity by researchers such as Amabile, who focused on the creative output of close groups in a shared space. Over time, studies have demonstrated that successful collaborative groups share similar traits.

Distributed creativity is a new definition for a recently observed phenomenon, much like collaborative creativity was. For the purpose of exploring the TPP community, we should first assume that the environmental conditions that aid collaborative creativity are very similar to those of

distributed creativity (Literat and Glăveanu, 2016, p. 331). The main difference between the two is that collaborative creativity typically describes creative endeavours where all participants are in close proximity and know many other participants on a personal level, be it in person or online, whereas distributed creativity is conducted over great physical distance, and participants may not have close relationships with any other individuals in the community and certainly have no particular familiarity with a large portion of the individuals in the community. Distributed creativity online is not always analogous to in-person collaborative creativity, but it is often very similar (Literat and Glăveanu, 2016), which requires us to look at the different environmental factors and look at the factors that are similar and different.

When studying brainstorming groups in the first explorations of group creativity, Osborn noted that the primary issue groups faced was inhibition (Osborn, 1963, p. 61). Research has shown that with respect to the inhibition issue, group brainstorming is, in fact, less productive than an individual's output is (Diehl and Stroebe, 1987, p. 498). TPP as a collective did not face the same issue of inhibition due to the community's pseudoanonymity, although it is more correct that those whose community members were inhibited simply did not contribute to discussions to share their ideas, remaining largely invisible. There is a large pool of disinhibited participants in the online sphere to brainstorm together, and there was little reason to feel inhibited owing to the relative anonymity and low stakes of the endeavour, allowing individuals to participate without concern for the social repercussions of being a part of a small, focused community.

Bennis and Biedermann (1997, pp. 205–206) studied a number of different creative groups, from the scientists involved in the Manhattan Project to Disney animators. The first and foremost trait that successful collaborative groups exhibited was a shared goal (1997, pp. 204–205). TPP had one single goal, which was to successfully complete *Pokémon Red* despite the obvious issue that they were a distributed intelligence faced with the significant issue of organizing towards victory without leadership.

The role of leadership in collaborative creativity, as studied by Bennis and Biedermann, has shown that the ideal role of leadership is to maximize trust and autonomy and minimize bureaucracy. In contrast, Schrage (Schrage and Schrage, 1995, pp. 55–57) argues that, among unhierarchical creative communities, a high level of trust already exists among members to achieve their shared

goal. Looking solely at the TPP subreddit, both views have room for argument, as the moderators of community spaces primarily facilitated discussion, and the short existence of the community made establishing a hierarchy of limited value compared with aiding the community in achieving their goal. The idea of leadership maximizing autonomy and minimizing bureaucracy was apparent in the role of moderation of the r/twitchplayspokemon subreddit, and the streamers lacked engagement with the community. The streamer just maintained the stream and introduced the democracy system. While there was occasional communication and interviews, the streamer served to keep things running smoothly with minimal disruption. Similarly, the subreddit had minimal moderation, with the moderators functioning to facilitate discussion and maintaining threads to catch players up to current events.

Schrage (1995) also studied how unhierarchical creative communities' function with trust. As every member is aware that they are reliant on each other member to achieve their shared goals, there is an inherent requirement that members trust each other. Schrage defines creative communities as those that possess clear lines of responsibility but no restrictive boundaries, allowing for flexibility in how each member addresses their role or task with the trust that the task will be completed[16]. With TPP, every player shares the same responsibilities and tasks in playing in good faith and inputs commands to further their current goal in pursuit of their shared goal of defeating the game. Even if they would come to disagree on how they would achieve their goal of victory.

Mamykina, Candy and Edmonds reported that while the shared vision was certainly the core value, diversity in opinion was important (2002, p. 99). TPP was characterised by communication in the shared understanding of the Pokémon franchise, which might initially cause an expectation for limited conflict. However, the divide within the TPP community over anarchy/democracy, differing strategies, and interpretations of their actions show the diversity of opinions within the community. The shared language of the TPP community is apparent in the global community, all of which understand the ludology of *Pokémon Red* and the intertextual narrative of Pokémon. The primary conflict within the game, the community, and the narrative was that of anarchy vs. democracy. It is quite possible that the anarchy/democracy conflict was essential in driving creativity. We do not know much about the process of ideas being generated in creative groups; however, studies have indicated

[16] Appendix C uses a sentiment analysis to reinforce claims of Trust within the TPP community.

that a level of conflict serves to increase creativity. The anarchy/democracy conflict also served as the core of the fictional elements, with the story primarily taking shape after this conflict emerged.

Twitch Plays Pokémon is specifically an example of distributed creativity, which Sawyer describes as "a nonindividualistic creative process" (Sawyer and DeZutter, 2009, p. 81) and typically involves telecommunications. Distributed creativity can be easier to document for study, as the processes (discussions and media) between participants are documented in their original context and creative environment. This allows for the study of the interactions and development of creative ideas with fewer confounding variables.

Literat and Vlad Glăveanu (2016, p. 399) examined how distributed creativity differs from more traditional forms; an important discovery was that the internet has not affected the social mechanisms involved in creative work. While collaborative and distributed creativity differ in their methods of communication, they are the same in their social mechanisms. Literat also provided an important framework for understanding levels of user engagement (2014, p. 21), which is highly useful for TPP, as some users were highly active in play, whereas others only viewed. Only a few created new content. Owing to these types of interactions, Literat described a type of collaboration where an alpha artist is a project originator, but much of the actual creation comes from contributors:

> "Without the work of the alpha artist, there would be no concept and no platform for participation; without the work of the contributors, there would be no artistic content to realize the artist's vision" (Literat, 2012, p. 2973).

The alpha artist description matches the relationship between the TPP streamer and the fan creators in the development of TPP.

These factors help create an environment for collaborative creativity, and it appears that distributed creativity, which better defines the TPP community, does not differ significantly in creative drives compared with collaborative creativity. Additionally, the slow pace of play in TPP helped fuel creative discussion, as TPP took a significant amount of time to make progress on simple tasks. Highlighting the significant amount of time it took to finish the game of TPP (sixteen days and nine hours for TPP but a single-player median playtime of twenty-seven hours (howlongtobeat.com, 2020b) it becomes apparent that the players had significant time not only to discuss how to play *Pokémon Red* but also to shape a narrative about what playing meant for the community and, further,

a narrative about what the story of their playthrough of the game was. Each factor is an important part of how TPP operated as a creative community.

2.5 – Conflict and Creativity

As discussed under the characteristics of distributed creativity conflict can play a significant role in the collaborative creative process. Vera John-Steiner looked at communities of thought and demonstrated that “thought communities are different from cooperating teams as their members take emotional and intellectual risks to construct mutuality and production interdependence” (John-Steiner, 2006, p. 196). The focus on mutual, but independent, risks highlight the unhierarchical nature of distributed creative communities’ results where the environmental factors are spread amongst the participants as are their conflicts.

If intrinsic and external forms of motivation can be combined under some conditions, it should be even easier to combine intrinsic and identified forms. Indeed, Gagné and Deci (2005) consider a combination of both essential to self-motivated work and organisational organization. Adler and Chen (2011) also consider intrinsic motivation and shared vision/values to be essential for creativity to flourish among formal controls.

However, it seems that for creative solutions, some level of disagreement or conflict regarding the task increases the groups’ overall creativity (Chiu, 2008; Kurtzberg & Amabile, 2001), whereas personal or processual conflict negatively affects the groups’ creativity (Eteläpelto & Lahti, 2008). Tension and conflict appear to stimulate creativity, this is not the case all the time for all people in a collaborative creativity (Runco and Yoruk, 2020). In the case of distributed creativity the risk of tension and conflict inhibiting creativity are however somewhat mitigated when there is a large enough community as while tension or conflict may not always stimulate creativity in all participants, it also is unlikely to inhibit creativity in all people either.

One particular environmental factor is of particular importance for TPP, which is conflict. Otto Rank was among the first to theorize on the role that conflict played in the creative process; an early psychologist Rank referred to conflict in a broad sense, discussing internal, social, and temporal conflicts (Kainer, 1984), and his work focused on the psychoanalysis of an individual’s creativity.

However, in *Art and The Artist* Rank, conflicts between the individual and collective are discussed, particularly with respect to myths such as the tower of Babel, where "…the conflict between the individual and collective use of language is depicted" (Rank, 1989, p. 253). This particular quotation is useful in framing the conflict in the TPP environment between the collective 'hivemind' in the creative community and the individuals within the community. Notably, across Otto Rank's work, it is clear that the creative act integrates the conflict into the art (Spitz, 1989, p. 101). The concepts of the conflict between the individual and the collective and the integration of conflict are both readily demonstrated within TPP.

Importantly, there is also a relationship between the intensity of conflict and creative productivity; not all conflicts benefit creativity equally. A study of information technology teams, for example, revealed that while conflict is beneficial, high levels of conflict that cannot be moderated and low levels of conflict have no benefit for creative output; however, this benefit best occurs early in a project when there is still time to work through the conflict (Farh, Lee and Farh, 2010). This finding is in line with other studies finding a curvilinear relationship between conflict and creativity (De Dreu, 2006) and that conflict is beneficial when it is related to the group's task and not interpersonal conflicts or conflicts external to the group (Jehn, 1995). These findings continue to be supported by research, with an additional finding relevant to TPP, which is that the creative process had no impact on the benefits of task conflict in promoting creative outcomes (Langfred and Moye, 2014).

It is also worth considering that while the word conflict is used in this section the effect of tension and conflict on creativity is likely a positive influence as conflict and tension create obstacles that have to be thought around. For example self-limitation where an artist chooses to limit their creative expression also aids creativity (Alamshah, 1967), and this self-limitation can also be seen as creating one's own obstacles to be thought around. The term obstacles might be a better way of considering the effect overall, with conflict being a form of obstacle. Studies have indicated that obstacles are advantageous for creativity, however obstacles are only advantageous when they are interfering with a goal that benefits from creative solutions (Caniëls and Rietzschel, 2015; Marguc, Van Kleef and Förster, 2015). For example, an obstacle that would prevent the input of commands in TPP would not aid in the community's creativity (though possibly the streamer might be motivated to find a creative solution), however the obstacle of finding rational explanations for the community's actions would benefit creative thought. These obstacles might be small such as TPP attempting to

navigate a ledge, or significant such as political oppression, however both appear to be beneficial to creative thought unlike the U-shaped curve of benefit seen with conflict (Lebuda, 2016, pp. 338–339).

It is worth noting that as the pursuit of a shared goal is a mark of a creative community, perseverance is found to be a characteristic of creative people. When faced with a conflict or obstacles, perseverance is a useful trait to have to maintain focus on the goal, however the benefit of perseverance much like with conflict is also only present in moderate amounts. Low levels of perseverance will prevent a creative individual or community from pursuing their shared goal when faced with an obstacle, but high levels of perseverance may result in too much focus on the goal and lose sight of creative options (Prabhu, Sutton and Sauser, 2008, p. 62).

The conflict at the core of TPP that is most apparent is that of anarchy versus democracy, and this conflict does affect the creative output and direction of the TPP community to a great degree. However, there is also the conflict between the individual and The Hivemind as alluded to in section 2.4. The Hivemind is a useful narrative construct that allows the individual to put blame on the collective while also participating in that collective, it is a way for the individual to separate themselves from the collective when the conflict with the actions that it had taken. There are indications that particularly creative individuals even deliberately think in ways that are countervailing to the conventions of their community (Sawyer *et al.*, 2003, p. 97). This shows that within TPP there is conflict within the TPP community in the form of anarchy versus democracy; as well as conflict between individual and the community (Weigel, 1997, p. 66). These conflicts and obstacles form one of the crucial impacts on TPP developing creatively.

Summary

In chapter two the definitions and theories of creativity have been established. The question of what creativity was thoroughly addressed from Guilford's mid-20th century view of creativity as an individual trait through to the sociocultural model as advocated by Vygotsky, Csikszentmihalyi, and Sawyer and Dezutter. The sociocultural model of creativity is in some ways the required model for studying online communities engaged in distributed creativity. The TPP community used narratives as a sociocultural tool to reinforce motivation, to encourage other participants to pursue their shared goals, and to find shared interpretations of events.

TPP is grounded in the sociocultural context of remix culture, remix culture also being very prominent in the broader Pokémon fandom. Remix culture refers to a mode of cultural production where individual artists build on and alter each other's work. There is a division between individual creativity and distributed creativity, however when looking at distributed creativity the individual's creativity is subsumed into the community's distributed creativity. The individual's work cannot be extracted from the community entirely as the individual's work is part of the continuum of all TPP participants creative efforts.

The exploration of creativity, particularly distributed creativity (Sawyer and DeZutter, 2009), provides a definition for what the TPP community is performing. Distributed creativity helps explain the traits that aided the TPP community in being successful, as described by researchers of other forms of creative collaboration. Many of the traits of successful creative collaborations such as a shared goal, a leadership that minimises bureaucracy while maximising autonomy, and an unhierarchical community structure are shared by the TPP community. TPP also matches the alpha artist model, whereby the TPP streamer is the originator of the creative work that TPP would become, but Twitch Plays Pokémon only achieved what it became as a result of the many other participants whose work sprung from the TPP streamers creativity. The shared traits in the environments of collaborative creative communities and the distributed creative community of TPP indicates that the creative process may be similar regardless of it being expressed by an individual, a community, or a virtual community.

This chapter has answered the important question of what is being answered when this thesis is looking to answer how TPP engaged in the creative process. Creativity is a sociocultural process,

and with distributed creativity this process is made clear as the work of individuals is subsumed under the community's creative work. The role of conflict in creativity was explored as one of the most crucial elements of the TPP community's creative development. Conflict is most effective at a moderate level for the community to benefit from the tension and disagreement to increase their thinking of alternate ideas. The benefit of conflict can also be seen with other forms of obstacle, so long as those obstacles are interfering with goals that can be addressed with creative solutions. The primary conflicts that affect the creative development of TPP are the internal community divide between anarchy and democracy, and the personal conflict that individual participants had with The Hivemind of the TPP community.

These theories indicate that the creative process of TPP had an important role in maintaining the community's motivation and focusing their collective efforts and interpretations of events. Conflict and obstacles play a crucial role in how the TPP community engaged in the creative process, as well as how an individual interpreted the collective creative works of the community.

3 – Literature Review: Narratology & Metamodernism

In this section, we explore narratological concepts to develop our understanding of the creative works of the TPP community. There are different and contrasting narratives involving the TPP community; however, most media that emerged from the community were part of one narrative or another despite differing tones and mediums.

First, narratology and community narratives, as broad concepts, are explored before we focus specifically on interactive media and emergent narratives, as both concepts are essential to the TPP community. Narrative levels are the chosen theoretical framework that we use to describe how the participants of the community engaged with the different narratives of the TPP community, although the original theoretical framework has been altered to fit the different ways in which the TPP community has engaged with and created narratives compared with traditional media.

Narratology is the study of the logic and practices of narratives. Narratology was dominated by the structuralist school for a time and focused mainly on literary narratives in its early years, but over time, the schools of thought expanded greatly. The emergence of new theories of narrative became increasingly needed, as structuralism was unsuited for being applied to all forms of narrative and can be particularly challenging when approaching large sprawling narratives such as those online/paratext (Genette and Maclean, 1991, p. 266; Prince, 2003, p. 36).

While traditional prose narratives, both fiction and nonfiction, and the narratives of radio, film and television are the forms of narrative that immediately occur to most people, narratology is not limited to documentary or entertainment forms. There are narrative forms and structures throughout societies that are not immediately obvious but fall within the scope of narratology, such as in legal professions, science, politics, the self, etc. (Nash, 1994).

To approach the TPP narratives, the concepts of narrativity must be addressed to highlight that narratives can possess greater or lesser ‘amounts’ of narrative to highlight that TPP is a narrative made of nested and related narratives. The concept of narrative levels helps separate out the related TPP narratives, making the form of TPP clearer. With narrative levels established, the ideas of hyperdiegesis and narremes can be explored as potential tools for exploring how an individual makes a fractured narrative whole through their reading.

3.1 – Narrativity in Transmedia Franchises

The broadening of topics that narratology can address has led to the question of what the quality of ‘narrative’ is. Theorists, such as Janet Murray (Murray, 1997) and Marie-Laure (Ryan, 2009), explore narrative theory with reference to newer digital forms of storytelling, such as immersive mediums and interactive narratives. It is easier for most to acknowledge the narrative of established or long-form types of narrative, but how much ‘narrative’ emerging media and unusual storytelling forms possess has led to the emergence of the term ‘narrativity’, which describes a measure of degrees of narrativity (Ryan, 2007, pp. 29–30, 2009, p. 313). To provide an example, the sentence ‘a man got was stabbed’ and the play *Julius Caesar* (Shakespeare, 2014) both describe the same narrative, but they are separated by many degrees of narrativity.

In *Le Message Narratif*, Claude Bremond (1964) turns to the example of Vladimir Propp’s study of Russian folktales (Propp, 1928) to observe that what Propp had been performing during his identification of folktale morphology was a separate layer of signification that was independent from the entirety of the folktale itself, narratives. Prince explains that:

> “An object is a narrative if it is taken to be the logically consistent representation of at least two asynchronous events that do not presuppose or imply each other” (Prince, 2008, p. 19).

However, even such a robust definition requires an acknowledgement of degrees of narrativity. A particular creative work may not necessarily be logically consistent but may possess the remainder of the definition. A single photograph lacks two asynchronous events; however, it does contain an element of narrative. Additionally, the amount of narrativity could be considered to increase with how logically consistent a narrative is or how many asynchronous events it possesses. Prince’s definition is apt at identifying whether an object is a narrative and demonstrating that there are degrees between ‘not a narrative’ and ‘a narrative’ and that these degrees may also increase with a narrative’s complexity.

When dealing with a novel, the narrative is the core of the experience; it has very clear and strong narrativity that is easily recognised and remains, for the most part, fixed from edition to edition. The literal text of a printed novel such as *The Giver* (Lowry, 1993) can be assumed to possess at least an average degree of narrativity for a novel, consisting of multiple asynchronous events that are logically consistent. In contrast, a game such as *Doom* (Romero, Carmack and Taylor, 1993), which is

intended as an action game and has minimal text and audio, *Doom* possesses enough narrativity to engage the player with the game action. While *Doom* may consist of many asynchronous events, the level of logical consistency is debatable owing to the limited context for these events. However, a low degree of narrativity is not no narrativity, and *Doom* does possess a narrative even if the player creates much of the narrativity themself from their experience. There is no objective measure for narrativity; it is a subjective measure with broad degrees that can only indicate that different mediums and works can have a narrative. Narrativity as a subjective measure becomes further complicated when we look at TPP.

When the game that the TPP community played was examined, *Pokémon Red*'s narrativity is somewhat limited. *Pokémon Red*'s narrative is simply to go to a series of eight gyms, win their gym's badge, and defeat the Pokémon League; this is interrupted by the villainous Team Rocket's criminal schemes and the player's rival. It is a simple story, as would be expected of a game with hardware and software constraints, as well as being intended for children developing reading skills to enjoy. We could rate the narrativity of *Pokémon Red* as low, more complex than the simplest games such as *pong* and *Pacman* but still fundamentally limited. It is doubtful many would argue that *Pokémon Red* possesses a complex narrativity; however, in the context of TPP the narrativity *Pokémon Red* possesses is complicated by two significant external contexts to the game.

The first important external context is the extremely high amount of transmedia storytelling that has been present in the Pokémon franchise since its early years. The TPP community played *Pokémon Red* almost exactly eighteen years after the game was first released. Consequently, how the players experienced the game was heavily affected by the additional media and merchandise from the franchise. An example of additional media is 1997 Pokémon Anime, which was written to follow the same general story beats of *Pokémon Red* (towns, Pokémon gyms, facing team rocket, rival, etc.), with the most obvious distinction being the main characters failure to beat the Pokémon league and the addition of two Pokémon Gym leaders that join the main character, Ash Ketchum, in their journey. This anime had a major effect on fans of the franchise and the franchises growth, with the famous Pikachu becoming a franchise icon as a result of the show and the game *Pokémon Yellow* being an altered version of *Pokémon Red* that included more elements from the show.

Other forms of media the Pokémon franchise included trading cards, comics, colouring books, and a variety of toys. All of the additional media affects how a fan of the franchise approaches playing a Pokémon game because of what they have experienced external to the game and even the franchise itself. Henry Jenkins identified this particular aspect of fandom *Textual Poachers* (1992, pp. 227–230) where he shows how fans create particular ways of engaging with texts both in interpretation and in the creation of their own particular cultural productions. This level of engagement results in an increase in both 'official' and fan-created merchandise, storytelling, and narratives as part of a 'snowball effect' and/or a company attempting to broaden a successful franchises media presence:

> "In the snowball effect, certain stories enjoy so much popularity, or become culturally so prominent, that they spontaneously generate a variety of either same-medium retellings or cross media illustrations and adaptations" (Ryan, 2015, p. 2).

This snowball effect means that for *Pokémon Red*, the snowball effect that affects the franchise also affects the degree of narrativity that fans now experience. For the TPP community, this is important, as many (if not all) participants in the TPP community had been exposed to the broader Pokémon franchise and already perceived a higher degree of narrativity in the game than might be immediately apparent.

The individual player is the second external context that affects *Pokémon Red's* narrativity. It is not unusual that a narrative is received differently by different viewers or readers; the text of a published novel is typically only changed by the external context of the reader (cover art, reviews, endorsements, etc.) and thus has a mostly stable narrative. Two readers might appreciate a novel differently, but they received the same narrative. The narrative is affected by the readers' perceptions and interpretations, but their perceptions or interpretations do not change the literal text. This is not the case with a game such as *Pokémon Red*.

How a player plays a game can impact the narrative of the game. In some cases, the impacts on the narrative are deliberate parts of the gameplay, such as the different choices of starter Pokémon, which affect which Pokémon gyms are likely to cause the most difficulty or later in the game when the player can challenge gyms in a different order than expected. These are choices available to all players that affect the narrative of the game and are a deliberate part of the game.

The way in which a player can affect narrativity is how they choose to play. A particularly notable example in the Pokémon community is the Nuzlocke challenge (Franco, 2010), which is pertinent to the difficulties the TPP community faced with their Pokémon team. When playing *Pokémon Red*, the player will never lose a Pokémon unless they choose to release it, so a player can comfortably use whatever Pokémon they like with no risk. The Nuzlocke challenge involves a player following two notable rules: first, they can only catch a Pokémon per route, and second, any Pokémon faints during battle must be released. These two rules mean that the player can run out of Pokémon, has limited choice in Pokémon to use, and most dramatically can have a Pokémon die. The self-imposed limitations of a Nuzlocke challenge dramatically alter how the player will experience the game and its narrative. By adding elements of risk and tension, players increase the narrative elements they can experience during play and thus increase the narrativity of the game they experience.

The limitations of the Nuzlocke challenge are similar to the limitations of the TPP community's method of playing in how it alters the narrativity. It became very clear to the players of TPP that changing Pokémon was difficult and risked permanently releasing Pokémon, deliberately catching a Pokémon was difficult to do intentionally, and that the players' method of play could turn minor obstacles into extremely significant challenges. As the challenge of the game is altered, the narrativity of games is altered by their method of play.

How transmedia storytelling alters a player's experience of game narrativity and how a mode of play can change a game's narrativity demonstrate that while *Pokémon Red* might have limited narrativity by itself, the TPP community brought an increase or change in narrativity. Considering that these external contexts can alter the narrativity that an individual player experiences, it is reasonable to expect that experiencing the game with the TPP community also increased and altered *Pokémon Red's* narrativity.

3.2 – Ludology

While the focus of this thesis is on the narratives of TPP, it would be remiss to not address ludology. The earliest use of Ludology that could be found was Per Maigaard, who provides the definition:

> "Ludology is the science of games and a part of sociology and sciences concerned" (Maigaard, 1951, p. 364).

This definition broadly covers the study of games; the players of games; the act of playing; and communities that surround games, such as TPP. Though it has been argued that the study of video games requires more involvement of sociologists and sociological theories (Boulton and Cremin, 2012). There are significant areas of study in ludology, many of which are well publicised, such as the impact of playing violent games and the attitudes and prejudices within communities associated with games (Dill and Dill, 1998; Gray, Buyukozturk and Hill, 2017). While this is not to say that *Pokémon Red* does not contain any violence or that the TPP community contained no expressions of prejudice or bigotry, neither are present in a quantity that would require a significant analysis for the purposes of this thesis. It is concerned, however, with debates over whether ludology or narratology should be used in studying games, as well as an explanation of why it is important not to ignore elements of game play within both *Pokémon Red* and TPP.

During the emergence of ludology or game studies as an academic field, some academics perceived a dichotomy between the use of narratology to study games and the use of ludology to study games. Juul (1999) argues that games cannot tell a narrative, and most can be studied with methods specific to understanding games. Frasca (Frasca, 1999) takes a more nuanced ludological position, arguing that, owing to games being simulations, they provide distinct possibilities in contrast to narratives. In contrast, their counterparts, such as Murray (1997), found narratives in games such as Tetris, and Henry Jenkins (2006) approached games as providing narrative architecture, be it embedded, evocative, emergent, or enacted, which allowed players to explore narratives in a different manner than traditional media did.

Eskelinen appears to have been somewhat amused that outside of academia people were much more able to distinguish between stories and games commenting that academics often:

> "interactive narratives, procedural stories or remediated cinema'. The intersection of play and narrative is a contested issue: a divide between narratologists, who view the videogame as a new form of narrative, and the ludologists, who view the videogame first and foremost as a game. It could thus be said that the relatively recent history of video games has led to volatility not only in the marketplace but also in the corridors of universities" (Eskelinen, 2001, p. 345).

Eskelinen's view was that narratologists often made useful observations, but tended to overlook the crucial elements of play which limited their analysis. Particularly relevant for TPP Eskelinen highlights that while a reader must experience the entirety of a novel to fully engage with it fully, it is not necessary to experience the entirety of a game to engage with it. With TPP it is likely that the number of people who have watched the entire 16 days, read all the discussion, and fanwork are few to none. Though it should be mentioned that this Eskelinen is using a limited conception of what a narrative can be by focusing on singular works such as the novel.

Although the debate declined during the 2000s, scholars have referred to it as a debate that did not take place and that the questions of the debate remain unresolved (Frasca, 2003; Kokonis, 2014, p. 174). Throughout the academic literature concerning this dichotomy, various voices have argued that the study of narratives does not need to be ejected from ludology (Ryan, 2002). Notably, while the dichotomy is an important part of development in the field of ludology, its lack of resolution can be attributed to one major factor. This is that, as Frasca's paper demonstrates, there appears to be general misunderstandings on the part of many involved in the 'debate'. This consideration of misunderstandings is echoed by Janet Murray (2005), who places the fault more on ludologists for defining both terms and railing against a phantom of their own creation, which can be seen in Frasca's paper and the general assertion by Aarseth (2012). The other possible source of confusion leading to the narratology/ludology divide is suggested by Ryan, who suggested that the issue was a confusion over the scope of the term narrative; with ludologists envisioning narratives as fixed in the form of novels and scripts rather than narratives being malleable (Ryan, 2006). This thesis uses ludology when addressing the gameplay elements of *Pokémon Red* and narratology when addressing the fiction of TPP; this is part of the importance of separating the ludic narrative from the fictional narrative.

While there have been many names given to the naming of a mix between ludological and narratological approaches, such as Ryan's ludonarrativism (2006, p. 203), the analytical method of most relevance to TPP is Ensslin's ludostylistics (2014, chap. 1.3). Ensslin intends this method to apply specifically to games with a significant narrative framework such as roleplaying games, which is

the genre Pokémon games typically belong to. Ensslin breaks this analytical method into four parts (Ensslin, 2014, chap. 3.5); ludology which encompasses the gameplay and feedback loops that are part of the game, ludonarratology which studies the in-game narrative and external narrativity, ludosemniotics which examines the interface and other design elements, and lastly mediality which looks at the technology and the platform the game used. By separating TPP into narrative levels a similar analysis is achieved, which highlights the need to separate and analyse the many parts of complicated digital media artefacts. The ludology of TPP is explored in the ludic narrative, the ludonarrative in the fictitious and discursive narratives, the ludosemniotics is established by exploring the sites of TPP as is the mediality.

The aim in designing Pokémon came from Satoshi Tajiri, who wanted to repackage the traditional Japanese hobby of bug catching as a video game (Larimer, 1999), with the game map being named after and based on the Kantō region of Japan. The tightly packed towns separated by wilderness and fashions are based on Taijiri's childhood in the region in the 1960s/1970s, and the main character default name being Satoshi. The number of Pokémon and the random nature of encounters were also based on how Taijiri enjoyed the "tiny discoveries" of bug catching and wanted to build that element of tension/anticipation. Similarly, Taijiri considered the naming of bugs important in his childhood, so this aspect was also included in *Pokémon Red*. From these choices, we can see how *Pokémon Red*'s gameplay came from both the expected Japanese game design from the previous decade and an attempt by Taijiri to simulate his childhood bug-catching hobby (Tobin, 2004; DeMattia, 2020, pp. 46–47). This is worth noting as it shows that *Pokémon Red* is a digital remediation of a childhood hobby/game, and TPP is a remediation of *Pokémon Red*, an example of how Pokémon is grounded in remix culture from its inception.

It is important to also consider TPP itself as a game that is a variation of *Pokémon Red*. *Pokémon Red*[17] added a metagame that emerged from players having to learn how they could work together as a community and how they could not. The 20 second delay between an input and the large number of other players required players to think about what other players might input and made navigating menus very difficult. These elements of the metagame made using items and the in-game PC extremely difficult (Ramirez, Dietmeier and Saucerman, 2014, p. 6). Later, in the course of

[17] See section 1.1

playing the game, an additional element was added to this metagame, which was the constant struggle between the original anarchy system and a slowed democratic system that enacted the most voted for input. This change to the metagame provided an option for the community to perform more complex tasks more effectively but also introduced an additional issue to the metagame of TPP by effectively creating two teams, anarchy and democracy, that competed for control over the game.

A useful model for bridging any ludological/narratological gap within TPP as a community comes through looking at the idea of narrative goals (Cardona-Rivera, Zagal and Debus, 2020, p. 3). By looking at narrative goals within a game and ludological goals within a game, it can be seen that often these map to each other, such as within *Super Mario Brothers*, where the ultimate goal of a player is to finish the game, which can then be mapped onto the ultimate narrative goal of Mario saving the. This model is also useful for separating the narratives of TPP into ludological and fictional elements to identify and perceive how gameplay and fiction share goals and where they might differ. This could provide a starting point for understanding how ludological needs affect the emergent narratives of the TPP community. Particularly as this thesis is looking primarily at creativity it is possible that this framework of matching ludological obstacles with narremes might demonstrate how in TPP the narrative elements may have been used by the community to aid in pursuing the ludological goal of completing the game.

3.3 – Emergent Narratives and Digital Spaces

Pokémon is a transmedia franchise with stories in many forms of media; however, the franchise is built upon the Pokémon series of games. Pokémon games are interactive media, and the main interactive choices available to the player work alongside the rest of the Pokémon franchise media to heighten enjoyment and engagement with the interactive media. With games, emergent narratives are those that are not embedded within the gameplay itself but occur when the player imagines or 'authors' the story by playing in a world she actively constructs" (Brand and Knight, 2005, p. 4). Interactive media may plan to provide space for people to experience diverse narratives, but unexpected events such as a bug in a game creating a plague that spreads outside its intended boundaries or roleplaying within a game can lead to emergent narratives that were not expected by the interactive media's creators.

Pokémon Red is a single player role-playing game (RPG) where an individual player inhabits the role of a ten-year-old in the Kanto region of the Pokémon world, setting out to challenge the Pokémon League. Importantly, the very first interaction the player has after reading introductory text is to choose their name from a preset list or input their own name. While choosing the player character's name is not unusual in most 'western' RPGs (Ralph and Monu, 2017, p. 5), where the role you inhabit is a type of character, it is unusual for 'Japanese' RPGs, where the player is expected to inhabit the role of a predefined character. Being able to put oneself more literally into the story has a small effect on the narrative but one that can build further.

The most significant element of interactivity in *Pokémon Red* is how the player chooses to develop their team of Pokémon. The player will need Pokémon, who can use particular moves such as cut and surf to get around the environment, and different Pokémon will be more vulnerable in against different Pokémon types, requiring a variety of Pokémon to comfortably get through the game. This means that as the player is interacting with the game, they are making frequent choices of their particular team and reevaluating the Pokémon on their team (Ochsner and Saucerman, 2015, p. 30). Each Pokémon can also be given a nickname that cannot be changed. *Pokémon Reds* ability to add personality through nicknames is further impacted by simply what a player likes potentially changing the narrativity of the game. Experiencing gameplay and its obstacles are likely to affect a player's choice of Pokémon if they are to play the game again.

The players of TPP, however, were interacting with *Pokémon Red* with foreknowledge and the added ludic elements of the chat window inputs and collaborating as a collective. Compared with a standard single-player playthrough, the added ludic elements of cooperation and communication significantly affected how the narrative could be perceived. The player characters' inexplicable behaviour significantly altered the intended narrative so that a new narrative had to emerge.

The general themes and events all remain the same, being fundamental to *Pokémon Red*; however, a significant amount is added. The conflict between anarchy and democracy, political views that take on religious elements, is vital to the TPP narrative but non-existent in *Pokémon Red*. Additionally, the player characters rival is the primary antagonist in *Pokémon Red* but is almost entirely irrelevant to the emergent narrative of TPP. Instead, the community's avatar, The Hivemind, takes on the primary antagonistic role, although it is not entirely villainous in most versions of the narrative. Importantly, the light fun journey intended by *Pokémon Red* takes on an oscillating tone of baffling slapstick, as the protagonist struggles with simple tasks but also a grim aspect, as the protagonist is forced to pursue the aims of The Hivemind as an unwilling host. These changes constitute the emergent narrative of TPP and unfold as a semiotic activity (Walsh, 2011, p. 78) where the community is making sense of the unusual events emerging from their gameplay and creating explanations that lead to the emergence of a narrative.

There is an interesting observation in relation to levels of interactivity and the focus on narrative in relation to the different forms and levels of narrative in TPP, whereby in playing the game of *Pokémon Red*, interactivity is high, whereas narrativity is quite low. In discussions of play, there is less interactivity, but narrativity increases as the community discusses interpretations, memes, and strategies. Finally, in fiction, the narrativity is very high, where the interaction is limited to the perception and interpretation of the narrative snapshots, as highlighted in chapters four, which describe a user's experience of TPP[18].

Taken as a singular narrative, TPP contains large amounts of social engagement, interactivity and narrativity, but each component part is required to fully allow for an emergent narrative. The Twitch platform provided insufficient ability for the players to create narrative elements and discuss the TPP stream with each other. While the social media discussions the TPP community engaged

[18] Section 4.5

with provided a space to interact as a community and discuss and develop narrative elements, the various images, music, and stories posted individually lacked any interactivity, as they were self-contained story elements. Nonetheless, these elements were important, as each narrative snapshot helped establish a narrative element for the community outside of discussion, although they often served to focus discussion on particular interpretations. Each narrative snapshot often becomes or solidifies particular narremes that allow for many different interpretations of events to hold equivalent weight.

3.4 – Narrative levels

We can use narrative levels (Genette, 1990, p. 227) to describe *Twitch Plays Pokémon* with alterations to account for its unusual structure. Narrative levels are usually used to describe the relations between an act of narration within a story. There are extratextual levels where the real reader and author exist as the basic ground level other rest upon. First, there is the extradiegetic, where the narrator of the story interacts with the assumed audience. Second, the diegetic narrative level, where the characters within the story interact and perceive events. Third, the meta-diegetic involves stories told by characters within the primary story. We will use Genette's own method of defining different narrative levels as:

> "We will define this difference in level by saying that any event a narrative recounts is at a diegetic level immediately higher than the level at which the narrating act producing this narrative is placed" (Genette, 1990, p. 228).

In this way, we will establish the different narrative levels and forms of narrative within TPP. In TPP, it becomes difficult to ascertain what the extratextual narrative level equivalent for TPP is following the traditional model of narrative levels. Throughout the duration of play, many participants were telling and retelling different small parts of the overall story by making artworks of moments in the story. The fan work was focused on moments that were happening as the narrative developed as part of ongoing participation. By the nature of these being retellings we can now safely ignore the discussions and creative works as being our extratextual level equivalent, as both levels come from the discussions and interpretations of the act of playing TPP. This must lead us to conclude that the technological game of TPP should serve as our extratextual level equivalent.

There is an argument to consider that the extratextual level belongs to the streamer who coded TPP and the audience, with the modified TPP version of *Pokémon Red* serving as the text. However, there are two core issues with this perspective. The first is that, beyond setting up the game, a modified version of *Pokémon Red*, to be played, the streamer only interacts to fix technical issues and to introduce a new form of play that was a very controversial move as it affected the community's agency, the creation of a new form of interaction with a preexisting game is significantly less agency than would be expected from an author in the traditional sense. With respect to agency, when a member of the community participates by playing or watching the game, they primarily interact with and react to the prior choices of the community, not with the choices and decisions of the

streamer. This is somewhat in contrast to what Retez found studying a cluster of Italian streamers called Tomodachi Crew where they found:

> "…the creative-narrative production of the lore of Tomodachi Crew underlines the presence of a content production loop whereby what is created by the streamer is manipulated by the users and further and again by the streamer" (Retez, 2022, p. 141).

In the case of TPP The creative narrative production occurs by what the participants create being manipulated by other participants, outside of the initial start of TPP and the introduction of democracy. However, Retez also found that the Twitch viewer engages as both interpreter and participant; which is also the case with TPP, where playing the game and interpreting the consequences of that play is where the ludic and discursive narratives meet.

If we consider the act of play itself as the foundation for forming narratives, then the players of the TPP serve as both the authors and the audience at the extratextual level. Although only one player acts as the author in a single moment, the change occurring at every new input makes the change so fast that it is effectively a narrative authored by the entire community of participants. This could be described as a collaborative story, although the lack of order in the process of progressing, limited deliberation among participants about their next action, and the inability to decide on a course make it functionally authorless as a consequence of the community's size and the distributed nature of the community's decision making.

Through play and discussion, TPP is distributed digital authorship, a form of authorship that is difficult to equate to traditional conceptions of authorship due to a defined lack of a central figure, which many traditional forms of narratology expect. This form of authorship could be equated closer to how folk tales evolved and developed, in that there are central forms of story that are replicated in different forms (Propp, 1928, p. 185). However, this form of authorship is distinct again because the TPP community has embraced the differences and conflicts in their fiction rather than the tale changing over time. Finally, digitally distributed authorship also provides a further complication: the presence of mostly anonymous individuals' discourse on their ideas on how to develop their fiction.

With the extratextual level established as involving where the gameplay is occurring, we can now call this narrative level the ludic narrative level, with 'ludic' referring to the act of play. With the ludic narrative level established, we can move on to the extradiegetic narrative level.

The extradiegetic level is traditionally where the narrator and narratee interact in a story; for example, a ghost story told around a fire might have an old cowboy narrating a ghost story to younger cowboys. In our alteration to narrative levels, this is where discussions on social media happen, where members of the community talk to each other and exchange their interpretations of events. The discussions as a whole are tied to the fictional narrative in the same manner as the ghost story, as the social media 'hivemind' of the community discussions exists as a major driver of the fictional story as character 'The Hivemind'.

The discussions around TPP are not an aspect of the event that would immediately be obvious to an individual looking at TPP today; however, community discussions were extremely important for the organisation of their game play and fictional interpretations of what was occurring at the ludic narrative level (extratextual level). The discursive narrative that formed the extradiegetic level is important to TPP, as it is the layer that communicates between and to the other two narrative levels.

An interpretation of an event that had occurred at the ludic narrative level could lead to interpretation shared at the discursive narrative level that certain characters were bad or good, which would be reflected in the fictional creative works; then, the creative works would drive gameplay choices. Similarly, the requirements and strategies required to achieve victory at the ludic narrative level necessitated gameplay choices being explained at the fictitious narrative level, a constraint that required certain choices to be interpreted at the discourse narrative level. For TPP, the discursive narrative level is where the emergent narrative of TPP forms.

The emergent narrative of TPP is the diegetic narrative level of TPP, and owing to the nature of the community and social media, it is highly fractured. The diegetic is the level at which the significant bulk of creative works (e.g., comics, music, and stories) exist. There are also numerous clashing fictional narratives at this narrative level in TPP due to the ever-changing narrative and the development of mutually incompatible interpretations. At the diegetic level, there is a focalizer (Genette, 1990, p. 189) who is the perspective of the narrative and a focalized object or character that is being perceived; for instance, in TPP's disjointed fiction, events are often portrayed through different focalizers. While it is not unusual in fiction to have events portrayed through different focalizers, what makes TPP different is that the narrative snapshots are presented to be discussed, interpreted, and fit into other snapshots in different ways. The assembly and reassembly of the

fictional snapshots results in the traditional diegetic level and meta-diegetic levels being compressed together as the stories and stories-within-the-stories converge into what we can call the fictitious narrative level instead of the traditional diegetic level.

Usually, meta-diegetic refers to hypo-diegetic, that is, stories within stories that largely describe the bulk of narrative snapshots in TPP. However, there is also a need to assemble inconsistent, mutually exclusive, and fractured narrative snapshots into some form of cohesive whole by a reader. The combination of narrative snapshots by each reader is individual and can be best termed hyperdiegetic (Hills, 2002), using the word ‘hyper’ in the ancient Greek sense of over. Owing to the fractured nature of the diegetic narrative of TPP, for a coherent narrative to be understood by an individual, one must either construct their narrative over the assorted diegetic works or have such a narrative communicated to them by someone else’s narrative.

A hyperdiegetic narrative could simply refer to an individual’s own interpretation of the diegetic narrative as a result of the diegetic material they have seen, or it may refer to a community’s deliberate attempt to create a coherent narrative for the sake of newcomers to have a clear starting point. Anyone attempting to communicate the ‘Story of TPP’ as seen on YouTube is choosing material and interpretations to communicate a narrative and, as such, is not capable of communicating all of the possible hyperdiegetic interpretations. It is also debatable whether a hyperdiegetic narrative would be one that is only ‘over’ the diegetic narrative or if it is one that would be above all the other narrative levels, making the hyperdiegetic narrative level the narrative level where the participant interacts with the community.

In one way the TPP community was using narremes and the narrative to bridge the frayed edges of the *Pokémon Red* narrative caused by their unusual mode of play. This is somewhat similar to players enjoying revealing the places where a program falters (Thomas, 2004, p. 109). This what Thomas refers to as making tools available to games who ‘fancy themselves procedural playwrights’, where a game has more of a focus on sharing stories with each other(Thomas, 2004, p. 114).

Interestingly, the clarity of who is in control of the narrative becomes less clear as one progresses through the levels, with who was the author at the ludic level clear for each point in time, but the narrator role being much more difficult to identify temporally within the discursive level and the focalizer becoming quite vague at the fictitious level. In contrast, the audience at the ludic level is a

highly undefined mass of individuals, but the implied reader at the discursive level is somewhat easier to identify in the community's discussions, as they can be addressed, and at the fictitious level, the audience is embodied in the well-defined if difficult to explain character of The Hivemind.

Altering the terms of the levels as seen in chapter one from the traditional (extratextual, extradiegetic, diegetic) to the revised levels (ludic, discursive, fictitious) is important for beginning to understand and analyse new forms of media such as TPP, where the traditional model is useful for organising the text, but the traditional terms do not correctly describe what is happening in the new media environment.

Furthermore, the addition of the hyperdiegetic narrative level is important when dealing with this type of distributed creativity, in which an individual is part of the community that is forming a narrative and in which each individual is expected to derive from the community and narrative their own interpretation. As there is no author, there is no canonicity and no official text. Every individual chooses to form narrative snapshots that are relevant to their hyperdiegetic narrative.

Whereas many traditional media fandoms are frequently concerned with what is canonical according to known authors (Chaney and Liebler, 2007, p. 9; Thomas, 2018, p. 280), new media narratives such as the TPP or the SCP foundation lack that clear provenance; thus, the fandom (who, in most cases, are the authors) prefers accepting that the personal canon is the only one that truly matters. The individual's personal canon is the hyperdiegetic level that creates an individual coherent narrative from the fractured diegetic narrative.

3.5 – Narreme as a Unit of Narrativity

A number of theorists have attempted to break stories down into their essential elements. Some have attempted to reduce mythological heroes into a simple story pattern (Campbell, 1993), whereas others have sought to break stories into the core narrative functions and how they relate to each other and group related stories (Propp, 1928). These attempts to reduce stories into an elemental form can be descriptive in communicating what a story is made of or prescriptive in the way the three act structures are often expected of scripts.

Vladimir Propp's (1928) narrative functions as a concept that has more use in describing how the narrative elements of TPP can be assembled differently, and as any fictionalisation of TPP is bound to the structure and events of *Pokémon Red's* gameplay, the shared narrative elements must be assembled in a similar order. Variations in the fictional narratives of *TPP Red* are as expected as variations in a folktale, with the individual storyteller choosing the elements that they find appealing and removing those that they do not.

There is a similar theoretical concept that provides greater flexibility in exploring the development of an authorless narrative, which is the narreme (Dorfman, 1969; Wittmann, 1975). While the term sounds like 'meme', which generally refers to ideas and behaviours that spread and can recombine in new ways (Milner, 2016, pp. 46–47), narreme refers to the fundamental building block of narrative structures, be it medieval romances or TPP. While memes exist in many internet cultures, a narreme is a more rigid small section of narrative comparable to a phoneme in the field of linguistics. The narreme concept is particularly useful for analysing TPP, as TPP lacks an authoritative source on its fictional elements; instead, fans construct their own narrative from the established 'pieces' of TPP.

The narratives of TPP are made of building blocks that are related but not necessarily reliant on each other. Understanding how the building blocks operate the concept of the narreme is important. A narreme is the basic unit of narrative structure and is distinct from a meme, which is a unit of cultural information spread from replication, most evident in the example of a phrase or image repeated on the internet (Shifman, 2015, pp. 7–8; Milner, 2016, p. 16). A narreme requires more elements of structure than a meme in either of its definitions; a narreme requires an action(s) being narrated from a perspective that is communicated to a reader. Chivalric romances (Dorfman, 1969)

and folktales (Propp, 1928) are more traditional examples of artistic expressions that are more easily seen to be composed of narremes. The narratives of both chivalric romances and folktales are constructed from pools of shared narremes, individual narratives that share many but not all narremes.

An example of a narreme that is present throughout mainstream Pokémon games and most fangames is the presentation of starter Pokémon to the player by a Pokémon professor. The Pokémon presented to the player, the Pokémon professor, the setting, and events that lead to the presentation of the starter Pokémon can differ greatly, but the underlying narrative element of the professor gifting the player a Pokémon remains consistent.

A further example of a narreme within the TPP is the player character of Red being haunted by voices causing them to take bizarre actions of the game, such as struggling to navigate a simple ledge. However, the nature of this haunting can change significantly in how Red is portrayed in creative work. It was initially considered by players that Red may have been simply hearing voices or having another mental health disorder, but it became more common to interpret the voices as a more supernatural entity that was possessing Red. The narreme varied in use from humorous portrayals of antics to more tragic portrayals where Red was in genuine misery. The basic narreme serves the function of explaining Red's unusual actions, but the 'Red is haunted' narreme can be interpreted quite liberally.

It is important to distinguish the narreme from the meme. Among the types of emergent narrative that the TPP is representative of, many fan discussions and creative works also involve memes, both those described by Dawkins (Dawkins, 1981, pp. 245–260) and the contemporary meaning of the term. This is important, as the TPP community understood that they created and used memes, but they did not consider that they were also developing narremes. The narremes emerged from these memes and explanations to form the building blocks of the fictional TPP narrative.

The narrative of TPP was composed of people slowly creating new narremes for the story, not knowing what was coming next, and often reinterpreting what came before as things changed in the game and community. There remained basic narremes of not only the factual events of the game, but also characterisations of characters, however both could be portrayed quite differently by changing the related narremes.

3.6 – Hyperdiegesis

Hyperdiegesis (Hills, 2002, p. 137) has been previously discussed in the context of narrative levels and can also be an important feature of fan communities and metamodern media. Hyperdiegesis exists for any media where the reader imagines the narrative beyond its text. Hyperdiegetic narratives have taken on a greater role and importance in digital media with the concepts of fanon, head canon, and fanfiction in general; however, hyperdiegesis is also increasingly prevalent in mainstream media, as seen in the steady increase in fanfiction and 'headcanon' in fan spaces. Most traditional forms of media hyperdiegesis can be seen as readers developing and sharing work from their personal perspective on the diegetic narrative in fan communities. However, in current media, hyperdiegesis is encouraged or even expected by many creators.

While the hyperdiegetic level is often the realm of fanfiction and other creative works that are related to a text but not the text itself (Bronwen Thomas, 2011, p. 11; Knaggs, 2011), this is not necessarily the case. Many texts may simply accept the existence of other creative works, but at the furthest extent of distributive creative communities, the opportunities for hyperdiegetic storytelling are fully embraced. In the case of TPP, the creation of fictional media involves the interpretation of events rather than absolute truth, which means that the anarchy/Helix and democracy/Dome factions' narratives could coexist as different perspectives, with neither being seen as definitive truth.

The term hyperdiegesis isn't particularly common, but the idea of this form of reader or fan narrative is familiar. Herman refers to a similar and related idea he calls storyworlds, which are defined as:

> " … global mental representations enabling interpreters to frame inferences about the situations, characters, and occurrences either explicitly mentioned in or implied by a narrative text or discourse. As such, storyworlds are mental models of the situations and events being recounted — of who did what to and with whom, when, where, why, and in what manner. Reciprocally, narrative artifacts (texts, films, etc.) provide blueprints for the creation and modification of such mentally configured story worlds" (Herman, 2009, pp. 72–73).

The idea of storyworlds generally refers to stories that have a large amount of implicit narrative; a level of immersion where the reader may choose to imagine the many other stories that must also be happening despite not being the focalized narrative. In the case of TPP the idea of storyworlds comes into focus as no matter how much any participants knew about the Pokémon world across all media, the fact that the player character of Red in TPP was moving and acting in extremely

strange ways from the perspective of non-player characters (NPCs) in the game invited the TPP community to imagine why that was the case. This was a pattern that was replicated across events, and how a singular participant assembled the explanations they preferred is Hyperdiegesis.

A particularly well-known example of hyperdiegetic storytelling in mass media comes from the original Star Wars (*Star Wars*, 1977) films, which prove instructive for analysing TPP. The popularity of the films created many discussions and an appetite for more Star Wars content. While some creators wrote novels following from the end of the trilogies story, others began to fill out the background of characters who were unnamed and lacked much presence in the story and elaborated on them, creating a vast amount of Star Wars content that, despite not being part of the films, became important to many fans of the original text (Harvey, 2015, p. 137).

Star Wars was not written with the expectation of fans wanting to elaborate on the minutia of the films, but creators and companies have increasingly accepted and anticipated the reality of fans who not only consume content but also produce content, a growing type of fan that marketing firms' term 'prosumers' (Olin-Scheller and Wikström, 2010, p. 41). In large, branded franchises this filling in the gaps eventually becomes the default as the fans who engage with the franchises hyperdiegetic narrative are listened to more, and many of those running the shows began as fans (Hills, 2014). The prosumer tradition among *Star Wars* fans of filling in the gaps was recognised by Lucas Arts, and by the 2010s, the hyperdiegetic filling in of the gaps had become so core to the franchise that not only was a children's show created to elaborate on the prequel films but also a film was made to address a plot hole that fans had become focused on (Geisinger, 2020). Like the *Star Wars* fans, the broader Pokémon fandom has been engaged in exploring the franchise in ways unanticipated by franchise holders and through their prosumer fan creations. This established fandom sought to build upon and expand what Pokémon could be.

Games set in preexisting media franchises expand hyperdiegetic storytelling further by creating space for transmedia storytelling for fans to explore their stories and ideas (Bestor, 2019, p. 27). The ownership and 'officiality' of ROMhack games have no particular clear effect on how players engage with the franchise's official games or how either can function as a platform to organise a community around.

Using *Star Wars*, we can also examine how playing in an established transmedia franchise has been an overlooked area of how both a franchise and a fandom develop in tandem (Bestor, 2021, p. 146). The important areas of contrast between TPP and Star Wars are the type of game and the beginning form of media. First, the games most important to the early development of the *Star Wars* franchises were tabletop role-playing games akin to *Dungeons and Dragons* rather than the single-player video games of Pokémon. Second, the Pokémon franchise originates from games rather than films such as *Star Wars*. What becomes evident is how large transmedia franchises have fan communities who wish to play in and with the franchises' stories and narremes in ways that the franchise owners do not; during play, fan communities seek to explore any plot holes and gaps in the official story. The *Star Wars* example highlights that it is the medium and technology that makes TPP unusual. It is similarly the medium and technology that helps us see the creative process in a way unlike past examples that have been overlooked according to Bestor.

In the past, the sharing of hyperdiegetic content required people to subscribe to fan magazines and physically attend fan groups and conventions (Verba, 2003). The internet very quickly overtook the real world in providing a platform for hyperdiegetic content, with fan fiction being the earliest and most prominent example. Furthermore, a large amount of social media content is content about media content. Much of the content-about-content is in the form of discussion or compiling information, but there are also significant amounts of memetic humour, fanfiction, fan theories, and video essays that both explain the text and theorise about future developments. That is, social media has evolved to have more self-referential content (Singer *et al.*, 2014, p. 5), with this self-referential content encouraging further engagement between fans to discuss the content they enjoy and to remain engaged with self-referential content at the hyperdiegetic level.

The internet has provided a platform for small creators and groups of creative people to share their original projects. Early on, much of this creativity was expressed by singular creators in the popular mediums of webcomics and flash animation, but soon, larger collaborative groups began to emerge. Many early collaborations were loose associations, and the leadership had limited control of their output, with many collaborations either disappearing over time without completing their project or simply running their course. Owing to collaborations often running their course, the communities that emerged around the creative works often had to operate with a loose conception of what qualified as

a canonical text of their projects, so the reader operates on the hyperdiegetic level when constructing their interpretation of what the narrative and text is.

An example of how similar loose collaborations become established and expand is the SCP foundation, a horror/weird fiction writing community where authors add to the setting by writing numbered SCP entries that focus on anomalous items, creatures, and people. The SCP is a long-standing and expansive example of hyperdiegesis in a deliberately distributive creative community (Schuhart, 2020; SCPwiki, 2021). Its community explicitly embraces that different SCP entries are fundamentally contradictory, and that setting can be interpreted in multiple ways. The most prominent example of the contradictory nature being SCP-001, where there are multiple accepted SCP-001 (CuriousCoffee, 2017) entries as the community could not decide on what type of entry was worthy of the 001 number, as well as concerns over making any single contributor too prominent in the community. This means that not only does the reader of the SCP foundation operate at the hyperdiegetic level when they read and create their narrative idea, but authors also must do so as they write and add the SCP foundation as entries are considered in relation to past entries compatibility or incompatibility.

The SCP foundation is an ideal example of media where the hyperdiegetic is the main narrative level on which the narrative exists. Where the other narrative levels typically exist within the text or the author/reader context, the hyperdiegetic level of storytelling is uncovered by participation with others and how they have engaged with the text (Hills, 2002, p. 101). Hyperdiegetic storytelling is particularly prominent with newer media, in part because newer media receive more discussion and attention than does past media, which is typically received prior to social media easing discussion; but also because newer media is aware of and engages with their fans much more often and easily since the advent of social media.

Distributed creative collaborations are particularly distinct in how they operate compared with the media products of popular culture, as unlike prominent traditional media franchises that operate under strong corporate understanding and control over copyright, these online collaborations often breach copyright or even operate under creative commons licences to encourage the sharing and development of the work. Their authorship is shared and often quite opaque, and there is a lack of interest in creating a definitive work. The collections of work from such communities are often

hyperdiegetic in nature and rooted in metamodern sensibilities. The community often has strong engagement with hyperdiegetic narratives that the community creates as there is a culture of sharing elements of each other's works freely (Kirby, 2022).

Our final definition for hyperdiegesis refers to aspects of a narrative that are conceived by the reader by associating different elements of the diegetic narrative to form aspects of the narrative that the reader perceives outside of the text's narrative levels. This definition may involve solely discussing what an individual takes away or individuals collaboratively discussing and sharing their associations and perceptions of diegetic elements and the resulting new narrative conceptions.

Within TPP, the hyperdiegetic narrative level is above and encompasses the other three, Ludic, Discursive, and Fictional. It is above these three levels, as the hyperdiegetic is constructed from the participants' engagement and their perspective on each of the other levels. Traditional narrative levels can be described as interactions between the storyteller and the story receiver; both roles are of course presumed. For example, the interaction between Mary Shelley and a contemporary reader forms the extra textual level of the narrative of Frankenstein, where the readers' knowledge of Shelley does affect the narrative that they perceive. Within the text of Frankenstein, we are presented with the narrator Captain Walton's letters to the narratee, his sister as the extra diegetic level that frames the story. From this initial narrator/narratee dynamic, we enter further hypodiegetic levels, Victor's story to Walton, the Creatures story to Victor, before returning through the narrative levels for the book to finish on Walton's letters and the narrative finish for the reader as the author chose. If the reader chooses to elaborate outside of the text by having The Creature find a bride, meet Dracula, or explore Victor's grandson, then this enters the hyperdiegetic, but the hyperdiegetic is not required for the narrative.

TPP's narrative levels are different, but they similarly return to their starting narrative level of the hyperdiegetic with the observer and Twitch Play Pokémon itself. Owing to the lack of an author, it is the observation of TPP that forms the entry and exit points of the TPP narrative. It is analogous to the extratextual level, but it is not identical because the fundamental interaction between an individual and a canonical work where the extratextual involves the reader's interaction with an author of a work that has canonicity.

Beginning with the hyperdiegetic level results in an observer engaging with TPP in greatly different ways. The life of an author, and years past the publication of a text, will, of course, alter a reader's perception. In the case of a work such as TPP, the conception of authorship and the 'text' are altered significantly not only when they engage with TPP but also by the depth to which they engage to a much more dramatic degree. With the TPP, anyone engaging with it is now viewing a complete narrative with an assortment of cultural artefacts and interpretations. For those engaging with it in its first days, it was a strange experiment on a streaming site, when streaming was still in its infancy with entertaining names attached to the Pokémon they had caught. After a week, an observer would be seeing a community that was having mass protests over systems of determining their path forward that had gained religious overtones, a community that argued not only whether they could win but also if victory after using democracy was valid.

A further difference with a work that has the hyperdiegetic narrative level as its entry point compared with the extratextual narrative level is that to engage with the novel Frankenstein, the reader relationship might affect how readers engage with each level 'deeper' into the narrative, with the hyperdiegetic entry point, the observer may engage with TPP on any of the other narrative levels before the others. They do not progress from the extratextual to the diegetic; they construct the hypodiegetic from whatever the observer has seen of the different narrative levels.

With TPP, an observer might have first engaged with the game streaming on Twitch with no other context or encountered it through discourse on news sites or social media or through fan artwork. Since it is complete, an observer may encounter TPP even through the hyperdiegetic level of other observers, providing their own explanation of the events of TPP with their own interpretation of events.

The disordered nature of how an observer might engage with TPP is part of why it is difficult to assert a canonical and definitive version of TPP. With the difficulty of establishing canonicity, we can proceed to accept that there may be no simple text for the TPP's narrative. The ludic level contains events that occurred during the play, but it does not contain much of what is associated with TPP; this is also true of the fictitious level, which lacks much acknowledgement of the conflict over voting systems or the ludic challenges that significantly threaten the impossibility of completing the game. The discursive narrative engages with all of these, but it can only do so owing to the elements

of the other two levels. For this reason, any fictional narrative of TPP must be formed primarily on the hyperdiegetic level.

There are extratextual narrative levels to the different elements of TPP, an example being a popular post on 4chan that was screenshot. The screenshot shows the TPP and its strangeness in the context of living in the future. The screenshot is a part of the discourse, of course had an author and a presumed reader as a 4chan user, and it describes TPP in its basics. A comment sums up much of the observers' feelings toward TPP in a succinct manner.

This is true of many comments and images; they themselves are narrative elements containing at least the extradiegetic and diegetic narrative levels. However, none of them contain the TPP narrative; they are all narremes, elements that the observer can make use of in constructing their narrative of TPP. These narratives contain significant humour and drama. They often focus on the story of the players winning the game or the clash of anarchy and democracy. Each narrative is personal to the observer at the hyperdiegetic level.

3.7 – Metamodernism as a Descriptor of Digital Media

To argue that metamodernism is a required term for new digital cultural artefacts, we must first show that at least TPP differs enough from established traditions of media criticism and that it requires a new term for us to engage with TPP correctly. TPP is a metamodern work that oscillates between and plays with modern enthusiasm and postmodern irony. Metamodernism is one of the proposed labels for the developments that have occurred in culture, philosophy and aesthetics that have emerged since and as a trend to unify postmodernism and modernism (Baciu, Bocoş and Baciu-Urzică, 2015, p. 35). Metamodernism has been proposed occasionally as a label since the mid-1970s; however, it is typically placed as a synthesis of different elements of modernist and postmodernist sensibilities, or it has described an oscillation between the two (Vermeulen and van den Akker, 2010, p. 4).

Metamodernism is argued to be a growing cultural movement, one that emerged alongside the internet and around the same time that the Pokémon franchise began in the 1990's (Akker, Gibbons and Vermeulen, 2017, chap. 3; Storm, 2021, p. 3) and when its first fans were children. If metamodernism is a cultural movement, it is the cultural movement that the TPP community developed along with while it began to engage with digital media. Consequently, metamodernism is an appropriate lens through which to look at TPP.

Adding metamodernism to the collection, we have four broad movements in art and culture over the past two centuries. As with metamodernism, defining such broad cultural movements is difficult. E. B. Burgum described romanticism as "a hazardous occupation" (Burgum, 1941, p. 479). However, we must try to describe cultural movements even if a comprehensive noncircular definition is unobtainable. Romanticism focuses on individualism and subjective experience (Furst, 2017, p. 44). Modernism can broadly be described as an attempt to depart from traditional arts and artforms and a pursuit of engagement in the novel (Latham and Rogers, 2015, p. 11). Postmodernism, while famed for being difficult to define, can be generally understood by its relativism, which is borne from scepticism, particularly towards modernist sensibilities, Hassan provides this insight on defining postmodernism:

"What do all these definitions have in common? The answer is familiar by now: fragments; hybridity; relativism; play; parody; pastiche; an ironic, sophistical stance; an ethos bordering on kitsch

and camp. So, willy-nilly, we have begun to gather a family of words applying to postmodernism; we have begun to sketch a context, if not a definition, for it[post-modernism]" (Hassan, 2003, p. 304).

With these three movements described this thesis will term metamodernism, which can be considered as pragmatic idealism, where the modernist pursuit of progress and postmodern scepticism are both embraced and rejected at once.

Importantly, romanticism, modernism, postmodernism, and metamodernism are descriptive terms for collections of movements. Cultural movements exist throughout Western culture and are often incompatible with and even opposed to each other. Cultural movements do not just stop existing because their descriptive period has ended; rather, they often continue to exist and evolve alongside new movements. It has been argued that modernism and postmodernism are a continuity with metamodernism being a potential name for the new aesthetic paradigm (Stoev, 2022). In this model modernism and postmodernism are the thesis and antithesis, with metamodernism being synthesis. This is because the loose descriptors of movements describe collections of new movements, not the end of old movements. It is more helpful to understand cultural movements as the emergence of new artforms and methods of expression rather than as all-encompassing philosophies of art limited to a time period that ceases when new expressions and methods emerge. In this way, romanticism, modernism, postmodernism, and metamodernism all exist today in various forms; if the TPP belongs to one of these movements, it must be due to sharing characteristics with the movement rather than simply because of when TPP occurred.

First, we can dismiss it from a romantic tradition, as while works of distributed creativity may celebrate individualistic themes (Burgum, 1941; Furst, 2017), they struggle to put forth an individual's subjective reality owing to its fluid collective of authors. In TPP, while the players character of Red regaining their independence could be read as a celebration of individuality, that is, a complicated argument to get around the other characters' immense importance in reclaiming that independence. An additional issue is that the player's character is pluralised because of the number of individuals having an input in the character direction in a literal fashion. Furthermore, the reclamation of a powerless individual's independence to what they will by a team led by a god is an oscillation between individualism and collectivism. By its nature as a canonical work, TPP puts forth many subjective views as to its own nature and the reality of the diegetic stories; multiple, opposed subjectivities clash with the romantic view of art, putting forth an artist's subjective view of reality out into the world.

Individual artistic works may be under a neoromantic umbrella, but the whole of TPP is an expression of many people's subjective realities.

It could be possible to ground TPP in modernism. TPP is a departure from artforms such as video games that emerged long after modernism's heyday, a departure that is not out of line with Ezra Pound's 'Make it new' maxim (Bledsoe, 2016). However, outside of the progress of the game, which was coded twenty years prior, it is difficult to say that progress is a core value, and the societal progress modernism advocated is not an interest of TPP. The community of TPP played *Pokémon Red* in a new way, but it did not make the game itself new. The player engaged with the same game in a novel manner and consequently made new work. Furthermore, the art inspired by TPP does not have a deliberate departure from traditional artforms (Latham and Rogers, 2015, p. 78); instead, it instead embraces traditionally religious aesthetics and styles. Be it Egyptian or Christianity, the community is appropriating the aesthetics of these traditions rather than making them new. TPP is not intended to break from the past; instead, it embraces the past in the remix culture that is prevalent online (Navas, Gallagher and Burrough, 2017). The community was using a common language to express thoughts rather than remaking historical art pieces.

TPP could be considered postmodern work, as it has many characteristics of postmodern literature, such as scepticism, intertextuality, deconstruction, and indeterminacy (Hassan, 2003). The fact that the largely innocent and childish story of *Pokémon Red* is recast as containing religious conflict, ideological divides, and the story of a child going on an adventure, then making friends, and becoming transformed into a child tormented by an otherworldly hivemind, displays a postmodern scepticism to the simple story presented in the original game that could place the TPP community's creative work in a postmodern sensibility. This scepticism towards *Pokémon Red*'s simple themes has been explored, with groups accusing it of mimicking cock fighting (Kerr, 2012), as well as theories that it is set after a war owing to the lack of middle-aged characters, the presence of and ex-soldier gym leader (Jones, 2020), and that the player is responsible for killing their rivals Pokémon owing to its absence once meeting the stories rival in a tower for remembering Pokémon who has passed.

Understanding TPP requires an intertextual understanding of the Pokémon game and its animated series, American pop culture, and Christianity. TPP deconstructs the simple narrative of a boy and his team of Pokémon, instead having a team of Pokémon trying to save a boy. TPP's

narrative is also one that is subject to change on the basis of individuals. While much of the TPP community's work might be characterised as scepticism towards Pokémon's simple narrative, there is also an earnest belief in the ability of the community to complete the game visible in many other creative works and in the discussions by the players and the TPP narrative. The TPP community was genuinely hopeful that it could collectively win the game. While the narrative of Pokémon has been received sceptically on occasion, this is not true of the themes that were embraced. Those of the bonds of friendship and the individual quest remain, neither subject to pastiche, irony, nor questioning (Laato and Rauti, 2021). Instead, they are reframed and intensified through TPP's narremes, as seen by the community's Pokémon oldest Pokémon becoming known as BirdJesus and being portrayed as such earnestly.

Intertextuality and self-reflexivity are aspects of TPP that, while originating in postmodernism, are expressed in digital media in an extremely unpredictable and disjointed manner where over time, self-reflexivity can almost erase intertextuality by becoming a narrative in and of itself, such as the TPP. The self-reflexive creative work of TPP is expressed in a different manner than traditional media, as the self-awareness and complexity of TPP is in its active creative process as much as it is in the created products. The Hivemind entity is a meta-fictional element, but it is one required to explain the unusual actions of their playing the game. The text is not meta-fiction, but the meta-fiction helps form the text. The Hivemind fills a required role for any fictional narrative, as the irrational actions must be explained in some manner. For these reasons postmodernism is a poor fit to describe TPP.

In addition to the specific differences that separates TPP from previous cultural movements, there is a particular issue. Aside from the distributed nature of TPP authorship, cultural critiques from traditional narrative theories are often predicated on the idea that there is a text or an artistic object to critique. TPP is an increasingly common form of cultural artifact that holds that not only is the reader's interpretation as valid as the authors but also that those aspects of the text the reader chooses to acknowledge as part of the text are themselves an accepted part of engaging with the text. The author is not only dead: there is also no accepted text. This is a step further than is typically understood by invoking postmodern artistic movements, hyperdiegesis is a required method for engaging with TPP.

For these reasons, TPP cannot be grounded in previous descriptions of cultural movements. It is expected that it would share commonalities with past cultural movements, as they react to each other sometimes in opposition to and other times building upon each other. However, the underlying assumption of authorship and text that previous cultural texts do not apply to the forms of digital expression that TPP is a part of, and TPP is part of a distinct cultural trend towards oscillation between different opposing poles that has broadly been associated with the term metamodernism. Additionally theorists have linked metamodernism to the rise of virtual spaces in our lives which stretch the culture paradigm in our lives; where one person may share a link in earnest another might share it in jest requiring people to become accustomed to oscillation in their lives (Gaiduk and Tarapatov, 2022) . The rise of digital technology and metamodernism can even be seen as a symbiosis (Kovalova *et al.*, 2022). TPP being an example of the oscillation within a virtual space and technology and art being in a symbiotic relationship.

The term metamodernism as applied in this thesis is not used to describe an artistic movement with defined goals, or a particular aesthetic, it is used to describe a particular sociocultural context that the participants in TPP were grounded in. Metamodernism is in part a reaction to modernism and postmodernism, as well as a mode of thinking that has emerged alongside the internet and social media. While metamodernism may be seen as a synthesis of modernism and postmodernism, the term oscillation betrays that metamodernism is not a synthesis, it is an unstable sociocultural context where it sincerity and irony are often difficult to ascertain. (Akker, Gibbons and Vermeulen, 2017, sec. 1.3). In the case of TPP the sincere and the ironic are prevalent enough that in Dou's examination of the fiction-based religion of the Church of the Helix in TPP the methodology sorted the interviewees into religious and non-religious, but also serious and ironic (Dou, 2017, p. 27).

TPP is a metamodern work that oscillates between and oscillates between modern sincerity and postmodern irony. It lacks the assumptions of prior artistic movements but is not simply a reaction to a past movement, as it works within a new medium and new conceptions of authorship and text that move beyond previous movements. The metamodern oscillation within TPP has an impact on its creative process allowing it to explore contrasting themes, tones, and narratives.

Summary

In chapter three, the core narratological and metamodern concepts relevant to exploring the creativity of TPP. These concepts and their interactions are required for exploring in depth the development of the TPP community and how it expressed itself creatively and made sense of their creative work.

Narrativity as a conception of how different works can have a different amount of 'narrative-ness' a story may have. The narrativity of TPP elements has been explored, particularly how Pokémon franchises transmedia storytelling to increase the narrativity of its individual elements which is important in highlighting that many creations with low narrativity can be assembled into a creation of higher narrativity. Ludology was then addressed, particularly the conflicts between narratologists and ludologists in the 1990's and 2000's. This thesis largely finds the debate to be not particularly relevant as this is a study of the creativity of the TPP community, however there was an explanation of the both the origins of *Pokémon Red's* ludology as well as TPP added ludology. The idea of ludological goals and narrative goals often mapping to each other. With narrativity and ludology explored, it was then possible to examine how interactive media helps encourage participants to develop emergent narratives that can differ significantly from what the authors expect. The choices that can be made in a Pokémon game that can lead to a narrative to emerge was explored, as well as how obstacles pushed the TPP community to develop a narrative. These three concepts lay the groundwork required to understand the processes that lead towards narrativizing play.

The concept of narrative levels was adapted to explore the narratives within the TPP. Using narrative levels, it is clear that the TPP consists of ludic, discursive, and fictitious narratives within the TPP. This division is important for understanding the community's interactions, as well as how the narratives began to emerge. The relationship between narrative levels also helps show that obstacles in the ludic narrative could enter the discursive narrative and become part of the fiction; but also that the fiction would push the discussion to encourage ludic decisions. It was also discussed how the creative process of TPP was driven by participants altering other participants work formed the content production loop.

The narreme is explored as the smallest unit of narrative, the smallest component of TPP to possess narrativity by itself. Narremes can exist in conflict with other narremes and typically are

assembled by the reader into a larger cohesive narrative. The process of an individual forming their own narrative from individual narremes is termed hyperdiegesis. Typically hyperdiegesis is used to refer to the narratives that fans form to fill the gaps within large franchise stories, however in the case of a distributed creative community hyperdiegetic narratives are the primary way for an individual to understand the overall narrative of the community. This in particular is important for addressing the question of how the TPP community understood their own creative works.

The last theoretical concept explore is metamodernism. Exploring metamodernism first explains why TPP fits poorly into many broad artistic movements but also highlights a feature important for understanding the contrasts and contradictions of TPP, which is the idea that metamodern media embraces oscillations between opposites; most commonly modern sincerity and postmodern irony. Metamodernism is generally argued to have started to become a sociocultural context for creativity in the 1990's or 2000's a period in which much of the TPP community was growing up. Metamodernism oscillation is particularly useful for understanding that the TPP community often held contradictory interpretations and views of the narremes that formed the fictitious narrative.

With the definition of creativity and concepts of narrative levels and narremes established, it is now possible to explore TPP narremes in depth. Having established what is Twitch Plays Pokémon, explored conceptions or creativity, and laid down the foundations of narrative theory it is now possible to start to ask how the TPP community's creative process worked, and how they understood the products of their creative process hyperdiegetically.

4 – The Creative Engine Model: Describing the Distributive Creative Process

Chapter four will bring together the specific explorations of the previous chapters and finally look at specifics of the distributed creative process by exploring specific narremes (Rosenbaum and Semiotic Society of America, 2019) that the TPP community created and the metamodern oscillations (Baciu, Bocoş and Baciu-Urzică, 2015, p. 35) across the interpretations of these narremes. The chapter will also look at an example of how an individual member of the TPP community would have engaged in distributed creativity and developed their own hyperdiegetic (Hills, 2002, p. 137) narrative level (Genette, 1990). This section provides a specific understanding of how the distributed TPP community engaged with the creative process. In addition, this understanding reveals how an individual member creates their understanding of the creative work of distributed creative communities like TPP. By bringing together these creativity and narratological theories and looking at the information from the prior chapters, the data analysis provides an understanding of when the TPP community engaged with the creative process in particular

This chapter is two halves of the core thesis questions presented in the introduction. Firstly, how do distributed communities engage in the creative process? Secondly, how does an individual understand the resulting works of a distributed creative community? It is important to explore both the community and individual perspectives on creativity, in order to fully understand that this creative process occurs from the interaction of an individual with the community. In the case of many large distributed creative communities such as TPP, the community is a necessary simplification of many millions of interactions between individuals. As established creativity is a sociocultural process, an individual's creativity can be considered in their reaction to their sociocultural context, and a community is a sociocultural context and can be seen as the foundation upon which an individual builds their hyperdiegetic narrative.

Having established what Pokémon Twitch Plays Pokémon was, what we mean when we say creativity, and the necessary narratological theories we can now address the question of how the TPP community engaged in the creative process, and then at the end of this chapter how participants in the community understood the narratives that emerged from the distributed creative process of TPP.

As TPP is a community engaged in creativity, the sociocultural approach to creativity is the most logical approach for understanding their creativity. To reiterate the definition of distributed creativity that this thesis works with is a synthesis of Amabile's definition of creativity (Amabile, 1988), and Sawyer and Dezutter's definition of distributed creativity (Sawyer and DeZutter, 2009). This synthesized definition is:

> "Distributed Creativity is the production of novel and useful ideas by a group of individuals working together in a nonindividualistic creative process that we refer to as distributed creativity".

While this thesis is not studying the individual creativity of participants in the TPP community, the role of individuals is not separate to the creative process entirely. Within both the TPP community's creative process the conflict between the individual and the community is a motivating factor for participants as their ideas conflict with the community's ideas, and the theme of this conflict between the individual and The Hivemind is carried into the fictional narratives of TPP. Where Durkheim sees the individual become subsumed by the community (Durkheim, 1893, chap. 3.IV), Otto Rank sees that the individual integrate their conflict with the community into their art. The Hivemind is a narrative tool that aids in this integration of the conflicts, both that of anarchy versus democracy and of the individual against the community, into the art.

TPP shares many traits observed in successful collaborative communities. The clearest trait was the shared goal for the TPP community to win *Pokémon Red* which the entire community was organised around. This simple motivation was particularly effective, as it was clear but not certain that the community could achieve this goal. For an individual, the drive of the community to achieve this goal was encouragement to continue contributing to the game after the initial novelty of the stream had worn off, as their contributions would have some impact if they were able to win (Dou, 2017, pp. 37–38). As discussed in section 1.2.2 and 2.5, the TPP community also had a governance structure that was focused on facilitating participants rather than directing their efforts. This took the form of having frequent threads to update members of the community on the latest events and maintaining community discussions while keeping the disagreements over anarchy and democracy from spilling over into a major conflict. A moderate level of conflict that forms an obstacle to a creative goal is a known positive effect on creativity (Kurtzberg and Amabile, 2001; Chiu, 2008; Marguc, Van Kleef and Förster, 2015). In TPP Pokémon the internal community conflict of anarchy versus democracy formed

the core conflict, as depicted in the figure below as a pro-democracy poster supporting The False Prophet.

Figure 20 – A propaganda poster promoting democracy featuring The False Prophet.

The other trait important in creativity is motivation. Participants in TPP had both their individual motivations to participate in the community, but the community itself also had to maintain its intrinsic motivation. These motivations differed, as did the modes of participation. However the community was also highly motivated to fictionalise and record their effort as narratives are a sociocultural tool that aid a community in defining its goals, maintaining the meaning behind its motivation, and guiding participants towards the actions it considers important (Leyton Escobar,

Kommers and Beldad, 2014; Cardona-Rivera, Zagal and Debus, 2020). As narratives served as the main sociocultural tool for a distributed community that could only communicate visibly, pseudo-anonymously, and online; there was a motivation to form narratives to organise the largely unhierarchical community. The discussion sites were the main place for fictionalisation to take place, where different ideas and interpretations could be presented to the community by any individual participant who had an interpretation of events. Slowly, this would lead to a generally agreed-upon fiction taking shape. However, outside of social media sites, the recording of events takes place on several sites. Fan wikis recorded real-life and fictional events, and the Twitch site began storing videos of the livestream. At seventeen days of footage, it was necessary for the ludic events of the TPP stream to be turned into a fictionalised narrative that could be communicated in an entertaining manner; and part of this fictionalising was embedding the core conflicts into the narratives.

Metamodernism and remix culture are the broader sociocultural context that TPP was borne from. Metamodernism is vital for understanding how the participants in TPP both could engage in the ironic humour of laughing at how ridiculous the events of TPP appeared to the characters in the same narrative, while also engaging sincerely in the tragedies behind The False Prophet and eager support of The Church of the Helix. While some members engaged with irony and some sincerity (Dou, 2017), metamodern oscillation allows for both to exist in the same space. Remix culture is not only required for the act of taking the single player game of *Pokémon Red* and turning it into a mass player game, but the fundamental idea that everyone can borrow ideas from each other to build on is the fundamental mode of cultural creation in the TPP Pokémon community.

The shared goal focuses the community on an objective, however, obstacles disrupt their progress. These obstacles impact their progress and motivation encouraging the community to engage in creativity to navigate these obstacles. In the case of TPP their difficult method of play limited their ludological creative options, and so to maintain the TPP community's motivation to achieve their shared goal they engaged in fictionalising events. By fictionalising events the community maintained its motivation as they overcame obstacles in order to continue pursuing their shared goal. This cycle would repeat and is what I have termed the 'creative engine model'.

Before looking at the creative engine model, we will return to the key narratological concepts of hyperdiegesis and narremes to understand how they interact with the creative theories outlined in

chapter two. Then the influence of metamodernism on the creative engine model will be explored before looking at the TPP communities core conflicts. The creative engine model will then be outlined with narreme examples. This will explain how the TPP community engaged in a distributed creative process. Then the last section will outline how an individual uses the works of this creative process to create a coherent fictional narrative.

4.1 – Distributed Ideas: The Hyperdiegetic Level and Narremes

The Hyperdiegetic narrative level occurs over all other narrative levels, it is where an individual assembles a narrative from the narremes that they have chosen as most relevant from those provided by a set of creative works (Knaggs, 2011). Each individual Twitch Play Pokémon player must take the narremes that appeal if they wish to have a narrative of what TPP was about, which often leads them to create or build upon narremes. This must be how individuals experienced TPP, as there was no established narrative for them to default to. The hyperdiegetic narrative levels interaction with narremes is the core creative engine within the TPP Pokémon community and is the core of how it developed into a distributed creative community where members reflect on the narremes they see in the community and build upon them. It is worth noting that individuals disagreeing with the dominant narrative in the community would create narremes that went against the prevailing narrative. This is part of the conflict of the individual against the community. This is not just a method for an individual for interacting with the TPP community; it is how we often experience narratives on social media. Sometimes an individual subsumes to the society, and sometimes they provide a countervailing point of view that may or may not be accepted by other individuals.

To explore the fictional narrative as individual members of the TPP community experienced, the prominent narremes and their different interpretations at the hyperdiegetic level must be explored and understood. Four particularly prominent narratives were chosen for their impact on the community and narratives. Additionally, the final team that was used and how they came to be defined by the community in relation to the dominant narratives will be explored as a collection of narremes, and then, briefly, the effects the sequel would have on the narrative will be explored in what it tells us about how people had come to see *Twitch Plays Pokémon Red*. Looking at the sequel will aid our understanding of what drove the community and why their play was not replicable.

Each narreme will be described with examples of its prominence and different interpretations provided, which will be followed by an explanation of how the narreme become used at the hyperdiegetic level. With the explanations, examples and forms of use established, the discussion of the narreme will be rounded out with a discussion of how the particular narreme demonstrates the characteristics of metamodern works such as TPP. In particular, prominent narremes tend to have oscillating contrasts. Each narremes position as an expression of the TPP community overcoming an

obstacle will also be highlighted, as this can explain why distributive creative expression can be usefully described as a creative cycle.

Importantly, these are just a selection of the most prominent narremes, and there are dozens more. These narremes have been chosen because of their demonstrated importance through the quantitative analysis of the TPP community's most commonly used terms in section 1.4 under table 6. Narremes vary from the characterisation of different Pokémon to the often-conflicting interpretations between those who prefer democracy over the predominant anarchy. The narreme as defined by this thesis is the smallest narrative unit; to explore every possible narreme could fill this thesis while adding little value in understanding TPP. Part of understanding TPP is choosing narremes from the most referenced ones by wordcounts that are not solely memetic jokes in order to create one's own narrative.

The interaction of narremes is important to consider, as the interaction of narremes is how narratives are formed in TPP. Even considering the four major narremes explored here, each has multiple contradictions within itself, creating a cluster of related narremes, but interpretations also impact each other. The False Prophet, as a martyr or satanic figure, interacts with the Church of the Helix differently if the church is thought to be made up of the maddening voices of The Hivemind rather than if the church is considered to be what keeps The Hivemind at bay. This interaction further impacts how Bloody Sunday and The Hivemind are perceived. Every individual can create their own narrative not only out of the narremes they favour but also out of the ways these narremes interact.

Some participants simply were not interested in some narremes and did not include them in their hyperdiegetic narrative. There is the interpretation of the player character as a robot, a narreme that fell out of favour. However, there are also narremes that never found enough prominence to be considered by many members of the TPP community. The third fossil in *Pokémon Red*, old amber, is a prominent example of this. Old Amber had a brief moment as middle ground between anarchy and democracy but played little importance in the ludic narrative and received little attention in creative work in comparison to the contrast and conflict between the Helix and the Dome. As a result, Old Amber is a narreme that an individual and the community were readily able to set aside, even if it still had prominence in some individuals' hyperdiegetic narratives. This thesis itself avoids discussing some narremes such as Bill and Old Amber, as they would further complicate an explication of events

and the creative process even though they might be core to many participants narratives. With these considerations clear, the importance of narrowing focus is clear, as we can explore not only how individual narremes are interpreted but also how this selection of narremes can interact with each other. We will look at each narremes place within the narrative and how it particularly interacts with hyperdiegesis and metamodernism. This will aid in understanding how individuals construct narratives

The narremes have been chosen for their prominence within the TPP community's narratives, both within the artwork and role in major events that defined both the play of *TPP Red* and community's discourse. As shown through the data analysis, these are among the most referred to narremes. However, there are also qualitative reasons to focus on these particular narremes. The Hivemind must be considered in any study of the TPP community as The Hivemind is the literal and figurative embodiment of the community. The Hivemind can be seen as fitting many roles from protagonist to antagonist, villain, or force of nature. How The Hivemind is perceived by an individual heavily influences their narrative.

The False Prophet and surrounding events are arguably the reason that TPP became more than a community playing a game. The disastrous events were not washed away by relying on simple memes that characterised much of the early ludic play; the sense of failure and betrayal created a crisis in the community that led people to create a narrative to explain the series of events. The False Prophet has many interpretations, and these events are the closest the community came to complete disaster in their play through the game.

The False Prophet is the next most defining event of Twitch Play Pokémon: the conflict between the Helix and the Dome; anarchy and democracy. This conflict followed soon after The False Prophet was released. In many ways, the Helix lacked definition prior to democracy; without contrast, it was difficult to define what the church of the Helix was. However, with the addition of a new mode of play, the Helix and the Dome found an actual conflict that they could come to embody.

The last event is Bloody Sunday, which is arguably an event that draws its definition from the other three narremes. It is the last significant event before the story comes to draw to a close. Bloody Sunday is defined by the great fortune the TPP community experienced in catching Zapdos with such ease, contrasted against the further loss of Pokémon. It is a mirror of The False Prophet, a defining

victory for anarchy over democracy, and a late proof that perhaps The Hivemind never needed democracy.

We will also address the final team that was used. While not a particular narreme, the collection of narremes around the final team is prominent and important enough that not discussing the final team would ignore an important core of the TPP community's creative expression and why it could not be replicated.

4.2 – Metamodern Oscillation and Twitch Plays Pokémon

Twitch Plays Pokémon, as a metamodern work, tends to embrace contrasts. The dominant narratives within the levels of TPP have a core of neo-romantic sensibility with contrasting poles that the narrative oscillates between. TPP lacks the utopic aspirations or grand narrative of modernist narratives but also lacks the dystopic questioning and irony of postmodernist narratives. To illustrate the prevalence of such metamodern oscillations (Baciu, Bocoş and Baciu-Urzică, 2015, p. 35) at the narrative levels of TPP we can look at each level and see how they contain contrasts.

The ludic narrative consists solely of the gameplay, and there is a very clear oscillation in the gameplay itself, boredom, and excitement. Owing to the limitations of gameplay, TPP was often boring to play and participate in, as is clear by both the day spent dealing with a ledge and how prominent the anticipation was in the community. This boredom, however, highlighted the intense excitement that came from the successes that moved them forward and the failures that set their progress back. The dystopian reality of the impossible task of organising the community's actions lies next to the utopian success of the community achieving seemingly impossible tasks.

The oscillation between boredom and excitement can be seen even at the end of the game as the player count declined[19]. Although the games ended with dramatic narratives such as the dragon killer and A.T.V., viewership declined as the end drew near. Facing the second last battle the players would have in the game, the TPP community had been spending hours repeatedly attempting to defeat the five consecutive battles that make up the Elite Four and the Champion. This repetitive series of fights would at one point result in the team's only remaining and weakest Pokémon, a Venomoth known as A.T.V. (All-Terrain Vehicle), facing possibly the most feared single opponent in the game, in the form of Lance's Dragonite.

While much of the community was resigned to another inevitable defeat and another repeat of the prior fights, a little-known programming choice in the game changed their fortunes. In *Pokémon, Red* opponents will use moves that are super effective in a type of matchup and could use these moves indefinitely, even if those moves are nondamaging. Consequently, Lance's Dragonite repeatedly used moves that increased its stats but did not cause damage; A.T.V. who used poison

[19] The decline in viewership is visible in the figure 9 of section 1.4.5

powder which caused damage each turn. The poison powder attack meant that Lance's Dragonite slowly whittled away at its health each turn while causing no damage. A.T.V.'s triumph over Dragonite would be recorded in song (Helix Choir, 2015) and serves as one of the most famed moments of the playthrough as well as a perfect example of how quickly boredom could oscillate to high excitement. The Bloody Sunday event, in which the idealistic attempt to capture a Pokémon led to the loss of many, is another example that we explore in more detail in its own section. The ludic narrative oscillated from state of the repetition to the dramatic at almost any moment.

At the discursive narrative level oscillation can be seen in the debates between democracy and anarchy, which are separate from the fictional Dome and Helix constructs. In this case, the oscillation is particularly interesting, as it is not only an oscillation between the two poles but also the nature of the oscillation is different for the group favouring each position. For those who advocated the original position of anarchy any time that the community oscillated to democracy, it was a failure of the true experiment, an admission that it was impossible to complete the game in the completely anarchic ideal. For the democracy side, cooperation was the utopian goal, and how it was organised did not matter. When they oscillated to anarchy, it was a repudiation that democracy could not be the true way for the game to be played; democracy was only a tool to be used when absolutely necessary.

Oscillations are also present in the simple realities of play. No one could constantly play; members of the community were always oscillating between the world and the game. In addition, it was accepted that different time zones effected the number of players and where they were from. With the main internet communities being composed of English speakers, this meant that the day was roughly divided into Americans, Australians, and Europeans among the English-speaking community. Many comments and memes in the discourse, particularly those related to sudden dramatic events, placed blame in the hands of these groups so that even blame oscillated constantly between different time zones.

The fictitious narrative being fractured and full of many interpretations contains many oscillations. The narrative is well defined by oscillation: the Helix vs. the Dome and the interpretations of The False Prophet form crucial differences. However, the Hivemind is an example of both oscillation in the community and oscillation as a theme of the fictional narrative. The Hivemind is an

unusual narrative construct because, in many ways, it is the protagonist, as it (as the representative of the TPP participants) sets in motion the events of the story through taking control of Red (the Player character). However, it also serves as the main antagonist, being the cause of many of the obstacles that the protagonist and his team face as the Hivemind chaotically puppets Red. The Hivemind's goal is shared with Red and his team to defeat the Pokémon league, creating a situation where the readers of the narrative both wish to defeat the league for The Hivemind and to free Red from the Hivemind, the ludic goal and narrative goal matching up (Cardona-Rivera, Zagal and Debus, 2020). This goal is the idealistic aim of a chaotic entity, and the other aim is to free a child from that same entity's control. The same goal oscillates between one of passion and one that fundamentally questions the value of the goal an ethics of the mind behind that goal.

The Hivemind is oscillation defined. The Hivemind is the cause of the story's misery while also embodying a community that had depth of feeling for the tragedy of those same miseries. It is both an unstoppable power and incapable of using such power for any aim except defeating the Pokémon league. Within the fiction, typically The Hivemind does not defeat the Pokémon League, Red's team of Pokémon does. Only because they acted as a community where The Hivemind could not.

The oscillation that defines metamodernism occurs throughout every level of the TPP story. From the gameplay to the story, that the players told themselves.

4.3 – The Conflicts of TPP

To begin it is worth clarifying that while the term conflict is often used in the sense of two opposing groups or forces, research indicates that obstacles have a similar effect on creativity. The two terms are not synonymous typically, but in this case, both appear to have the same effect on the TPP community. A conflict is a particular kind of obstacle, and in this thesis, obstacles are referring particularly to gameplay obstacles that encourage creative solutions, rather than technological or personal obstacles that the TPP community as a whole had little ability to solve.

Twitch Plays Pokémon has two conflicts at its core that define its creative process. These conflicts are the top-level obstacles that TPP participants all had to engage with in one way or another. Where individual narremes were borne from particular obstacles, the two fundamental conflicts drove the TPP's creativity as a whole. The two core conflicts are the conflict internal to the community of anarchy or democracy which had a visible vote that all participants could influence, the second was external to the community and is the conflict between each individual participant and the TPP community.

The anarchy versus democracy conflict, once introduced, permeated all narrative levels of TPP. On the ludic level anarchy provided speed with no precision with all inputs accepted, where democracy allowed the community to collectively choose their next action at a slower speed. At the ludic level participants voted constantly on the mode of play, this conflict was passionate enough that both the inputs of democracy and anarchy are larger than any other input that controlled the actual gameplay of TPP as seen in figure 12 in section 1.4.6. The scale of this divide demonstrates that this was not a minor conflict, however this conflict did not escalate to the point of breaking the community, despite the start 9 riots.

In the discourse this narrative took centre stage as demonstrated by reporting on the event (Aiken, 2014; McNally, 2014). In the discourse this ludic divide became fictionalised into the Helix versus the Dome, two divine entities fighting over how The Hivemind should be organised. It is worth noting that after *TPP Red* democracy was thoroughly defeated and would not feature in future games the community played. The conflict was won by anarchy, but during the original stream this conflict drove participants to create propaganda, arguments, and fiction that furthered their preferred side.

In the fiction this conflict formed a core oscillation between chaos and order, however this oscillation was seen in other ways. The anarchy side embodied by The Church of the Helix with its religious imagery portrayed its side as angels, and messiahs with the forces of democracy being represented in hellish terms as false prophets and demons leading The Hivemind astray. However the democracy side tended to see the Church of the Helix as a controlling and manipulative that was harming the player character, Red. Interestingly in the sequel games while the ludic aspect of TPP did away with democracy, the fiction ended up portraying even Lord Helix as recognising that the church had gone too far and awaiting someone to put an end to the church.

As this conflict remained at a moderate level it was a great benefit to the community's creativity, and it helped create motivations beyond the ludic desire to complete the game. The anarchy and democracy conflict redefined the stakes in both political and pseudo religious terms (Dou, 2017). Terms that could be taken with both sincerity and irony depending on the participant.

The other conflict that is less apparent but also a powerful driver of creativity is between the individual participant and the community. TPP is a collective effort, but it is one that always had a tension between the community and the individual. The original literal avatar of this is the player character who is portrayed as having no control over themselves while being controlled by The Hivemind. The character of Red is portrayed as profoundly haunted, and the Pokémon on his team are usually portrayed as wanting to free Red from this control. Outside of the fiction the streamer can also be seen as conflicting with The Hivemind when democracy was introduced, much of the community objected and their fiction portrayed democracy as something inimical to the entire idea of TPP regardless of if the streamer was the alpha artist of TPP (Literat, 2012, p. 2973).

There is another more common example of the individual against the community, and that is that of participating by playing. Any inputs into the TPP stream were an individual attempting to push the community in the direction they wanted in some small, and often literal, way. A more involved example of this conflict is in the production of creative works. As discussed in section 2.3 narratives are a sociocultural tool used by the community to motivate and encourage desired behaviour in the community. An individual who created artwork that reinforced particular views was an individual who was attempting to persuade the community to pursue a particular action or accept a particular narrative or narreme. While their work may have been subsumed by the community, that community

was at one point influenced by one individual who found others to adopt their plans or interpretations of the emerging narrative.

It is important to look at an example of a non-productive conflict to contrast with these two productive conflicts. As mentioned in in section 2.5 it is obstacles that interfere with the creative goal that can be solved in new ways that benefit creativity (Caniëls and Rietzschel, 2015; Marguc, Van Kleef and Förster, 2015). The ledge is an example of a non-productive conflict. The ledge could only be solved by the community not pressing down, a single individual was able to disrupt this process. No creative solution could possibly exist. Worse it was such a mundane obstacle that it was rarely even fictionalised. Similarly the Team Rocket maze similarly require a correct series of inputs, which was what led to the introduction of democracy. These ludic conflicts between the player and the game resulted in very little creative thinking across narrative levels and serve as an example that not all conflicts or obstacles are the same.

4.4 – Creative Engine & Narreme Examples

I use the term creative engine to refer to the distributed creative processes that restores a community's focus on its shared goal by generating creative work that reframes the obstacles faced as a step toward their shared goal. The creative engine works by incorporating an analysis of narremes and their hyperdiegetic contexts into a process that charts the ebb and flow of a creative community's focus on its shared goal, forming a type of creative engine that can serve as a useful model for understanding how online communities' activities create a recursive cycle that functions to restore the community's focus on its shared goal in the face of an obstacle that has impacted the community's faith in achieving said goal.

The creative engine model illustrated below was conceived from looking at TPP as a metamodern work containing oscillations and observing in the data when obstacles the community faced resulted in a decline in community engagement. The simple model created for the purposes of this thesis is illustrated below and explains the basic creative process of the TPP community. I apply this to TPP narremes in order to look at the creative engine during specific periods during the play of *Pokémon Red*. The aim of the creative engine model is to be useful for understanding the creative process of communities rather than being entirely accurate to the complicated creative process. As stated by George Boxes aphorism that is usually summarised as "All models are wrong but some are useful" (Box, 1976, p. 792). In this case the creative engine model is not able to perfectly describe each creative process in depth, but it is useful in understanding how narremes as a sociocultural tool both aided creativity and maintaining the TPP community's motivation to achieve their shared goal.

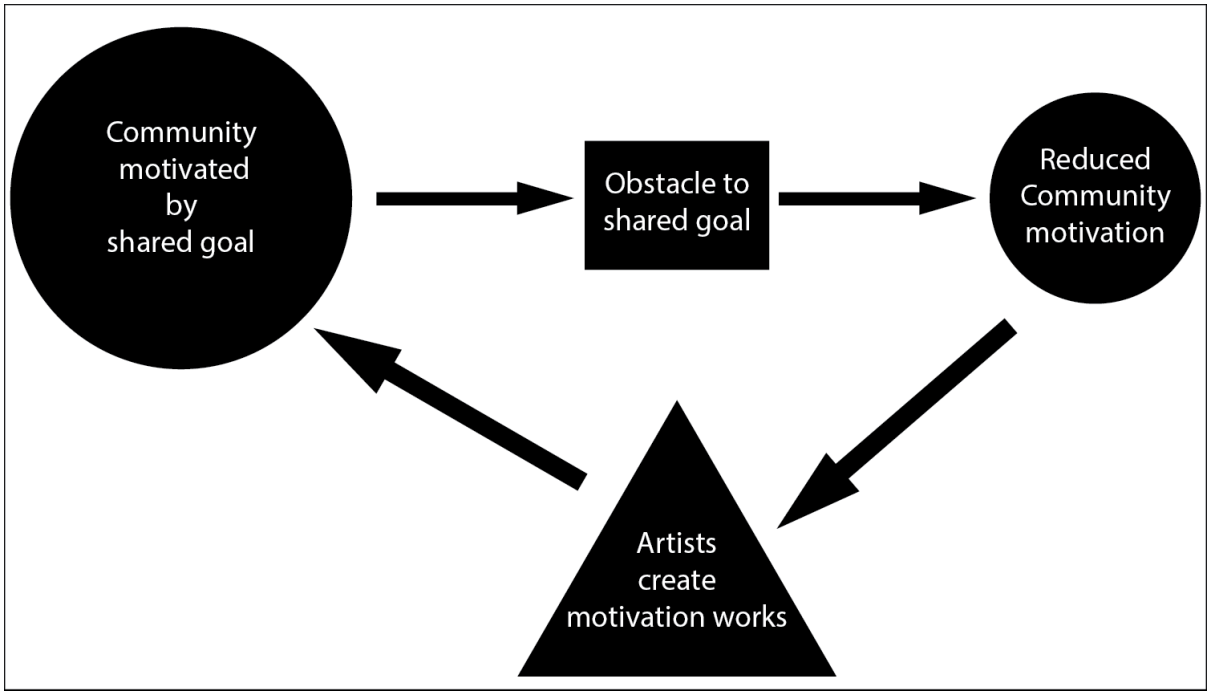

Figure 21 - The Creative Engine.

In the creative engine model, a community can be described as a group motivated by a shared goal, such as the TPP community's goal to complete *Pokémon Red*. In pursuit of their shared goal, the community will encounter obstacles to achieving their shared goal that negatively impact community motivation, such as the loss of significant Pokémon for the TPP community. Members of the community consider different ways of both resolving obstacles and motivating the community through creative work. These creative works take a variety of forms, such as traditional art, common memes, gameplay plans, rallying cries, etc. This results in increased community motivation (although not necessarily a larger community). Looking at each step in the creative engine model, we can look at how this flexible and simple model can be used to understand the creative processes of distributed creative communities.

A 'community motivated by a shared goal' (Bennis and Biedermann, 1997, pp. 204–205) captures a broad range of communities and deliberately does not mention a creative community. This is to account for how many communities will still engage in the creative process, even if the community itself is not intended to be a creative community. Communities with a shared goal of discussing a media product or creating humorous memes can reasonably be expected to have a notable level of engagement with the creative process. However, communities whose shared goal involves supporting a political party, optimising gameplay, or appreciating animals will still encounter

their own obstacles (political setbacks, gameplay changes, limited discussion) and may engage in the creative process to motivate their community. For example, a community with a political process will generate talking points for the community to rally around or use when confronted outside its community. Communities might develop simple memetic language to fall back on, such as the nicknames given to Pokémon such as Digrat.

Similarly, ‘obstacles to the shared goal’ in the creative engine model should be considered broadly, where a community centred around a game might have more literal obstacles, such as a ledge to overcome other community obstacles, other obstacles can be less obvious. A goal that many communities can face is simply the difficulty of having space to share; this can be a result of targeted harassment or difficulty in letting others know about a space. This could result in the community using coded language related to their shared goal, such as “friends of Dorothy”, being a coded term for homosexual individuals. Obstacles can take many forms with their primary characterisation being that they can be demotivating to the community, funding, laws, lack of new media products, etc. Notably, at this point, the obstacle could also serve as the axis that the community focuses on; whether this is a productive focus, such as trying to change a law or organisation, a negative focus, such as the phenomenon of ‘hatedom’ (Bernard, 2017), where parts of a fan community focus on their obstacle of enjoying a media product to the point of creating content solely around that hatred.

An obstacle reduces community motivation, but a reduction in motivation is not a permanent state. The fact that an obstacle exists to the community’s shared goal generally ensures that at least some members will be temporarily demotivated, this obstacle could be as simple as a change in the rules of discussion, such as an over discussed topic being banned or restricted. This change might be positive for most of the community, but other members’ motivation may be impacted. In TPP this loss of motivation can be seen in the reduced count of comments that occurs after obstacles as seen in the figures in section 1.4.5.

Regardless of the potency or breadth of the reduction in motivation, there are two possible outcomes: the community will generally lose motivation to pursue their shared goal, either reducing the community significantly or the motivation will be restored or increased through community engagement. The creative engine model describes the actions taken to address obstacles through creative works, and the aim of any creative work shared with a community is for that community to

engage with the work and regain motivation. Through engaging with work, the community becomes more motivated to continue their pursuit of their shared goals. These creative works can be speeches, essays, comics, artwork, jokes, laconic wit; in all cases, the aim of the creative work is to either purport to have a solution to the obstacle or to continue the community's engagement with the obstacle and thus with the community. As mentioned in the preceding paragraph, it is possible that at this stage, the community could become overly focused on its obstacle if it cannot find a solution, if no solution exists, or if no solution is pursued. This focus on obstacles could be seen as how communities end up repeating specific narremes and memes, sometimes termed 'echo chambers, function' (Terren *et al.*, 2021).

In the case of TPP, we can see this creative engine functioning and then failing from the peaks and troughs of attention[20] and then the collapse of engagement with the sequel. Throughout the community's existence, it is possible to see how obstacles led to an upsurge in creative activity; however, the eventual point of failure was the community as a whole completing its shared goal. Then content steadily decreased, and this decrease can be seen as most of the community being satisfied with 'completing *Pokémon Red'* as a shared goal. These members of the community moved on, including many artists. The TPP community persists with the shared goal having changed for some to being 'play Pokémon games as a community', however the change of shared goal ended the main creative cycle.

The creative engine model is a flexible way of describing the creative process of communities; however, for this study, TPP is the focus. Each of the selected collections of narremes can be examined for how they reflect the creative engine model to demonstrate whether this model is useful in understanding the creative process of TPP. It is important to develop and understand the TPP community's creative process because these new narratives that are difficult to describe are increasingly common. A model such as the creative engine allows media scholars to approach similar communities more dynamically.

We will start by the narreme that is core to the TPP community, its own embodiment, The Hivemind.

[20] See figure 9

4.4.1 – The Hivemind

The Hivemind, also known as The Mob, is the fictional avatar of the TPP community and its commands. The Hivemind is among the first narremes that formed and remains largely unchanged from its initial concept. While the player character, Red, was still conceived of as a robot, the portrayal of it being under the direction of a hivemind had this hivemind as being the literal commands in the Twitch chat controlling the robot. The Hivemind is necessary to explain the decisions of the player character in TPP, and its rise in prominence is related to the decline of the initial portrayal of the player character as a robot receiving commands. The Hivemind, as a ghostly and otherworldly force acting upon the person of Red, replaced the image of a robot swarmed by literal commands. This version of The Hivemind is more sinister in its depiction, but not necessarily villainous.

The Hivemind is portrayed as an amoral entity consisting of uncounted minds controlling the character of Red. The Hivemind's goal is simply to defeat the Pokémon League (the end state of *Pokémon Red*), it is not portrayed as having any moral aims or even a particular awareness of the effect it has on the characters. The Hivemind is given no form, being represented simply by collections of command words (Up, down, A, B, Start, Select) in a cloud that envelops the player character. The Hivemind's relation to the Helix and Dome conflict is also left ambiguous. Where most significant characters are given a role of position in the Helix vs. Dome cosmology, The Hivemind is left outside of this. As a result, it is considered a Lovecraftian entity, an immensely powerful but maddening entity from outside of the reality of the fiction. It is sometimes a thing fought over by the Helix (anarchy) and the Dome (democracy), it is sometimes seen as the congregation of The Church of the Helix, and sometimes the thing that both the Helix and the Dome want to remove from the player character Red.

Notably, The Hivemind can be seen as the 'fourth wall' (Davis, 2015) as a character. The fourth wall refers to the imagined wall between the audience and a theatre stage that the audience respects for the characters in the play but is not necessarily respected by the characters towards the audience. The Hivemind is the fourth wall of the TPP, where the Hivemind is the semiporous barrier between the players and the fiction. The Hivemind is a literal embodiment of the audience-player

interaction with the game itself. This further links with The Hivemind being Lovecraftian, as it is quite literally an entity that exists outside of *Pokémon Red*s game logic on a fundamental basis. It only exists thanks to external software allowing for thousands of individuals to interact simultaneously with the single player *Pokémon Red*. Something that was not a part of the game design or within its narrative logic. The game's expected narrative is naturally broken as a consequence of The Hivemind's existence, resulting in TPP having to transform the narrative of *Pokémon Red* to account for The Hivemind's inscrutable actions. The Hivemind is not only the protagonist instigating narrative events but also the player character's primary antagonist and greatest obstacle to concluding narrative events. The Hivemind is also interesting, as it is the only character in the TPP narrative that does not exist with *Pokémon Red* in any way. The various Pokémon, NPCs, and PCs are in the game's code. The Hivemind exists outside of the *Pokémon Red* game in every meaningful way while being crucial to the TPP narrative.

The Hivemind while controlling the actions of the player character and Pokémon characters, and consequently the course of the game, is largely divorced from the fictional narrative immune to the consequences of their actions and choices. The Hivemind remains in the background of the story as something akin to a disease or possession until the Pokémon League is defeated, and The Hivemind leaves Red, who leaves to live in silence to be encountered in the subsequent TPP game. The Hivemind itself continues to exist in all future TPP games, as it is the avatar of the community.

Hyperdiegesis and The Hivemind

The Hivemind was generally only interpreted in only one of two ways. The first was a Lovecraftian entity possessing Red, and the other, as the literal commands being sent to a bot called Red. The Hivemind is difficult for the reader to interpret in different ways, as The Hivemind is the representation of the community. The Hivemind similarly pulls on very little external media outside of the concept of The Hivemind itself. It is worth considering that in the conflict between anarchy and democracy it is The Hivemind at conflict with itself, and in the conflict between the individual and the TPP community it is the participant who is in conflict with The Hivemind.

Accepting the lack of presence of The Hivemind in the Pokémon franchise, there are significant divergences in how The Hivemind was presented in TPP. The first divergence is in portrayal of The Hivemind, which was portrayed as a cloud of game commands, or sometimes as a

collection of the Unknown (a type o Pokémon based on the Latin alphabet) which are generally mysterious. With respect to The Hivemind's purpose, it could be presented as a force completely external to the Helix vs. Dome conflict, or The Hivemind may be presented as the embodiment of which side of the conflict was winning. The second interpretation gained support as the real-world conflict between anarchy and democracy began to affect The Hivemind of the actual TPP community, and so an explanation for the start9 riots had to be found in the story.

The Hivemind is a difficult entity to overcome as an individual forms their own narrative, as it is the embodiment of all the other members of the community. However, individuals hyperdiegetic narrative can be affected by whether they consider themselves as one of the voices in The Hivemind, or just someone observing what The Hivemind wrought. One of the crucial function The Hivemind can serve for an individual forming their hyperdiegetic level is as a figure to blame for the events that occurred, but the individual did not agree with; this is a rather rational approach to The Hivemind as all events in the ludic narrative are a consequence of The Hivemind's choices.

Metamodern Oscillation and The Hivemind

With respect to metamodernism and oscillation, as discussed in the literature review, The Hivemind's oscillation is most apparent in the tone of how The Hivemind's effect on Red is presented. For example, some portrayals take the perspective that The Hivemind is fundamentally a tragedy and essentially prevents the actual person of Red from controlling their body. This has been portrayed as akin to a lifelong condition or a possession that they actively wish to be free of and that they also see as damaging not only to themselves but also to those around them. The more positive portrayals of The False Prophet see the character as wishing to do anything to free Red of the damaging influence of The Hivemind. Even many positive portrayals of The Church of the Helix portray the Pokémon of the final team fighting so that Red can be free of The Hivemind.

However, The Hivemind is also frequently portrayed as a source of comedy. The actions taken by the player character would be nonsensical in the extreme; however, owing to the nature of the game, the NPCs must react the same as if the player character were acting rationally. The most notable depictions of this humour come from the period of time when the players were stuck in Team Rocket's hideout, attempting to navigate through the traps.

The oscillation between the tragic and comedic effects of The Hivemind forms the primary tonal oscillation of the fictitious narratives. The tone being able to move from the two extremes allowed the community to present the serious and dramatic narrative of a conflict between religious and political differences while also allowing for an outlet to acknowledge that the fictional narrative is based on a children's game and the ridiculous consequences of thousands of players sharing the same single-player game. In essence, bathos (Crangle and Nicholls, 2010) in a metamodern digital community. Without the tonal oscillation, there would have been major restrictions on potential artistic output. The oscillation within the Hivemind narreme allowed the community to sincerely engage with their serious narratives, while the community also making it clear that the irony and ridiculous nature of TPP was readily accepted and understood by themselves.

Creative Engine and The Hivemind

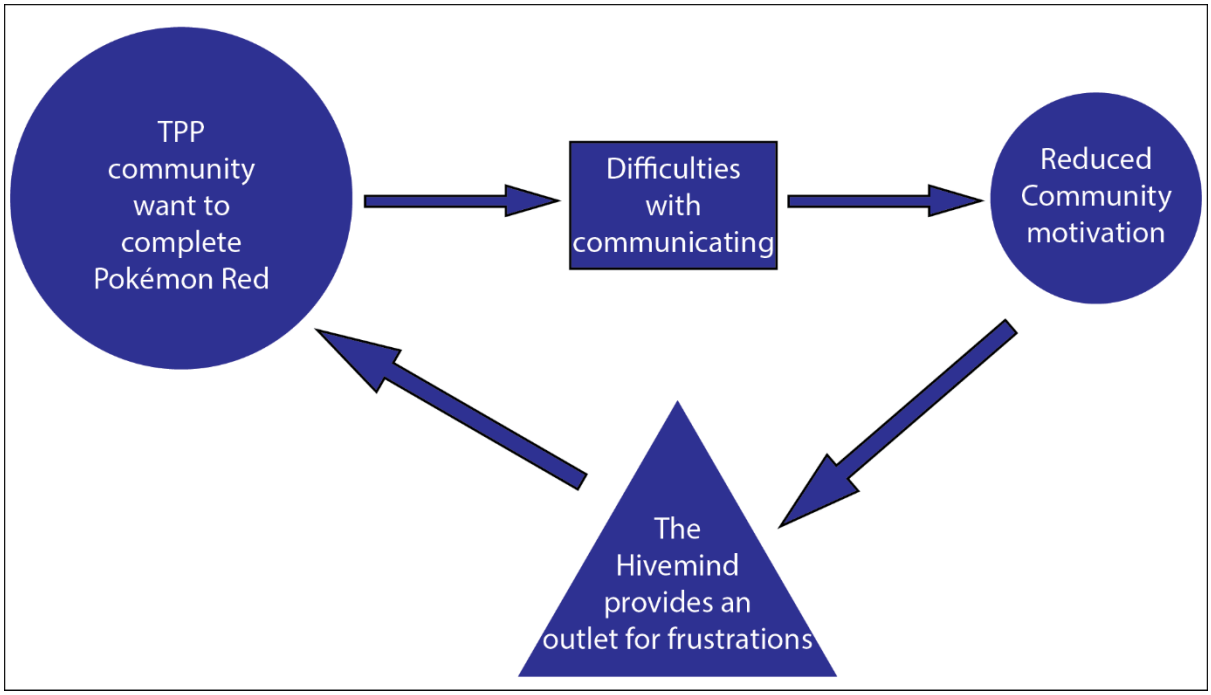

Figure 22 - Creative Engine and The Hivemind

The Hivemind is the first and most persistent family of narremes throughout TPP. The Hivemind predates TPP as a concept but was useful for TPP as a way of describing both how the community acted and how it existed in the fictional narrative. As seen in figure 18 in section 1.4.8 The Hivemind as a concept held the community's attention throughout TPP, but it was particularly

prominent on 27th February when the Helix fossil was resurrected; resurrecting the helix fossil was considered a major aim of The Hivemind and a sign of the anarchy faction's victory. The spike in discussion around The Hivemind provides evidence of the connection between The Hivemind and helix narremes and their importance to the community as a whole.

To examine how The Hivemind narremes match the creative engine model, we can see that one of the first and most persistent obstacles that the TPP community faced was the difficulty of organising the community. This difficulty could at times be frustrating for community members, so The Hivemind as creative work serves as both an explanation of the issue in nontechnical terms and as an almost external entity that can be blamed rather than individual community members, which mitigates any demotivating effects. Furthermore, by placing The Hivemind in an antagonistic role that can be defeated only through completing the game, the persistent organisational obstacle becomes another reason to try and achieve the community's goal of completing *Pokémon Red*.

The persistent nature of the obstacle means that in the case of The Hivemind family of narremes, the creative engine is clearly demonstrated as an ongoing creative process of managing an obstacle rather than a process whereby an obstacle is resolved through creative activity before progress can continue.

4.4.2 – The False Prophet

The False Prophet can arguably be the most important character in most narratives throughout *Twitch Plays Pokémon*. The Hivemind had conflicting views of The False Prophet, but when Red's perspective on Eevee features in artwork, it is often sympathetic towards The False Prophet and often places the blame for events on The Hivemind. The TPP community's ambitious failure to evolve Eevee into Vaporeon (a water type) resulted in Eevee becoming a Flareon (a fire type). The Hivemind promptly attempted to release Flareon, which resulted in the loss of most of the team's more powerful Pokémon, and the perspective of The Hivemind was that this was deliberate betrayal by The False Prophet.

The False Prophet as a character helps form the further mythology of the Church of the Helix, and perspectives on The False Prophet furthered the divide between the followers of the Helix and the less popular Dome. The False Prophet does have a particular core identity; however, The False

Prophet as a character is the only one who serves as an actual antagonist/obstacle to The Hivemind itself.

The Hivemind may have encountered NPC Pokémon trainers or physical obstacles that impeded their progress, but all of these obstacles were part of the original game and could be attempted endlessly without any significant penalty. Any physical obstacle or conflict could be tried endlessly including the back and forth between anarchy and democracy; and a loss to an NPC trainer would simply return them to the nearest Pokémon centre with their team fully healed. The False Prophet caused The Hivemind to suffer long-term consequences.

The False Prophet caused The Hivemind to release multiple Pokémon. Once a Pokémon is released it can never be brought back, it is a permanent loss. Additionally frustrating for The Hivemind was that The False Prophets evolution being a less powerful fire-type than their stater Pokémon, who they had released. This makes The False Prophet an interesting case of a passive antagonist to The Hivemind, The False Prophet caused the most significant difficulties the TPP community faced despite The False Prophet taking no action. The damage was in fact done by the TPP community to its own ability to achieve its goal. This is an example of why The Hivemind serves as a useful narrative tool for individual participants to blame for their collective action, while absolving themselves of blame.

The False Prophet is associated with the Dome and democracy being a herald for the introduction of voting for anarchy or democracy, which positions The False Prophet further as an enemy of The Hivemind, who predominantly preferred anarchy and the Helix. However, initially The False Prophet was considered false because the Vaporeon it was ‘meant’ to be, was going to lead them to victory. With the Pokémon instead becoming a fire-type Flareon, it was easy to see not only a false prophet but also a demonic figure who was attempting to destroy The Hivemind’s chances of achieving their shared goal.

Hyper-Diegesis and The False Prophet

The False Prophet is arguably the most important figure in the many narratives of TPP. The character’s interpretation serves as a core narreme for any interpretation of the events of TP, as how The False Prophet is viewed has a fundamental effect on how the Helix/Dome conflict is portrayed as well as altering the characterisation of The Hivemind. As mentioned, when discussing the ludic

narrative, the player's frustrations at their own failure and the subsequent disastrous loss of many of their most important Pokémon led the community to blame The False Prophet for these events as a scapegoat. Following this, The False Prophet would become tied to the creation of democracy in the players' minds. Some saw democracy as something that might have prevented the disaster of The False Prophet, with others thinking that the disaster of The False Prophet was causing people to flock to democracy, as anarchy had led the TPP community into disaster.

In addition to the False Prophet's role in that conflict, the nature of why The False Prophet was abandoned differs significantly. The Church of the Helix interpretation, which is the most commonly used interpretation in creative works, is that The False Prophet is the physical antagonist paired with the Dome's role as a philosophical antagonist. Those more sympathetic to democracy and the Dome tend to see The False Prophet as playing the role of the betrayer out of necessity. Interpretations that take no side view The False Prophet as arguably the only one to truly oppose the actual enemy, The Hivemind that was controlling Red. There are even those who see The False Prophet as one who was in fact betrayed by the agents of the Helix and left abandoned and alone for trying to free Red from The Hivemind's control before it was time.

It is useful to see The False Prophet's role as similar to the literary character of Lucifer, where how an individual interprets Lucifer changes the narrative significantly. The importance of The False Prophet would extend beyond the original TPP. In the immediate sequel, even though the aim of those characters was to defeat the Helix itself, the Eevee Pokémon in that game was under frequent threat and suspicion from The Hivemind due to being the same type of Pokémon but they would ultimately win over the fans and take revenge on the Helix himself.

Metamodern Oscillation and The False Prophet

Unlike The Hivemind, The False Prophet does not change in tone. It is a dramatic and tragic figure in its portrayals. The False Prophet comes in an extremely broad spectrum of interpretations from the outright Satanic/demonic to the point it is often portrayed as eviler than the Dome, the actual supposed arch-nemesis of the Helix and The Hivemind. On the other end of the spectrum is The False Prophet as the one Pokémon who only wanted to help Red, outside of, and uninterested in the Church of the Helix. The one Pokémon, who resisted the goal of The Hivemind in favour of helping Red, unfairly punished for standing up for freedom and then deliberately painted as evil.

What is notable about this oscillation between demon/angelic figures is that where other oscillations can comfortably exist within an individual narrative, such as The Hivemind being seen as tragic and comic, an individual's preferred False Prophet narreme cannot change within the narrative. The different narremes that The False Prophet inhabits are mutually exclusive and alter the surrounding narrative too significantly to share the same space as other False Prophet narremes. In this context, The False Prophet narremes serve as a keystone for the narrative's 'arch', where the rest of the narremes rest upon The False Prophet too fundamentally for it to be a malleable narreme.

There is another oscillation in The False Prophet: that of the Love and Hatred. This is an interesting oscillation, or arguably a pair of oscillations, in that the more that The False Prophet is portrayed as having loved Red, the more hateful the response from The Hivemind is portrayed as. Similarly, the more hateful The False Prophet is portrayed as having been, the more loving The Hivemind and other characters are portrayed as having been before the betrayal. In any case, the two emotions are inversely linked in The False Prophets portrayals.

The False Prophet's importance to individual narratives requires that the oscillations that can be seen at the diegetic narrative level are not visible within the narratives that individuals create at the hyperdiegetic narrative level.

The creative engine and The False Prophet

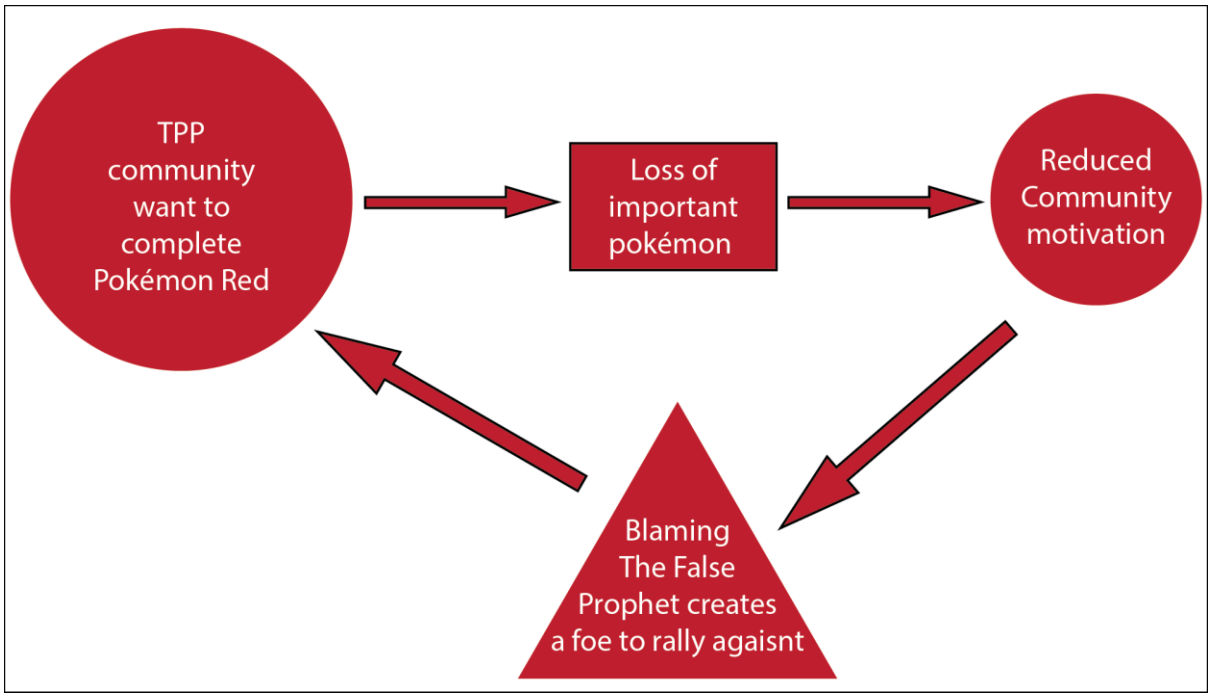

Figure 23 - The creative engine and The False Prophet

While the false prophet emerged early as a term to refer to items aside from the Helix fossil that the community consulted in the same accidental manner that they would consult the helix fossil, as seen by its use early in the Twitch chat, it becomes associated with the Pokémon Eevee soon after. This can be seen as the terms use rose during the fourth day. However, the term false prophet would be briefly attached to other individuals; notably, there is another spike when the Pokémon Zapdos was caught (AA-J), and it was thought that there would be a repeat of the disastrous events that occurred around Flareon, The False Prophet. The last spike in use of the term occurred on the 15th day when there was little progress made and numerous setbacks, including the TPP stream going down.

The obstacles that are most associated with The False Prophet can be seen as a counterpart to the communication issues of The Hivemind. The Hivemind is a creative explanation for communication obstacles, and The False Prophet can be seen as an explanation for the negative consequences and obstacles that arise from these communication issues. By assigning the False Prophet narremes to the consequences, the TPP community is able to create foes undermining their plans rather than having to accept them as mistakes of the community's making.

To elaborate, the original usage of false prophet was tongue-in-cheek and referenced when the community consulted an item that was not the helix fossil. When the community faced the obstacle of having lost most of their prominent Pokémon, The False Prophet and creative work around The False Prophet made the Pokémon Flareon an external threat to rally the community against. The second spike in interest in the False Prophet occurred when the community faced an obstacle very similar to the first disastrous loss of Pokémon when the community was losing Pokémon while attempting to recover the Pokémon Zapdos. The last spike in The False Prophets is not a singular obstacle but rather a series of difficulties on a single day, creating a day with little progress and an increased need to assign blame external to the TPP community.

The false prophet collection of narremes demonstrate that the TPP community would reuse past creative works to address new obstacles. This reuse does not necessarily indicate a decline in creativity or originality; it is more likely that it highlights the established interest the community had in remixing creative works. The idea of a false prophet had been established and members of the community were eventually going to find an event where the term would become a necessary narrative tool to maintain motivation in the face of catastrophic gameplay errors.

4.4.3 – Helix and Dome

If The Hivemind is a Lovecraftian entity from outside TPP's reality, then the Helix and the Dome are gods within TPP's reality, as most would recognise the term. Their simple origin as a binary choice between two items develops into deification simply because of a quirk of how easy it was for the players to open the menu and try to use the Helix fossil, so the helix fossil became a totem for the players and the character of Red. The two fossil items cannot be discarded and can only be correctly used later in the game to revive the fossil into a rare Pokémon; otherwise the game simply prompts that "This isn't the time to use that!".

It is clear why the helix fossil would develop from a simple meme into having a more important role in explaining the strange activities in the ludic narrative. The inability to use or lose the fossil until late in the game meant that it was a long-lasting meme. The fossil is received early and is only lost quite late in the game when it is lost a once per game Pokémon is received. The longevity and security of the meme, while adding a long-term goal of revitalising the fossil into the Pokémon

Omanyte (Lord Helix), would provide plenty of reason for it to become a mainstay, but its ability to be contrasted with the dome would prove to be essential to it becoming a central narrative thread. The helix fossil meme would slowly add a religious aspect to TPP, with the naming of BirdJesus and The False Prophet being the clearest early examples. The pairing of The False Prophet event and the introduction of the democracy voting system solidified the pairing of the Helix and the Dome.

The dome fossil being the other possible choice was the natural choice to rival the Helix. With democracy coming soon after The False Prophet, it naturally meant the Dome, democracy, and The False Prophet all became associated with each other as an oppositional force to a significant section of the TPP community. What caused this divide to become the central focus for many narratives was how the system of democracy was forced upon the community with no input to many in the TPP community. democracy was a literal external interference. This led anarchy purists to associate Dome with democracy, both of which were things that should not be in the game, in their view. The community had chosen the Helix instead of the Dome, and the Dome should not be in the game. Similarly, the anarchy supporters had chosen anarchy, and democracy should not be in their game. The Dome, democracy and The False Prophet were all entities that the majority of the community felt did not belong.

Importantly, while it is easy to see the anarchy/democracy oscillation as a fight between two groups, disagreeing on how to proceed in reality is, of course, more complicated. The anarchy/democracy divide had its adherents to each side, but there was an abundance of views between the two absolutes; some saw democracy as a necessity to only use in extreme circumstances, and others saw anarchy as a fun way to play when it did not permanently damage or potentially prevent their main goal. Importantly, as a consequence of the delay between what players saw of the game and the implementation of their inputs, the anarchy system was fundamentally imperfect, with players permanently reacting to events at a delay of 20–30 seconds. Despite this after the first sequel to *TPP Red* democracy was disabled for all games after the immediate sequel and never reappeared, leaving the Helix and anarchy the final victor in the battle between the systems and the community has successfully completed dozens of playthroughs since in anarchy alone. Along with the capture of Zapdos in anarchy, and the resurrection of the helix fossil into Lord Helix, many saw anarchy as having already won the ideological/religious battle.

Hyperdiegesis and Helix and Dome

The Helix (anarchy) and the Dome (democracy) are generally stable in their usage in individual narratives. Both are diametrically opposed gods representing forces of control in gameplay who compete for the worship of the many voices within The Hivemind. In general, the narratives portray the Helix as good, but the actual character of the Lord Helix would be underdeveloped because of its appearance late in the game. The Dome would remain simply an evil entity for almost all narratives and at best distant, The False Prophet sometimes filled the role of herald. As characters opposing the community had clear motivations within the game *Pokémon Red,* there was little room to elaborate on the Dome and its forces beyond being an oppositional force that led to misfortune or a potentially positive force that could help focus the community to overcome a challenge.

At the hyperdiegetic level, the Dome and the Helix are, in many ways, fixed entities with little in terms of personality, considering that they are the personifications of anarchy and democracy. They were generally portrayed in artwork by pulling upon a variety of religious elements and aspects of various faiths, but particularly Egyptian and Christian concepts are blended throughout creative work. Which force was seen as positive was often more of a ludic choice, rather than a choice of preferred fictions. Though the victory of anarchy would stunt the development of a Dome/democracy narrative perspective.

Metamodern Oscillation and Helix and Dome

The oscillation present in the pair of fossils is simple to see, and of course, the oscillation could even be seen as The Hivemind voted for or against democracy once the system was introduced. This oscillation can be simply seen as a conflict between anarchy and democracy, but there is another aspect to it in some seeing democracy is simply a cheat to avoid the difficult sections of the game, a tool that removed both the simple struggles of dealing with a ledge and the risks of changing their team. For these community members, chaos was the point of the game, and the difficulty, improbability, and risk of a possible fail-state were the obstacles. Democracy saw playing together and winning the game as the only important condition, and the changed voting system facilitated that and managed the damage caused by the systems time delay under anarchy.

The oscillation between anarchy and democracy is very literally visible, with the constant back and forth voting between the two modes of play. This oscillation was always visible throughout the

ludic narrative once it was introduced and had a very significant presence throughout the discursive narratives. While it was not prominently represented in the fictitious narratives, the democracy/anarchy oscillation can be seen in many places.

This clash over the orthodox view (anarchy) of the rules of play against the liberal view (democracy) would be resolved in the sequel. democracy was disabled indefinitely. The orthodox view that democracy was not necessary has been shown to be true, as subsequent playthroughs of games succeeded without the system. The resolution of the oscillation is interesting, as it renders the stories that interpreted the Dome in a more positive light in the usual place of being wrong. The accepted resolution also involves Lord Helix recognising that his followers had gone too far, leading to a conclusion that ends democracy but also rejects the most ardent followers of the Helix and anarchy.

The resolution of this oscillation core to the story is also important to recognise, as metamodern fiction does not require that the oscillation remains unresolved indefinitely, only that the difference and the oscillation are present. The oscillation can be resolved, and in this case, it was resolved, with one side being rejected and the other being rebuffed for their zealotry. The victory of anarchy and Lord Helix was later explored in the sequel to the original TPP

The Creative Engine and Helix and Dome

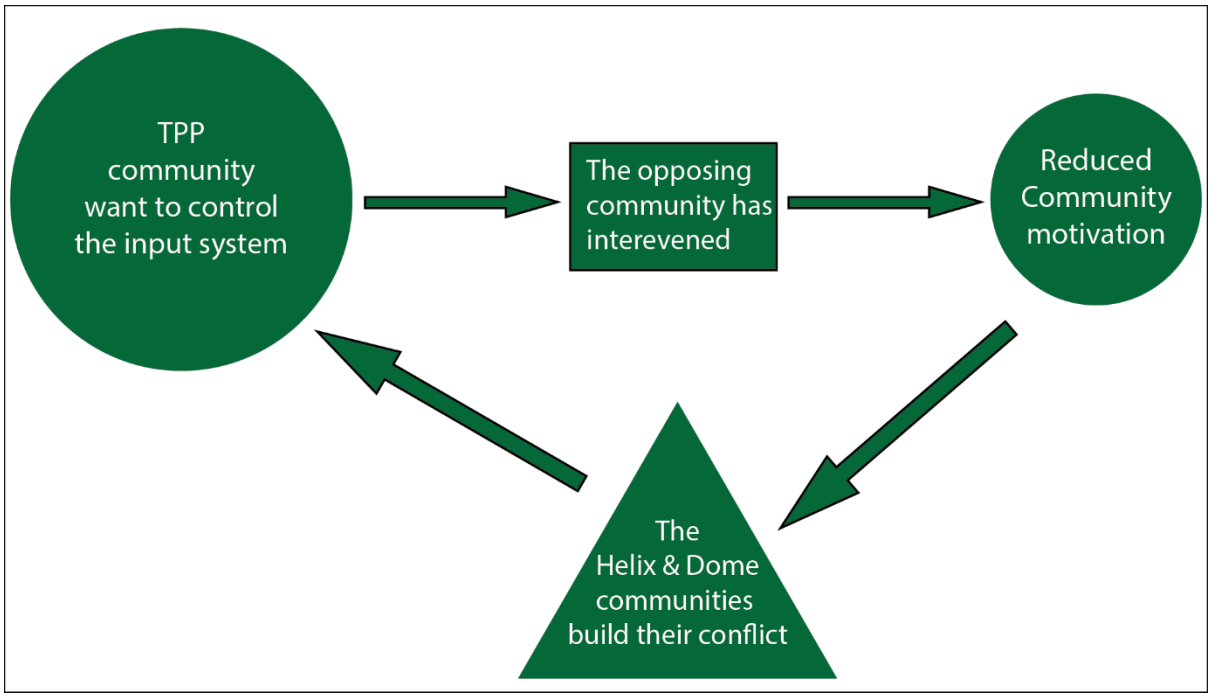

Figure 24 - Creative Engine and Helix and Dome

Similarly, with The False Prophet, the Helix and Dome as concepts precede their emergence as a collection of narremes or as a response to a major obstacle. As clearly shown, the Helix was always far more prominently mentioned than the Dome throughout TPP, much of which is due to the Helix being perceived by most as the 'heroic' side of the story and associated with the more popular anarchy side of the TPP community. The terms peaked during the attempt to release The False Prophet, saw a decline on the eight days where the community was stuck in a location called the Pokémon tower, and then finally peaked when the community was debating whether Zapdos (AA-J) was an agent of the Dome or an angel of the Helix.

The Helix and Dome are paired in this case, as they are representative of a conflict within the community, anarchy and democracy. It is worth examining this dichotomy as two separate groups within the broader community. The anarchy supporters wanted to maintain anarchy with their obstacle being when democracy is ascendent, with successes under democracy being demotivating. The democracy supporters wanted to maintain democracy, with their obstacle being anarchy ascendent,

with successes under democracy being demotivating. As long as both groups existed, the creative engine continued to generate creative work to convince others to vote for their side.

In this way, the Helix and Dome divide shows a way in which a conflict in the community can be helpful for the creative process. The two groups, even with anarchy being dominant, act as obstacles to each other, which encourages the other to continue to argue through their creative work. This serves to help both groups remain engaged with the creative process rather than one side 'winning' the fight and thus having no further reason to continue their creative work.

4.4.4 – Bloody Sunday

Following the improbably successful capture of the Pokémon Zapdos, named AA-Jesus, the players had to retrieve this powerful Pokémon from the box. The attempts to deposit Pokémon and retrieve others led to the loss of twelve Pokémon, three quarters of which had not been used, but the losses did include three Pokémon that had at points been significant characters. It also resulted in the loss of the move 'Cut', which required The Hivemind to navigate a pitch-black tunnel rather than take a shortcut by cutting through a bush along with being unable to use other shortcuts.

Initially, the capture of Zapdos was seen as a potential repeat of the events that led to The False Prophet, The Hivemind's planning was once again shown to be hubris. There were calls that AA-Jesus was another false prophet, although others argued that sacrifice was necessary to 'power-up' the electric type Zapdos. However, the following day, the successful reanimation and retrieval of Lord Helix softened those concerned that AA-Jesus was a threat. Thus, the losses were a required sacrifice to resurrect Lord Helix.

Bloody Sunday was one of the last serious threats to the completion of the game, where the loss of different Pokémon could have potentially stranded the players for some time if events had gone worse or resulted in the players having to create a new team of Pokémon, which would be a significant setback. While the losses were large in number, they were largely insignificant to making progress aside from the inability to use shortcuts accessible by using 'cut'. In contrast, the attempt to put The False Prophet in the box resulted in the loss of many of the most powerful and useful Pokémon available at the time, with no silver lining.

Hyperdiegesis and Bloody Sunday

Bloody Sunday was an event that many interpreted as it happened, and it was uncertain what the final outcome would become. The events of Days 11 & 12 form the final state of the game and involve a series of important events occurring in quick succession. It also came near the end of the game when the stream was at the height of its popularity and the fictional narrative had become well established. As a consequence of the event occurring later in the playthrough, there was less diversity in how the events were interpreted.

Once The Hivemind determined that AA-Jesus was not related to the Dome, the twelve lost Pokémon were perceived as sacrifices. The sacrifice is either seen as being required to power up AA-J, an electric type, as it is among the most powerful Pokémon in the game and was the most important to their victory. The other view is that they were required for Lord Helix to return, as the helix fossil was revived shortly after. This is somewhat inspired by the original art for Omanyte (Lord Helix), which has 12 ring segments visible (Jp3ilson, 2014).

An analysis of the video stream revealed that as the end point of the game rapidly approached, which left little room for further events to occur, the breadth of interpretation of events narrowed. Narrowing of interpretations is an interesting aspect of a developing narrative that has an end point approaching that, with a set end point approaching, there may be less interest in increasing the narremes, but it might also be an issue of a growing consensus among the community limiting interpretations, as the collective editing process had discarded many ideas by the conclusion of the story. However, it is also shown that the benefits of conflict and obstacles in creativity are most prominent early in a project and less visible as a creative endeavour reaches its end (Farh, Lee and Farh, 2010). In the case of Bloody Sunday, this can be clearly seen, as the second false prophet angle is dropped once AA-J is on the team, then the sacrifice to power up AA-J is altered once Lord Helix is resurrected. The other interpretations are edited as the story progresses and receive little to no attention.

Metamodern oscillation and Bloody Sunday

Bloody Sunday oscillates only during the time frame between the capture of AA-J and the revival of Lord Helix. The oscillation is between faith and doubt; past events challenged The Hivemind and the player's faith that their plans would work out, their attempt to turn The False Prophet into a

Vaporeon had backfired, and many believed that the capture of AA-J would result in the same type of disaster. This suspicion would continue even after Lord Helix among members of the community but was, for the most part, a resolved oscillation.

However, it is paired with an unresolved oscillation. Twelve Pokémon were lost either for Lord Helix or AA-J, and the obvious issue that remains unresolved is that the loss of Pokémon was a worse version of what The False Prophet had caused. This creates an oscillation between acceptable and unacceptable sacrifices in which the two poles are simply whether the sacrifice is for a ‘good god’ or ‘bad god’. The reality of this of course is that good sacrifice is where the player's plan (capture AA-J) is a success and when it is a failure (evolve The False Prophet to Vaporeon). In both cases, the ‘lost’ Pokémon are often portrayed as simply being elsewhere, not killed, or simply lost. Good and Bad are simply synonymous with success and failure in the ludic narrative.

Notably, these events forcefully ended the development of many characters and caused many potential story developments to come to a premature close such that the TPP community had to find a satisfying resolution in these characters having been in some way severed from being able to interact with the player character Red in some unspecified way.

The Creative Engine and Bloody Sunday

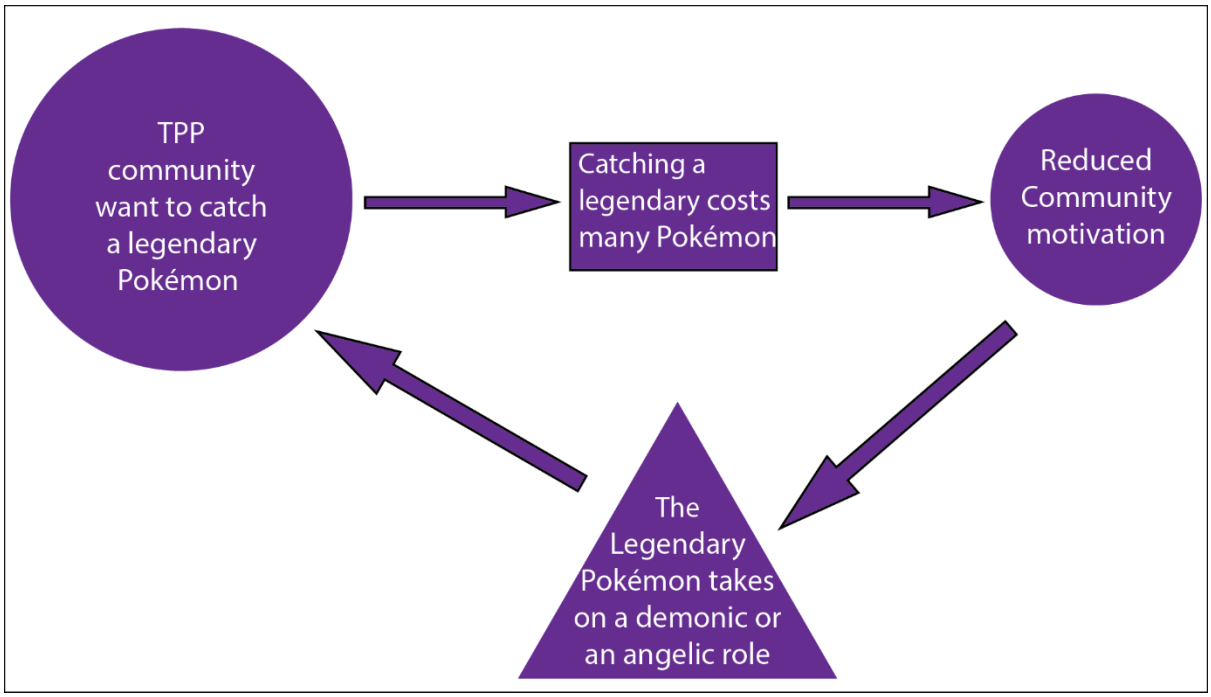

Figure 25 - The Creative Engine and Bloody Sunday

Bloody Sunday might at first glance be a simple example of the creative engine. The TPP community once again faced the challenge of moving Pokémon from the PC to their active party to engage in the creative process to argue their case and encourage the community to continue forward. However, in some ways, the creativity around Bloody Sunday can be seen as an example of how the creative work of a community reacting to an obstacle can result in a certain amount of surplus creative work.

Bloody Sunday as a narreme simply does not occur in any way until the day of the event and then steadily declines in usage. While Bloody Sunday was ongoing, it was not apparent whether the TPP community's actions in attempting to add a legendary Pokémon to its team was a mistake. This resulted in many TPP participants engaging in creative work that portrayed Zapdos (AA-J) as a new/returned false prophet, causing the community to return to the obstacle of PC. In contrast, others saw Zapdos as a solution to their team having remained badly weakened and saw Zapdos as something of a saviour. These opposing views were resolved, with Zapdos becoming vital to their team and ultimate victory, rendering some creative works redundant and incompatible with essentially all TPP narratives and a very clear consensus emerging about the event.

Despite this outcome, the creative works that became redundant are not a wasted effort under the creative engine model. The creative works that failed to maintain traction with the community still served the purpose of maintaining/increasing community engagement. While community engagement declined during Bloody Sunday itself, it returned to previous levels the following day.

4.4.5 – The Chosen Six

The Chosen Six was the final team that would defeat the Elite Four and win the game. Many of these Pokémon were more memes than narremes, but as a group they were crucial to the final narrative. The Pokémon of the final team were mostly given titles with somewhat religious connotations and names loosely on the basis of the garbled names the TPP gave to the Pokémon. Their titles were A God, A messiah, An Angel, A King, A Prince, and All-Terrain-Vehicle, respectively, Lord Helix, BirdJesus, AA-J, The Fonz, Air, and ATV.

The God, Lord Helix, was the last Pokémon acquired, an Omanyte Pokémon based on the ancient ammonite, which was reanimated as a fossil. Lord Helix has little presence in major events and limited characterisation beyond being a force of good. Omanyte was not a particularly useful Pokémon; however, the players' attachment to the Helix Fossil made it necessary for them that Lord Helix led their final team.

The Messiah, BirdJesus, was the earliest surviving Pokémon. Caught before the stream was recorded, possibly around hour 14, it is possible that Birdjesus was the first Pokémon to be caught, as the bird Pokémon Pidgey is one of the earliest Pokémon that can be caught. BirdJesus initially had no nickname; after their starter Pokémon was lost, BirdJesus became the natural team leader and the messiah of the church of the Helix. BirdJesus was vital to getting through many situations, especially when they seemed insurmountable. The Angel, AA-J, would eventually surpass BirdJesus in power, occasionally being named AA-Jesus; this is partially due to being caught at a high level and sharing a type with BirdJesus.

The King, The Fonz, was named because he was a Nidoking and his nickname of AAAAAAAAA was similar to televisions The Fonz. The Fonz was a late capture and addition to the

party and so had few notable characteristics or events. Often paired with The Prince, a Lapras Pokémon who was notable for its utility in crossing water and moving boulders, as well as having an ambiguous gender. When the Pokémon were transferred to a game that used gender mechanics The Prince was revealed as female; however, technical limitations meant The Prince at the end of the second game was male, leaving the Pokémon with an ambiguous gender.

The All-Terrain-Vehicle (ATV) was a poisonous Moth Pokémon Venomoth. ATV was simply a Pokémon to fill the final spot, but its immunity to poison and defeat of a significantly more powerful Dragonite gave it some notice, including its own song.

Metamodern Oscillation and The Chosen Six

The notable oscillation present in the Chosen six is the characteristics of sincerity and mockery. The first five are presented as notable figures of great importance, all having a connection to traditional Western views of religion, only to end with All-Terrain-Vehicle. This was not an intentional choice; ATV was picked by chance. However, it was readily embraced, and as time went on, ATV would have the most celebrated of victories in the last struggle to win the game, defeating one of the most feared Pokémon in the game, the Dragonite of Lance.

The other notable oscillation is unintentional: The Prince's uncertain gender status. The original Pokémon games had only one group of Pokémon that had a known gender (although gender in this case would be more correctly termed sex, often utilising real-world sex differences in animals). The Nido family is split into male and female lines, with the Nidoking family and the Nidoqueen. Gender was introduced in the following game once players could download the save and transfer the Pokémon. The Prince was revealed as female only for The Prince at the end of the sequel game to be male due to technical limitations.

The Creative Engine and The Chosen Six

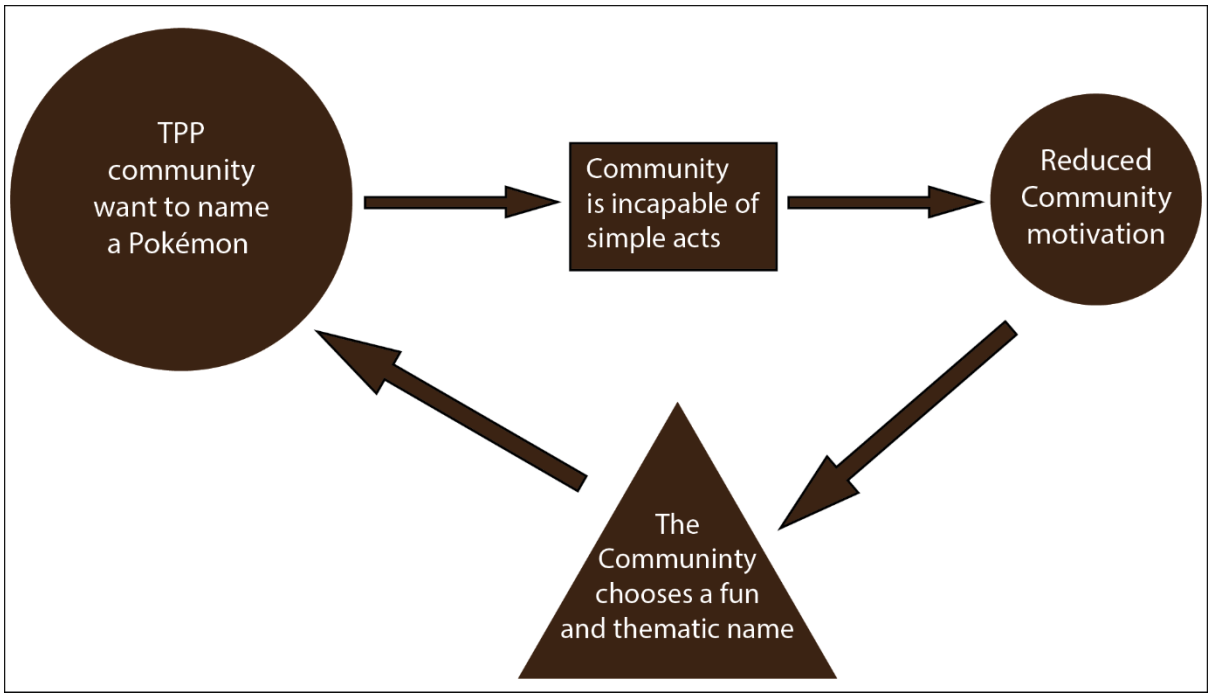

Figure 26 - The Creative Engine and The Chosen Six

The Chosen Six are important when discussing the creative engine, as it addresses a potential weakness of the creative engine in that the examples used thus far are focused on major events and conflicts in the community. Larger conflicts are easier to highlight and make an argument for being examples of influencing creative work. The final team, however, consists of simple nicknames and shallow characterisations influenced by nicknames that do not emerge from an obvious obstacle.

In the case of the final team and the naming of most of the Pokémon throughout TPP, there is a shared obstacle that had to be overcome, which was simply the difficulty in referring to a particular Pokémon when they had names consisting of random letters that were unpronounceable. In most cases, the solution was to use what syllables could be found in the word jumble to create a nickname; in other cases, Pokémon acquired its name through a characteristic (such as Digrat). The Chosen Six has examples of both approaches and, in some respects, might be an example of an effective repeatable creative solution to a reoccurring obstacle that resulted in distinct creative solutions that aided only in increasing engagement. Naming Venomoth Pokémon after an ATV or Nidoking after the Fonz ensured that there were more creative ways for people to interpret these Pokémon beyond their

capabilities in the game. In an unconventional manner, it is also an example of *Pokémon Red* designer Tajiri's design of nicknaming Pokémon remaining effective for encouraging players to create their own stories even in an unconventional setting.

4.4.6 – Relevance of the Sequel to the TPP Community and Creative Engine Model

Twitch Plays Pokémon Red (TPP Red) was followed by a sequel *Twitch Plays Pokémon Crystal* (TPP Crystal), with sequels continuing to the current day. TPP Crystal, however, was the only one to maintain a large viewership comparable to that of *TPP Red*, with viewership declining significantly after *TPP Red* and again after *TPP Crystal*. There are a few important ways that *TPP Crystal* impacted the story of *TPP Red*. We will look at only the relevant details to understand *TPP Red*. *TPP Crystal* follows another Pokémon trainer possessed by The Hivemind, Crystal. During this game, one Pokémon Lazorgator became vastly stronger than the others. The Hivemind found this boring, and a significant number of players attempted to 'release the Gator'.

"Crystal will always be a bit dull if we fail to release our overpowered starter. If we do release him, I believe we can bring the original sense of adventure and lore back to the game. We seek to release Feraligator not because we hate him, but because we love the game" (GoodGrades, 2014)[21].

Thus, they could have a story reminiscent of the original, with many Pokémon receiving attention. This was part of a significant push to try and recapture the unique aspects of the original TPP. During the TPP community's attempts to release Feraligator, many other Pokémon were released, and thus, a narrative formed of Lazorgator seeking revenge on Lord Helix, Red, and The Hivemind for what anarchy had done to his life.

The *TPP Crystal* game ends with the *TPP Crystal* Pokémon team facing the *TPP Red* team facing off. Many of Lazorgator's team was tied to past narremes, Burrito was an Eevee whose kind had been slandered by The False Prophet, Katie a Dragonite trying to regain honour by defeating ATV, and Brian a Pidgeot who was simply not BirdJesus (and so not good enough) wanted to show that he had value. They would defeat Lord Helix and, in doing so, had an effect on perceptions of the original story.

[21] End of GoodGrades comment reads "We seek to release Feraligatr not because we hate him, but because we love the game."

The later playthroughs were haunted by the weight of the first games narrative. It was not long after *TPP Red* ended that *TPP Crystal* was announced to start twenty-seven hours later. Pokémon Crystal's generation of games contained an additional 100 Pokémon, and as was intended for *TPP Red*, the *TPP Crystal* ROM contained all the available Pokémon games to that point. *Pokémon Crystal* also contains not only an entirely new land but also; after defeating the Elite Four and Champion, the players can face the original Gym leaders and finally the champion of the prior game. The former champion Red in Pokémon crystal is presented as being somewhat based on the Pokémon anime's protagonist.

Members of the community were concerned about the risks of trying to replicate TPP Red before the game even began.

"This is a new game, with a new character. We can't even hold the Helix fossil this time, so we shouldn't try to make whatever happens part of the Helix religion lore" (u/SQUELCH_PARTY, 2014).

It was a concern that was well justified; however, *Pokémon Crystal* would take on its own narrative regardless of the TPP community attempting to replicate recent success. In *TPP Crystal* game, the players' starter Pokémon would come to be known as Lazorgator, and from the very outset, Lazorgator would rapidly become an incredibly powerful Pokémon. He would overshadow every other Pokémon by a long margin.

The game would be plagued by Pokémon being released and the team being unable to progress without Lazorgator at all. Each visit to the PC led to more Pokémon being released, and eventually, a significant number of the players wished to release Lazorgator for becoming too overwhelmingly powerful. In the fiction, Lazorgator now saw the anarchic voices as an enemy that had been killing his friends and was now attempting to kill him. This was especially poignant, as the Pokémon that tended to be released were many of the first to be caught in the playthrough.

Lazorgator and his team would become known as Godkillers, a group seeking to kill Lord Helix and bring an end to the anarchy that had hurt all of them personally. The Elite Four and champion took over a day and a half to defeat, but they were defeated. Following this acquisition, the time taken to acquire the original eight original gym badges to make sixteen took little time and those days were uneventful. The climbing of Mt. Silver to face Red, however, was a significant challenge and was more difficult, as the players were given a week to achieve their goal.

When Lazorgator faced Red, it was not the Red of Pokémon Crystal. The streamer had altered the game, so the team they would face was the six Pokémon who had saved Red from The Hivemind in the playthrough of the original game. The players did not need a week. With 6 days left on the clock, Lazorgator's Godkillers defeated Helix's Chosen Six. Finally ending The Saga of the Church of the Helix and anarchy. Most dramatically, it was BirdJesus, the original streams most commonly used Pokémon, against the massively powerful Lazorgator in the last and very close battle. The motto that *TPP Crystal* would give the players was "No Gods, No Kings, Only 'mons."

The reason for this aggressive narrative following the *TPP Red* run is important to consider, if only briefly, as it contrasts with the unexpected emerging narrative of *TPP Red*. *TPP Crystal* was constantly struggling with players trying to tie the narratives together, and this frustrated conflict was tied to the attempt to eliminate Lazorgator, whose power was overshadowing other potential characters and making the game too easy. Additionally, democracy could only be activated every hour in this game, which made the central conflict of *TPP Red* distant. When releasing Lazorgator failed much of the audience left. *TPP Crystal* was beaten in 13 days, 2 hours, and 2 minutes despite being a longer game than *Pokémon Red* judging by self-reported playtimes on howlongtobeat.com: *Pokémon Red* median playtime of 33hours (howlongtobeat.com, 2020b), Pokémon Crystal median playtime of 38 hours (howlongtobeat.com, 2020a).

The remaining player base was able to salvage the game and fiction by turning it into a story of revenge against not only the Helix, but also once again against The Hivemind.

Hyperdiegesis

The most immediate effect of *TPP Crystal* is that it created an alternative to the Helix/Dome contrast in the Johto Heretics, which was the name of the team set to kill Lord Helix. There had been previous attempts at this, with other items gaining similar faux religious attention, and at the height of the Helix/Dome conflict, a group called The Followers of Old Amber called for a mix of both anarchy and democracy. The Johto Heretics, however, are interesting for two separate reasons. First, they did not relate to a method of play such as anarchy or democracy; the Johto Heretics was a reaction to a section of players trying to force a story, a reaction that was to deny that the previous heroes were simply good and may have been tools of the villainous Hivemind. Second, the other attempts at a

third group still tried to mirror the religious aesthetic, where the Johto Heretics instead leans toward a military band of brother's type of aesthetic. Unfortunate, Pokémon thrust into a struggle to survive.

Additionally, the attempts by The Hivemind to replicate the Church of the Helix story led to narremes that either rejected that story or added complexity. The most obvious is that of the Church and its followers in The Hivemind being cast as villains. A callous entity that never cared about the Pokémon and only about their fun, a critique that does mirror the early criticisms of the Pokémon franchise being unfortunately similar to dog or cock fighting. Even Lord Helix is portrayed as wanting to reject these zealous followers.

The False Prophet would become even more complex in its interpretations. The Eevee (Burrito) in the *Pokémon Crystal* game was mistrusted and was targeted by parts of The Hivemind. Although Burrito (Eevee) evolved into a new form through a friendship mechanism, this was attributed to the Pokémon characters friendship with their brother in arms rather than any action of The Hivemind. Some portrayed Burrito's evolution as Burrito overcoming the temptations of The False Prophet, while others portray Burrito as The False Prophet, with others encouraging Burrito to find their own path. This is interesting, as even after a dedicated series of attempts by The Hivemind to release Lazorgator backfiring like it had with The False Prophet, Lazorgator remained the heroic figure. A possible sign that The Hivemind had realised its role in the tragedy.

Metamodern Oscillation and The Sequel

TPP Crystal demonstrates the referential aspects of metamodernism at their height. *TPP Red* was, of course, taking aspects of the Pokémon franchise and recasting them, but *TPP Crystal* largely referred to *TPP Red* more than the Pokémon franchise. Furthermore, the story developed because the players were split between those who wanted a similar story and those who wanted something new; an oscillation between the familiar and the novel. The consequence of this was a narrative oscillating between rejecting the new characters and rejecting the victory of the past story. The Hivemind is seen as a more callous entity that is happy to reject new Pokémon who do not live up to their expectations, and *TPP Crystal* characters are all defined by the events of the previous story, seeking revenge or redemption through defeating the past heroes of the chosen six of the TPP.

However, although the narrative of *TPP Crystal* is a small band rejecting the heroes of the past, it does not completely cast the heroes of TPP in a negative light. *TPP Red* remains the story of

the chosen six trying to defeat the Elite Four and free Red from The Hivemind, and *TPP Crystal* remains the story of those lives ruined by the Church of the Helix killing the Lord Helix and his chosen ones. Following *TPP Red's* narrative threads, The Chosen Six's defeat by Lazorgator's band is a tragic sacrifice that the Chosen Six must make so the world and The Hivemind does not rely on them and use their names to commit atrocities. *TPP Crystal* remains the story of normal Pokémon raging against the gods sitting high above the world. The difference is in the oscillation in what perception one prefers as the accurate one.

TPP Crystal itself is also notable because its existence does alter the ending and metaphysics of TPP retroactively, particularly in characterising Lord Helix, which, as previously noted, was largely limited in characterisation owing to his appearance late in gameplay. It also continues to explore the idea that the true villain is The Hivemind, but The Hivemind remains untouchable to the characters, as it exists outside the games as the TPP community does.

4.5 – Narremes in Hyperdiegetic Narratives: A User's Narrative

Concluding the examination of narremes it is possible to demonstrate how an individual would have constructed a narrative over the course of TPP. We will look at The Hivemind, False Prophet, The Helix and The Dome, and Bloody Sundar collections of narremes in order to demonstrate how they form a narrative together and how narremes within a collection can be incompatible with each other and narremes from other collections. The aim of this exercise is to bring together narrative concepts to show the specific perspective of an individual member of the TPP community to contrast with the broad overview of the community.

We will assume that Satoshi begins viewing at the end of the second day when Digrat has been caught and /r/twitchplayspokemon is about to be created. Although it was not as important as it would later become, the helix fossil is a prominent meme and narreme. Satoshi enjoys the humorous take on Red consulting the helix as a religious guide, and when the S.S. Ticket leaves their inventory, it is clear that the Helix is the item they will be consulting for the rest of the game. Satoshi is happy to commit himself to 'praising the helix'.

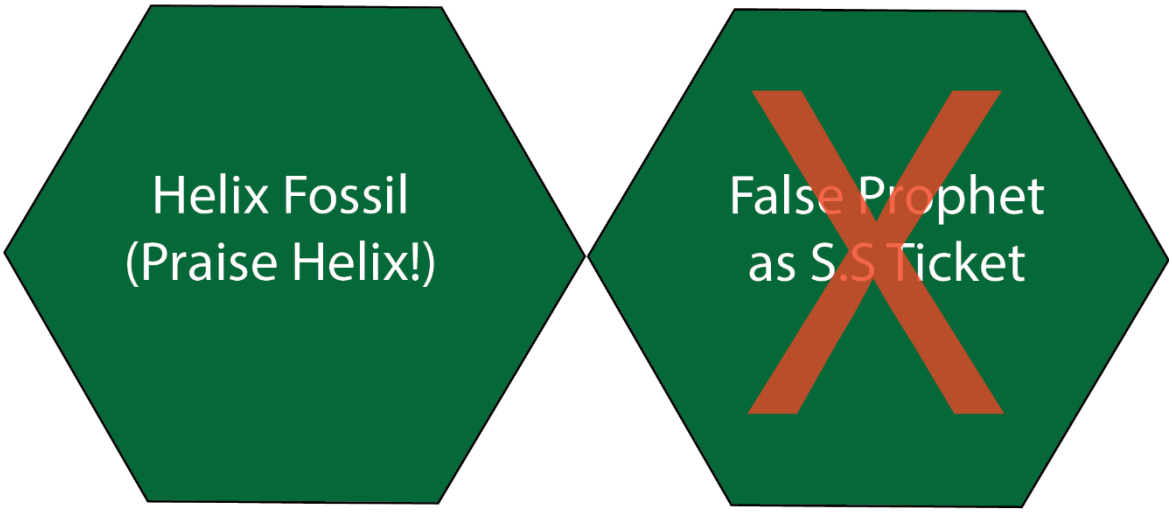

Figure 27 - Step one of a developing hyperdiegetic narrative.

The following day, the TPP community becomes stuck navigating both The Ledge and the dark rock tunnel while Digrat repeatedly resets their progress. Digrat being a slightly impish character who is trying to help neatly fits Satoshi's humorous view of the narrative, but frustration over the TPP community's hivemind makes it easy to start seeing The Hivemind as a malicious force if not necessarily a competent force. In Satoshi's narrative, The Helix helps guide Red to defeating the Pokémon League so that Red can be free of The Hivemind's unending voices.

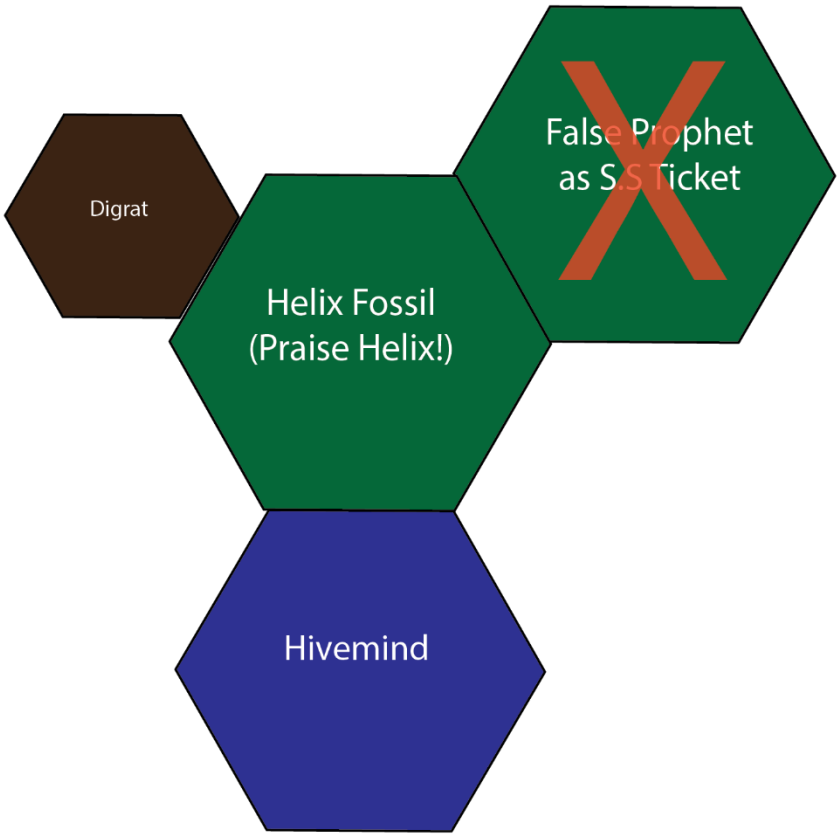

Figure 28 - Step two of a developing hyperdiegetic narrative.

The next day, the community is arguing over what Pokémon they will get to learn surf, as they cannot finish the game without it. Satoshi favours obtaining Lapras, which is a much easier task than evolving Eevee into the correct Pokémon. The Hivemind disagrees and they decide to acquire Eevee and in a messy attempt to evolve Eevee, which causes them to release many of their best Pokémon, including their starter and deposit the helix fossil. When Eevee evolved into Flareon, it was obvious to Satoshi that Eevee was The False Prophet that deluded The Hivemind, leading them into folly and even briefly abandoning the Helix. Satoshi also sees BirdJesus as the messiah to oppose the false prophet, being the best Pokémon to survive and already having won many battles.

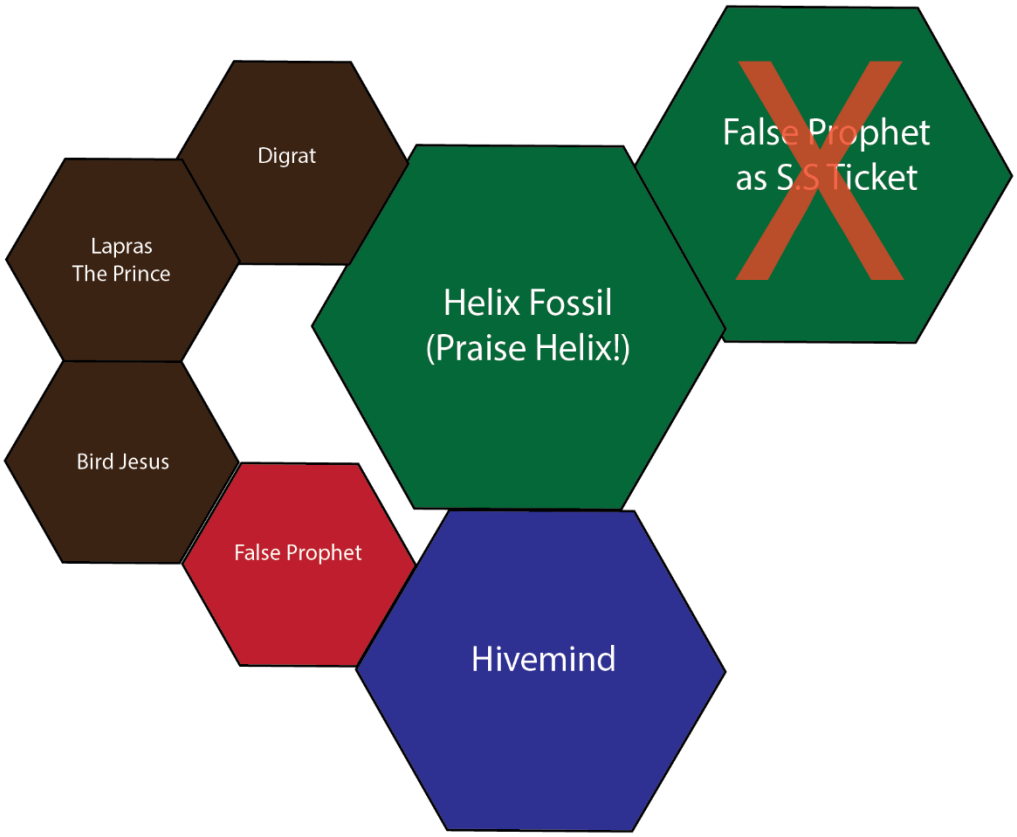

Figure 29 - Step three of a developing hyperdiegetic narrative.

Satoshi has come to see planning as the community's repeated mistake. When everything was just a fun mess, there weren't any issues; planning is what causes problems when they should just trust The Helix. When democracy was introduced, Satoshi immediately placed it in opposition to the Helix. The Helix is anarchy and the original spirit of the game. Democracy is more planning, and there are more disasters like The False Prophet. Satoshi was among the first to claim democracy as a trick by the dome and participated in the start9 riots against democracy. Satoshi is having a problem with what The Hivemind is as it is not with the dome and democracy; more people claim that The Hivemind is the followers of the helix.

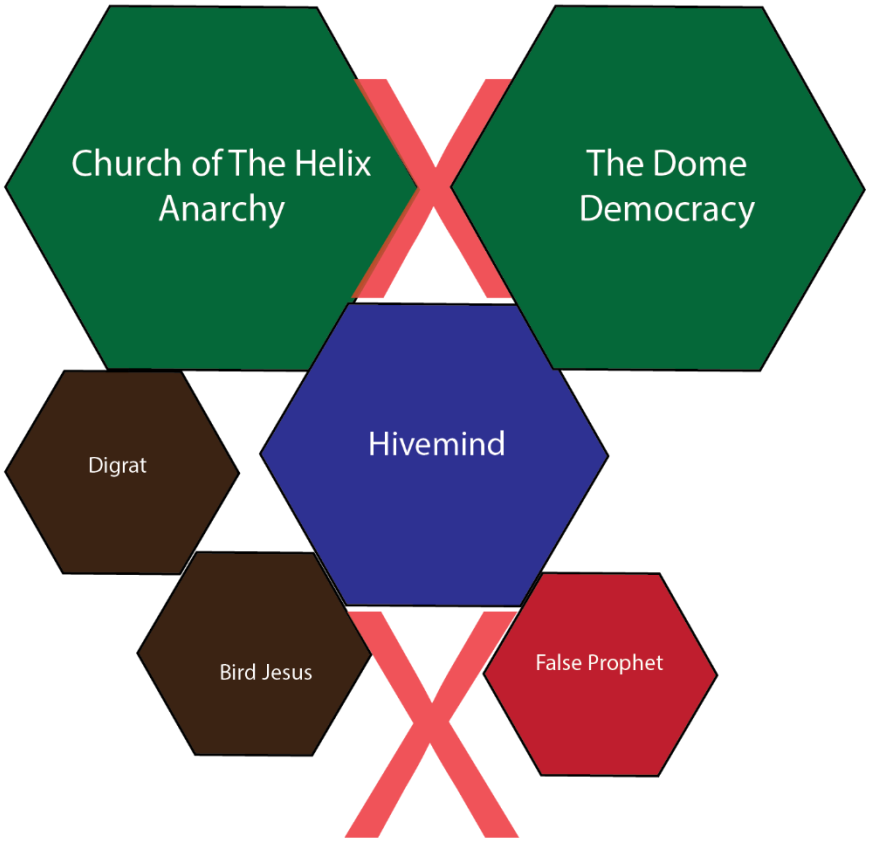

Figure 30 - Step four of a developing hyperdiegetic narrative.

Progress over the next few days is steady; for the most part, BirdJesus carries them to victory, and democracy is not needed. Satoshi is more embedded in the Helix vs. Dome cosmology of TPP and has slowly rethought The Hivemind. The Hivemind is not malevolent, as Satoshi first thought; it was just being poisoned by the forces of the Dome, democracy, and The False Prophet. This is a small change but makes Satoshi's hyperdiegetic narrative more consistent. When the TPP community next relies on democracy the most when in an area that contains an item (HM03) they require but where a limited number of steps can be made before progress is reset, Satoshi is able to reason that agents of the dome hid HM03 there as another way to entice The Hivemind. Although despite democracy being in charge when they are caught; Satoshi is happy to welcome new members of the Pokémon team, The Fonz, ATV, and Air Jordan all come from this day.

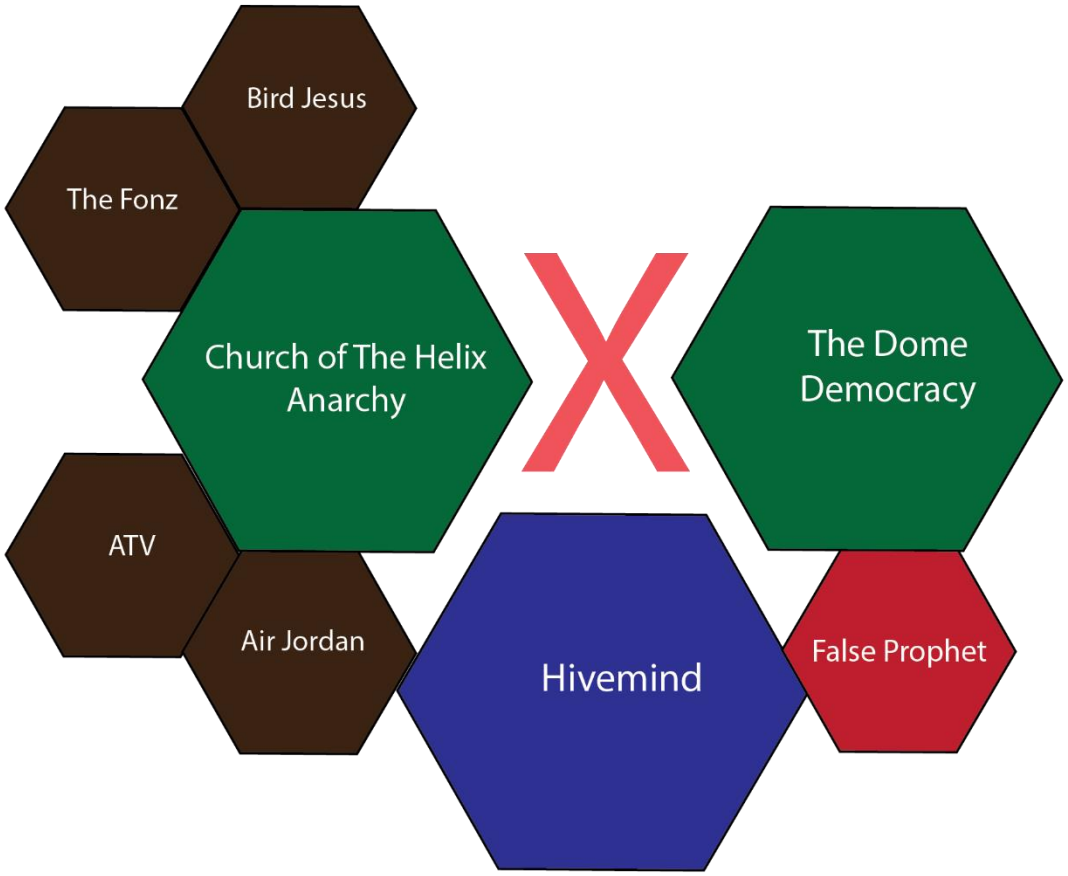

Figure 31 - Step five of a developing hyperdiegetic narrative.

As they continue to progress, the players acquire an item called the master ball that can catch any Pokémon, and many decide that they should catch Zapdos, a powerful legendary Pokémon that would be very useful. Satoshi initially distrusts this planning and suspected that Zapdos was either another false prophet or even an anti-Christ figure but when they immediately used the master ball with no issues while under anarchy. Satoshi considers whether Zapdos is another angel of the Helix. However, they would lose many Pokémon attempting to add the legendary Pokémon to their party, and Satoshi still leans towards the narreme of Zapdos as The False Prophet returned to enact Bloody Sunday.

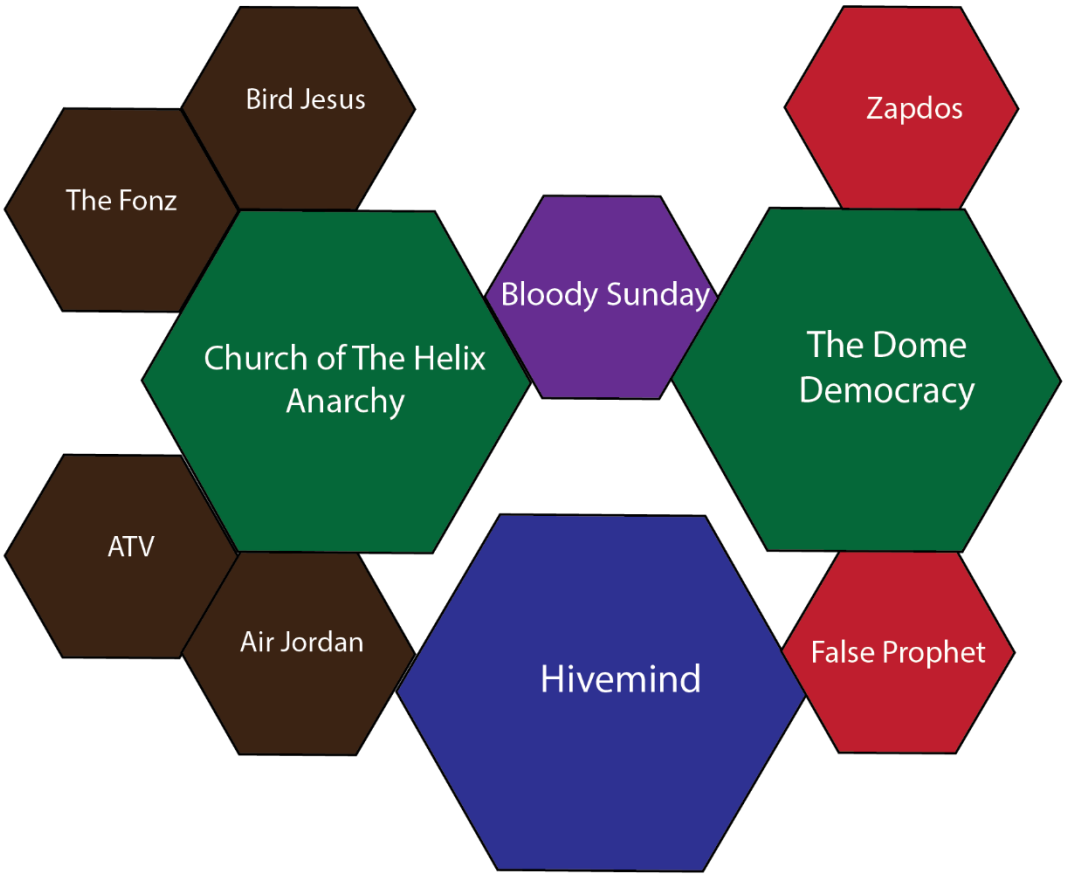

Figure 32 - Step six of a developing hyperdiegetic narrative

The next day, they succeed in adding Zapdos to their team and continue to progress through the game. When they make it to the last town, they haven't visited the helix fossil is revived, and Satoshi no longer sees the helix fossil as an abstract god but now a living god and the guiding hand who selects their final team, including Zapdos (AA-J). The following days contain obstacles and setbacks, but with Lord Helix and the final team chosen, Satoshi does not see any obstacles remaining between the TPP community and victory. With no remaining obstacles, Satoshi does not have to rethink the narrative or narremes but does enjoy watching them develop, more than enjoying the slow, steady progress of the team to victory.

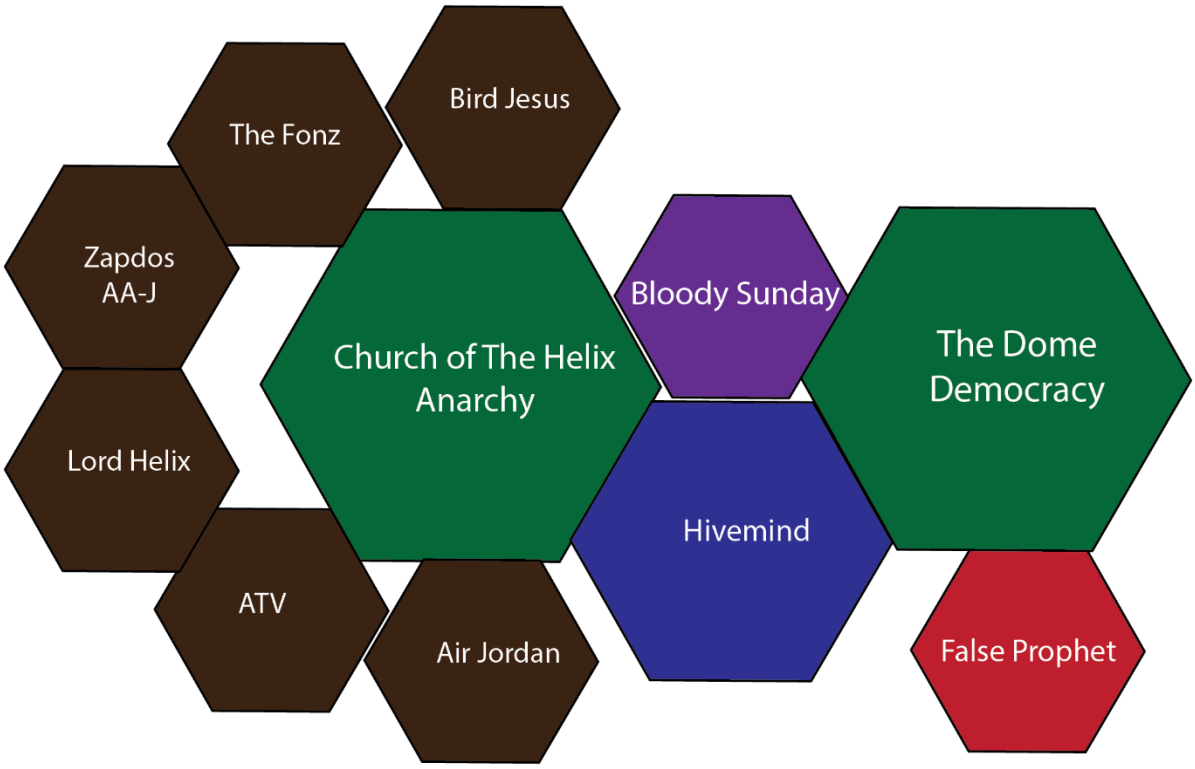

Figure 33 - Step Seven of developing a hyperdiegetic narrative.

On the last days, no other major events occurred, just steady levelling up. However, while fighting the last of the elite four, an oversight in the games results in ATV becoming the Dragon slayer. Marking the last significant change to Satoshi's narrative. When the game is defeated, Satoshi is happy to consider The Dome and democracy defeated, Red free of The Hivemind, and that Lord Helix and their team waiting atop Mount Silver for the future.

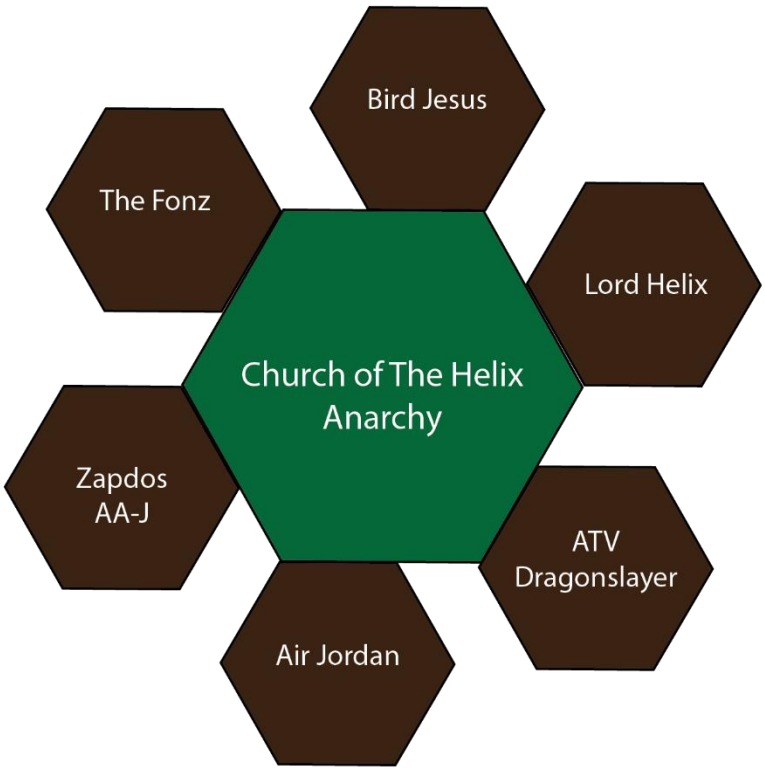

Figure 34 - Final hyperdiegetic narrative.

4.6 – How the TPP Community Engaged in a Distributed Creative Process

This section will summarise findings of this thesis in relation to how the creative process in distributed creative communities functioned. First the creative process shares traits regardless of how the creative community is organised, much of the findings from research into collaborative creativity is very applicable to the distributed creative community of TPP. The importance of community leadership that facilitates creativity, the community being motivated by a shared goal, and the role of conflict and obstacles in promoting creative thought appear to be among the most important traits for creative communities. The obstacles faced by the TPP community included conflicts within the community, obstacles within the game, and the difficulty of taking deliberate actions

There is always a tension between the individual and the society. In a distributed creative community narrative can serve as a sociocultural tool to reinforce the behaviours, interpretation of events, and maintain motivation to achieve their shared goal. However, the individual can also build upon the work of the community to attempt to influence the narrative and thus the community in the direction that they favour. This conflict between the individual participants results in many interpretations and other creations, as in a distributed creative community there is no central authority that decides on the narrative events allowing for a broad range of conflicting interpretations.

Taking these findings the creative engine model was formed with some inspiration from metamodern oscillation. The creative engine model describes the distributed creative community is beginning with a shared goal, the community then encounters an obstacle or conflict, this obstacle demotivates the community, in order to either work overcome the obstacle or navigate around the obstacle the community engages in creative thinking, which restores motivation to the community, allowing them to continue pursuing their shared goal.

The creative engine model demonstrates both the link between obstacles and creativity, but also highlights the importance of the shared goal and motivation in maintaining the distributed community. The use of this model is to create a method of identifying these key traits of distributed creative communities and the links between them, especially when looking at a community with a loosely arranged narrative such as the Twitch Plays Pokémon community.

4.7 – How TPP Participants Understood their Creativity

The second major question in this thesis is in how individual participants understood the collective creative work of the TPP community. The fictional narrative that emerged from the play of TPP came about from the community finding fictional explanations for the strange actions taken by the player character in the game and the conflicts and obstacles that the community was encountering through play. However, the explanations were disjointed and often conflicted with each other requiring TPP participants to form the completed narrative.

The creative works of a distributed creative community engaged in creating fiction can be seen as being narremes. Narremes are the smallest creative expressions that have narrativity, these narremes are then used as building blocks to form a complete and more complex narrative. Each individual participant has to assemble a narrative as in a distributed creative community there are likely to be conflicting narremes and lack of a coherent narrative. This assembled narrative is the hyperdiegetic narrative level, this hyperdiegetic narrative is unique to each individual though there may be significant crossover amongst people. As each narrative belongs to each individual this places these distributed communities as being particularly metamodern in their sensibilities; the narratives can be sincere and ironic, and the characters can be heroes and villains in different hyperdiegetic narratives. This allows for much more oscillation in the creative works of distributed creative communities compared to communities focused on a more static narrative work.

The assembly of narremes at the hyperdiegetic narrative level is how individuals make sense of the collected creative work of their community.

Summary

The creative engine synthesises the ideas of metamodernism oscillation, narremes and hyperdiegesis to develop the creative engine model. The creative engine model looks at distributed creativity in the TPP community as being encouraged by a repeating pattern of the oppositional forces faced by the community, reducing their motivation to achieve their shared goal. Members of the community respond to these oppositional forces and maintain community motivation through creative acts that help to strengthen their shared goals and cope with the obstacle.

An examination of examples demonstrated how TPP's creative engine built up narremes such as The Hivemind by reacting to their difficulties inherent in the community trying to play as one. The False Prophet is a reaction to the oppositional forces of the PC and a conflict in the community about game strategy. By turning The False Prophet character into the fictional cause of these oppositional forces the community was able to rally against an imagined foe and avoid their own blame. The Helix and Dome developed as a way of addressing the divisions in the community that resulted in the start9 riots.

As demonstrated, narremes can be assembled into a fictional narrative, as presented in this chapter, although there is no official or correct version of the fiction. The fictitious narrative consists of the many narremes that the community created, which can conflict with each other, requiring each individual to choose the narremes that they believe are most appropriate. The assembly of narremes into a narrative by each individual refers to the hyperdiegetic narrative level. The hyperdiegetic narrative level was further explored and how it consists of contrasting and/or oscillating narreme interpretations and how they can be seen as an examples of metamodern oscillation.

Finally, to highlight the exact way in which a user might have come to understand TPP and develop their own narrative, an example of participation was detailed by focusing on the experience of one hypothetical member of the community. This process also demonstrates the useful application of narremes as a narrative unit for understanding how distributed creative communities understand and interact with their creative works.

The chapter concluded with a summation of the creative engine model and how the narreme interacts with hyperdiegetic narratives. The creative engine, narremes and hyperdiegesis are

abstractions of the complex interactions of a creative community, but abstractions that helps illustrate the creative process of the community and the individual participants. This chapter demonstrates the usefulness of these ideas in approaching similar distributive creative communities and their work. Similar types of analysis could prove useful in future research into distributed creativity, emergent narratives, and metamodern artistic communities.

Conclusion

Studying *Twitch Plays Pokémon* demonstrated how the distributed creative process of the TPP community orginated from a shared goal and the obstacles that encouraged creative expression; this creative expression then motivated others in the community to continue pursuing the shared goal and it allowed the community to narrativize their play. This cycle of a shared goal being interrupted by an opposing force leading to creative expression has been termed the creative engine, as laid out in chapter four of this thesis. In addition, this thesis demonstrated how members of a distributed creative community create their own hyperdiegetic (Hills, 2002, p. 137) narrative by interpreting and reinterpreting narremes (Rosenbaum and Semiotic Society of America, 2019), which is how an individual engages with the larger distributed creative community. Together, these two ideas explain how distributed creative communities engage with the creative process. One part is the community that possesses a shared goal and reacts to the opposing forces it faces with novel solutions. Narremes were explored primarily as narrative solutions to ludic or community problems; however, novel gameplay ideas such as the start9 riots are also novel solutions. The second part of the creative process is how the individual is free to construct their own interpretation of the many narremes into a hyperdiegetic narrative. The allowance of different interpretations is important to note, as it is core to how the community explores novel ideas. This is not a frivolous phenomenon to understand. The distributive creative process is an example of the creative process as a social phenomenon. Additionally, individuals creating their own narratives from the narremes that they are exposed to online is how many people understand the world from fictional and real-world narratives.

It is important to highlight what was found by this thesis and what issues similar research may face in the future. TPP demonstrates how a creative community and engagement in a creative community are self-reinforcing cycles. This cycle, termed the creative engine in this thesis, is a simple illustration of how creative work emerges from a variety of obstacles faced by a community (practical, understanding, internal conflicts, etc.) that helps reinforce engagement with the community through creative work. This is not a self-perpetuating cycle; it can simply run its course, as shown by the significant decline seen in the TPP community once they achieved their goal of seeing if they could collectively win *Pokémon Red*. The other methodological finding relates to the use of narrative levels to separate the complex narratives that exist in interactive narratives and their communities and the

use of narremes as a way to explain how an individual member of the community creates their own narrative from the small narrative elements presented by the community (Knaggs, 2011; Diker and Taşdelen, 2018).

Unfortunately, however, this thesis demonstrates some core issues for similar studies. The first is simply scale; the larger the community is and the longer it is, the greater the volume of data. The large volume of data leads to data overload and potential difficulties in performing a quantitative analysis and at a large enough scale, even qualitative analysis can be difficult without a strong focus on a particular topic such as on fictional religions (Dou, 2017). Relatedly, it may simply not be possible to access equivalent data in the future. Social media sites can change their access rules, and legal changes to how the internet is allowed to operate may simply make a similar study unfeasible. However, this highlights something important for current research; it cannot be assumed that a current media phenomenon can be studied in ten years. Regardless of the changes in access to sources such as the Twitter API, the loss of users over time would lead to a considerable loss of data. In the time since Twitch Plays Pokémon first occurred, I applied to university, completed a master's degree, applied for a doctorate and finished this thesis. If I had waited a single year, I would have lost access to data from Reddit because of the new expense of accessing the API. TPP in that same time period led to Twitch.tv being sold to Amazon and kickstarted people streaming video games as a widespread form of media and people using animated avatars to stream and react to media. This is a long way of saying that media studies should not wait to see what is remembered; rather, they should study new media as soon as it emerges before it becomes inaccessible or lost.

Chapter one described TPP, highlighting the distributed nature of the TPP community, which was spread across multiple websites and artforms. This chapter explained the basics of how the TPP community operated and demonstrated the importance of the fictional narrative to the community. While TPP is a text, it is not a readily accessible text as it involves complex interactions between individuals and websites and lacks clearly defined text. Consequently, it was important to establish exactly what websites were prominent with TPP, how the community as a whole operated, a description of its narratives, and a light quantitative analysis of the existing chat data. The TPP community's relationship with Pokémon fandom was explored, and how this environment provided the initial space to establish an environment conducive to creativity, similar to successful collaborative creative endeavours such as early Disney animation (Bennis and Biedermann, 1997), was

demonstrated. The structure of the websites on which the TPP community existed impacted how they operated and demonstrated the TPP community's possession of the traits that encouraged a successful community, particularly that of a shared goal and permissive leadership (Schrage and Schrage, 1995). This exploration of the community highlighted the qualities that the TPP community possessed that caused it to be a successful creative community and may indicate that research on collaborative creative communities and distributed creative communities is in some places applicable to both. It was also explained that the conflict between anarchy and democracy was likely a boon to the communities creativity, rather than a hindrance as conflict and obstacles can be important to creative thinking (Farh, Lee and Farh, 2010).

Describing the narratives of TPP required some effort, as this description performed the important job of detailing the creative work of the TPP community and how TPP's narratives interacted with each other. For comprehensibility, TPP was separated into three narrative levels: ludic, discursive, and fictional. Attempting to describe all the interacting narratives as one singular piece would have been overly complex and obscured the events of TPP. The ludic narrative described how the gameplay issues resulted in obstacles that would cause splits in the community. These divisions were discussed in the discursive narratives; both novel solutions would be found along with novel explanations. These novel explanations become fictional explanations for events at the fictional narrative level. In this way, the anarchy and democracy gameplay mechanics became arguments between the two positions, which would become the fiction of the Helix vs. the Dome.

Finally, Chapter One analysed the comments of the TPP community and identified the most popular narremes and the effects of obstacles on decreasing the engagement of the community. By analysing the trends of particular narremes and the effects of various obstacles on the TPP community; particularly popular and relevant narremes was highlighted for qualitative analysis in chapter 4. The qualitative analysis also demonstrated the effect of obstacles on engagement with TPP and how divided the TPP community was between anarchy and democracy.

Chapter two reviewed the theories of creativity needed to explore the TPP community. Defining creativity (Amabile, 1988; Sawyer and DeZutter, 2009) and identifying the characteristics of creative communities (Bennis and Biedermann, 1997) and remix culture (Knobel and Lankshear, 2008) provided definitions of creativity and, more specifically, established what a distributive creative

community is. While exploring the long history of defining creativity, it was determined that the study of creativity has increasingly moved towards creativity as a phenomenon of social interaction (Vygotskiĭ, 1971; Csikszentmihalyi, 1998). In researching conflict and creativity, it became apparent that conflict and artistic creativity are linked (Rank, 1989; Chiu, 2008) and this might be a key component of the creative process. The conflict between anarchy and democracy being a conflict internal to the TPP community, and the external conflict between the individual against the community both had a role to play in the creation of art works.

In Chapter Three, the narratological theories required for understanding the TPP community were examined. Narrative levels (Genette, 1990), narremes (Rosenbaum and Semiotic Society of America, 2019), and hyperdiegesis (Hills, 2002; Knaggs, 2011) provide the concepts and terminology necessary for identifying narratives within the TPP community. Narrative levels were adapted to fit TPP, providing the ludic, discursive, and fictional narrative levels that would help order the creative output of TPP. The idea of hyperdiegesis provided a term for how individuals would create their own understanding of TPP narratives. These narratives are constructed from narremes, which are the smallest unit of a narrative and help explain how there are TPP narratives despite their lack of a singular canonical narrative. Metamodernism provided the concept of metamodern oscillation (Baciu, Bocoş and Baciu-Urzică, 2015, p. 35), which served as the initial origin of the creative engine model, as well as a method for understanding the contrasts with the interpretations of narremes.

These three chapters culminated in Chapter Four, which analysed the more popular and defining narremes of TPP, their origins, and their different interpretations. The exploration of narremes led to the development of the creative engine model, which explains how the oppositional forces faced by the community impacted motivation, which in turn led to creative expressions that helped continue motivating the TPP community. Chapter Four then used a hypothetical member of the community to demonstrate how an individual would encounter, interpret, and reinterpret narremes on a narrative level termed the hyperdiegetic narrative level. The creative engine model brought together narremes, metamodern oscillation and hyperdiegesis to explain how the TPP community engaged with creativity as a distributed creative community.

The core aim of examining the TPP community was to learn about the distributive creative process and to develop better methods for analysing the creative expressions that are increasingly

common in our lives. Through this analysis, this thesis has shown that distributive creative communities thrive from obstacles and differences that require creative solutions to overcome or rationalize (through fiction in this case), this process results in artistic expression. The narratives that emerge from distributed communities that are peer-to-peer contain contrasting and conflicting interpretations, though individuals can construct their own coherent narrative at the hyperdiegetic level from narremes. These two core findings serve as useful beginnings for future research on similar distributed creative communities. These communities will differ and exist on different platforms, but the structure of the research will still be useful for analysing the complex fan work these distributed creative communities, identifying narrative levels, and identifying key narremes. However, owing to changes in API access, this research on distributed creative community motivations may struggle to acquire similar data in the future. This research benefits from the TPP community preserving its own data and access to the reddit API before pricing was introduced.

As this thesis has demonstrated, the creative engine model provides a way of explaining how the contrasts and obstacles to a shared goal that are often pervasive in online communities can be core to encouraging participation in the creative process and maintaining the community. By breaking narratives down into their narrative levels and narremes, this thesis has made it possible to identify and understand how individuals with the same basic building blocks of a narrative can create very different hyperdiegetic narratives. By examining the Twitch Plays Pokémon community, as demonstrated by this thesis, the creative engine, narremes, and hyperdiegesis help to further our understanding of how a distributed creative community engages in the creative process and how people engage with these increasingly common avenues of creative expression.

Future Research

This thesis' methodological approach could serve as a useful framework for examining other online communities that are engaged in distributed creativity. The narreme (or a more refined future concept) is useful for understanding narratives that are not as clearly definitive as those of most media products. Similarly, hyperdiegesis is a useful concept for addressing how individuals construct their personal narratives from unstructured narremes that emerge from a distributed creative

community and possibly serve as a somewhat useful way of describing how a fandom engages in creating its own canon of fiction.

However, one of the issues this study faced, and future research will face, is accessing data. TPP was chosen over other potential distributive creative communities because its data was accessible. Being able to study a full dataset mitigated against researcher bias (e.g. unintentionally picking comments and creative work that supported the research). Similar research may not be as possible in the future, as social media companies are becoming increasingly protective of their API. Loss of API access is unfortunate, as it limits both the replicability of this research and the particular methodology. In the course of this research, the data, videos, raw data, and images have been preserved so that future researchers can pursue a study of the gameplay of TPP with a similar approach.

A combined qualitative and quantitative analysis has flaws; however, it is a useful approach that can provide a deeper understanding of how distributive creative communities' function. The quantitative analysis of data provides a less biased perspective for research to identify what broad communities are interested in. Quantitative analysis and the preservation of data provide a check on the inevitable researcher bias when approaching large and complex communities. A qualitative analysis of distributive creative communities that explores the complexity of expression and interpretation provides a vital foundation for understanding how individuals interact with both communities and narratives. Given the complexity of digital media, both quantitative and qualitative analyses are useful for exploring communities' reasons for being creative.

While TPP does seem to be related to the metamodernist turn in media, it is not clear from this research if it is a trend that is indicative of many internet communities, or simply one lens for TPP to be perceived through. However, metamodernism is potentially useful as a way of understanding the contrasts that can occur in many fandoms, such as works with dark themes and mature topics being explored humorously and lightly to focus more on characters. Additionally the way in which individuals assemble a hyperdiegetic narrative from the narremes they have been exposed to, and that they like, may have implication for how individuals form strong opinions based on fragmented headlines, news stories and anecdotes. As narratives are not solely a phenomenon of fiction, but also of politics, business, education, technology, and many other areas of life.

The primary area for future research may be the idea of the creative engine. As presented in this thesis, the creative engine is aimed at explaining the activities of an online distributed communities and explored as a way of understanding how a variety of narremes emerged. However, the concept presented here could have a much larger potential application for studies understanding both creativity and community processes. Creativity as a reaction to an oppositional force is not a particularly novel concept, but structuring it in a manner that can be cyclical might explain how some internet communities become overly focused on particular topics. Unresolvable topics can maintain community engagement, and these unresolvable topics may create a less positive and less creative community over time, which is a question worth exploring as a research topic. The creative engine may also help to understand why some distributed communities thrive for a long period of time, and other disappear, as a shared goal is vital to the continued work of the creative engine.

References

4chan, A. (2022) *Ugh What's with this overdesigned... /vp/ - Pokémon-4chanrchive.org*, *4chan Archive*. Available at: https://4archive.org/board/vp/thread/19199546/ugh-whats-with-this-overdesigned-piece-of-shit#p19199546.

Aarseth, E. (2012) 'A narrative theory of games', in *Proceedings of the International Conference on the Foundations of Digital Games - FDG '12*. *the International Conference*, Raleigh, North Carolina: ACM Press, p. 129. Available at: https://doi.org/10.1145/2282338.2282365.

Adler, P.S. and Chen, C.X. (2011) 'Combining creativity and control: Understanding individual motivation in large-scale collaborative creativity', *Accounting, Organizations and Society*, 36(2), pp. 63–85. Available at: https://doi.org/10.1016/j.aos.2011.02.002.

Aiken, M. (2014) 'Anarchy vs. Democracy: The Politics of "Twitch Plays Pokémon"', *Diplomatic Courier*, 4 March. Available at: https://www.diplomaticourier.com/posts/anarchy-vs-democracy-the-politics-of-twitch-plays-pokemon (Accessed: 9 May 2021).

Akker, R. van den, Gibbons, A. and Vermeulen, T. (eds) (2017) *Metamodernism: historicity, affect, and depth after postmodernism*. London New York: Rowman & Littlefield International (Radical cultural studies).

Alamshah, W.H. (1967) 'The Conditions for Creativity', *The Journal of Creative Behavior*, 1(3), pp. 305–313. Available at: https://doi.org/10.1002/j.2162-6057.1967.tb00031.x.

Allen, G. and O'Sullivan, J. (2016) 'Collapsing Generation and Reception: Holes as Electronic Literary Impermanence', *Hyperrhiz: New Media Cultures*, (15), pp. 1–1. Available at: https://doi.org/10.20415/hyp/015.e01.

Almeida, L.S. *et al.* (2008) 'Torrance Test of Creative Thinking: The question of its construct validity', *Thinking Skills and Creativity*, 3(1), pp. 53–58. Available at: https://doi.org/10.1016/j.tsc.2008.03.003.

Amabile, T. (1988) 'A model of creativity and innovation in organizations', in *Research in Organizational Behavior*. B. M. Staw, B. M. and Cummings, L. L., pp. 123–167.

Anonymous (2014) *Screenshot of Anonymous 4chan Comment*.

AoIR membership (2019) 'Internet Research: Ethical Guidelines 3.0 Association of Internet Researchers'. Available at: https://aoir.org/reports/ethics3.pdf.

Baciu, C., Bocoş, M. and Baciu-Urzică, C. (2015) 'Metamodernism – A Conceptual Foundation', *Procedia - Social and Behavioral Sciences*, 209, pp. 33–38. Available at: https://doi.org/10.1016/j.sbspro.2015.11.226.

Batey, M. and Furnham, A. (2006) 'Creativity, Intelligence, and Personality: A Critical Review of the Scattered Literature', *Genetic, Social, and General Psychology Monographs*, 132(4), pp. 355–429. Available at: https://doi.org/10.3200/MONO.132.4.355-430.

Baumgartner, J. *et al.* (2020) 'The Pushshift Reddit Dataset'. arXiv. Available at: http://arxiv.org/abs/2001.08435 (Accessed: 7 March 2023).

Bennis, W. and Biedermann, P.W. (1997) *Organizing Genius: The Secrets of Creative Collaboration*. Reading, Mass: Perseus Books.

Bernard, L. (2017) 'Twilight Haters: the Good, the Bad and the Ugly of Internet Popular "Hatedom".', *halshs-01874904* [Preprint].

Bernstein, M.S. *et al.* (2011) '4chan and /b/: An Analysis of Anonymity and Ephemerality in a Large Online Community', p. 8.

Bestor, N. (2021) 'Making and remaking the Galaxy Far, Far Away', *Science Fiction Film & Television*, 14(2), pp. 145–169. Available at: https://doi.org/10.3828/sfftv.2021.11.

Bestor, N.C.L. (2019) *Playing in licensed storyworlds : games, franchises, and fans*. Thesis. Available at: https://doi.org/10.26153/tsw/3277.

Bledsoe, E.M. (2016) '"Make It New"', in *Routledge Encyclopedia of Modernism*. 1st edn. London: Routledge. Available at: https://doi.org/10.4324/9781135000356-REM1131-1.

Boccella, N. and Salerno, I. (2016) 'Creative Economy, Cultural Industries and Local Development', *Procedia - Social and Behavioral Sciences*, 223, pp. 291–296. Available at: https://doi.org/10.1016/j.sbspro.2016.05.370.

Boden, M.A. (2004) *The creative mind: myths and mechanisms*. 2nd ed. London ; New York: Routledge.

Boulton, E. and Cremin, C. (2012) 'The Sociology of Videogames', in *Being Cultural*. Pearson Originals, pp. 341–357.

Box, G.E.P. (1976) 'Science and Statistics', *Journal of the American Statistical Association*, 71(356), pp. 791–799. Available at: https://doi.org/10.1080/01621459.1976.10480949.

Brand, J. and Knight, S. (2005) 'The Narrative and Ludic Nexus in Computer Games: Diverse Worlds II', *DiGRA '05 - Proceedings of the 2005 DiGRA International Conference: Changing Views: Worlds in Play*, 3. Available at: http://www.digra.org/wp-content/uploads/digital-library/06278.57359.pdf.

Bremond, C. (1964) *Le message narratif*. Persée.

Bronwen Thomas (2011) 'What Is Fanfiction and Why Are People Saying Such Nice Things about It??', *Storyworlds: A Journal of Narrative Studies*, 3, p. 1. Available at: https://doi.org/10.5250/storyworlds.3.2011.0001.

Bulbapedia (2020) *Twitch Plays Pokémon Official acknowledgement*. Available at: https://bulbapedia.bulbagarden.net/wiki/Twitch_Plays_Pok%C3%A9mon#Official_acknowledgement.

Burgum, E.B. (1941) 'Romanticism', *Kenyon Review*, III.

Campbell, J. (1993) *The hero with a thousand faces*. London: Fontana.

Caniëls, M.C.J. and Rietzschel, E.F. (2015) 'Organizing Creativity: Creativity and Innovation under Constraints', *Creativity and Innovation Management*, 24(2), pp. 184–196. Available at: https://doi.org/10.1111/caim.12123.

Cardona-Rivera, R.E., Zagal, J.P. and Debus, M.S. (2020) 'Narrative Goals in Games: A Novel Nexus of Story and Gameplay', in *International Conference on the Foundations of Digital Games*. *FDG '20: International Conference on the Foundations of Digital Games*, Bugibba Malta: ACM, pp. 1–4. Available at: https://doi.org/10.1145/3402942.3402986.

Carroll, J.B. (1993) *Human Cognitive Abilities: A Survey of Factor-Analytic Studies*. 1st edn. Cambridge University Press. Available at: https://doi.org/10.1017/CBO9780511571312.

Centivany, A. and Glushko, B. (2016) '"Popcorn Tastes Good": Participatory Policymaking and Reddit's', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. *CHI'16: CHI Conference on Human Factors in Computing Systems*, San Jose California USA: ACM, pp. 1126–1137. Available at: https://doi.org/10.1145/2858036.2858516.

Chaney, K. and Liebler, R. (2007) ‘Canon vs. Fanon: Folksonomies of Fan Culture’. *Media in Transition 5: Creativity, Ownership and Collaboration in the Digital Age*. Available at: http://works.bepress.com/raizelliebler/10/.

Chen, A. (2012) *A 4channer Explains Why 4chan’s Decline Is Great for 4chan*. Available at: https://www.gawker.com/5925847/a-4channer-explains-why-4chans-decline-is-great-for-4chan.

Chiu, M.M. (2008) ‘Effects of argumentation on group micro-creativity: Statistical discourse analyses of algebra students’ collaborative problem solving’, *Contemporary Educational Psychology*, 33(3), pp. 382–402. Available at: https://doi.org/10.1016/j.cedpsych.2008.05.001.

Coates, J. (2007) ‘Talk in a play frame: More on laughter and intimacy’, *Journal of Pragmatics*, 39(1), pp. 29–49. Available at: https://doi.org/10.1016/j.pragma.2006.05.003.

Coppa, F. (2006) ‘A Brief History of Media Fandom’, in K. Hellekson and K. Busse (eds) *Fan fiction and fan communities in the age of the Internet: new essays*. Jefferson, N.C: McFarland & Co, pp. 41–59.

Crangle, S. and Nicholls, P. (eds) (2010) *On bathos*. London ; New York: Continuum.

Csikszentmihalyi, M. (1996) *Creativity: the psychology of discovery and invention*. First Harper Perennial modern classics edition. New York: Harper Perennial Modern Classics.

Csikszentmihalyi, M. (1998) ‘Implications of a Systems Perspective for the Study of Creativity’, in R.J. Sternberg (ed.) *Handbook of Creativity*. 1st edn. Cambridge University Press, pp. 313–336. Available at: https://doi.org/10.1017/CBO9780511807916.018.

CuriousCoffee (2017) *What is SCP-001?* Available at: https://scp-wiki.wikidot.com/forum/t-2204815/what-is-scp-001.

Darras, B. (2019) ‘Creativity and Creative Communities’, in R. Hickman (ed.) *International encyclopedia of art and design education*. Hoboken, NJ, [Corsham]: Wiley ; National Society for Education in Art and Design.

Davis (2015) ‘“Not a soul in sight!”: Beckett’s Fourth Wall’, *Journal of Modern Literature*, 38(2), p. 86. Available at: https://doi.org/10.2979/jmodelite.38.2.86.

Dawkins, R. (1981) *The selfish gene*. Repr. with corr. Oxford: Oxford Univ. Pr.

De Dreu, C.K.W. (2006) ‘When Too Little or Too Much Hurts: Evidence for a Curvilinear Relationship Between Task Conflict and Innovation in Teams’, *Journal of Management*, 32(1), pp. 83–107. Available at: https://doi.org/10.1177/0149206305277795.

DeAnda, M.A. (2023) ‘“Thou Shall Never Use a Fire Stone on Eevee”: Twitch Plays Pokémon and the Articulation of Game Brands as Cultural Texts’, in J. Brewer et al. (eds) *Real life in real time: live streaming culture*. Cambridge, Massachusetts: The MIT Press, pp. 231–243.

DeMattia, G. (2020) *More Than Just Video Games: Analyzing Japanese Game Design 1985 - 1995*. Seton Hall University Dissertations and Theses (ETDs).

Dennett, P. (2019) ‘Csikszentmihalyi meets Socrates: Fostering a sense of group flow to produce creative outcomes’, *Journal of Organisational Creativity,* 1(1), pp. 18–27.

Diehl, M. and Stroebe, W. (1987) ‘Productivity loss in brainstorming groups: Toward the solution of a riddle.’, *Journal of Personality and Social Psychology*, 53(3), pp. 497–509. Available at: https://doi.org/10.1037/0022-3514.53.3.497.

Diker, E. and Taşdelen, B. (2018) ‘Fans’ Narrations: A Study on the Reproduction Practices of Branding Stories in the Context of Participatory Culture’, in.

Dill, K.E. and Dill, J.C. (1998) 'Video game violence', *Aggression and Violent Behavior*, 3(4), pp. 407–428. Available at: https://doi.org/10.1016/S1359-1789(97)00001-3.

Doerr, Z. (2011) 'Abridged series and fandom remix culture', *Transformative Works and Cultures*, 9. Available at: https://doi.org/10.3983/twc.2012.0396.

Dorfman, E. (1969) *The Narreme in the medieval romance epic: an introduction to narrative structures*. Available at: https://www.deslibris.ca/ID/452145 (Accessed: 24 March 2022).

Dou, N. (2017) *Fiction Based Religions and their Multiple Functions The Case of Twitch Plays Pokémon*. Master Thesis. Erasmus University Rotterdam. Available at: http://hdl.handle.net/2105/44850.

Durkheim, E. (1893) *The division of labor in society*. Free Press trade paperback edition. New York: Free Press.

Eadicicco, L. (2014) 'This Story Perfectly Shows What An Astonishing Success Twitch Is', *Business Insider*, 25 August. Available at: https://www.businessinsider.com/twitch-plays-pokemon-2014-8?r=US&IR=T.

Elza, C. (2009) 'We All Live in a Pokemon World Animated Utopia for Kids', in M.I. West (ed.) *The Japanification of children's popular culture: from Godzilla to Miyazaki*. Toronto: Scarecrow Press, pp. 53–72.

Ensslin, A. (2014) *Literary gaming*. Cambridge, Mass.: The MIT Press.

Erin, P., Megan (2017) 'Secure, Contain, Protect: Building a Digital Folklore Mythos through Collaborative Legend Creation'. Available at: https://doi.org/10.17615/03QV-MM73.

Eskelinen, M. (2001) 'The Gaming Situation', *Game Stud.*, 1. Available at: https://api.semanticscholar.org/CorpusID:30499092.

European Parliament Committee on Legal Affairs (2019) *Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC*. Available at: https://eur-lex.europa.eu/eli/dir/2019/790/oj.

Eysenck, H.J. (1993) 'Creativity and Personality: Suggestions for a Theory', *Psychological Inquiry*, 4(3), pp. 147–178. Available at: https://doi.org/10.1207/s15327965pli0403_1.

Farh, J.-L., Lee, C. and Farh, C.I.C. (2010) 'Task conflict and team creativity: A question of how much and when.', *Journal of Applied Psychology*, 95(6), pp. 1173–1180. Available at: https://doi.org/10.1037/a0020015.

Florida, R.L. (2014) *Rise of the creative class - revisited*. Paperback of the revised edition. New York: Basic Books.

Franco, N. (2010) *Nuzlocke-About*, *Nuzlocke*. Available at: http://www.nuzlocke.com/about/.

Frasca, G. (1999) 'Ludology meets narratology: Similitude and differences between (video) games and narrative', *Ludology. org* [Preprint]. Available at: https://ludology.typepad.com/weblog/articles/ludology.htm.

Frasca, G. (2003) 'Simulation versus Narrative: Introduction to Ludology', *Routledge* [Preprint]. Available at: https://ludology.typepad.com/weblog/articles/VGT_final.pdf.

Furst, L.R. (2017) *Romanticism*. Routledge.

Furtner, M. (2017) *All Hail Helix: The Internet's Role in the Creation of Culture and*. Honor Scholar Theses. DePauw University. Available at: https://scholarship.depauw.edu/studentresearch/69?utm_source=scholarship.depauw.edu%2Fstudentresearch%2F69&utm_medium=PDF&utm_campaign=PDFCoverPages.

Gagné, M. and Deci, E.L. (2005) 'Self-determination theory and work motivation', *Journal of Organizational Behavior*, 26(4), pp. 331–362. Available at: https://doi.org/10.1002/job.322.

Gaiduk, N. and Tarapatov, M. (2022) 'Theoretical background to metamodernism as the new form of modern culture', *NATIONAL ACADEMY OF MANAGERIAL STAFF OF CULTURE AND ARTS HERALD* [Preprint], (1). Available at: https://doi.org/10.32461/2226-3209.1.2022.257441.

Gee, J.P. (2006) *Situated language and learning: a critique of traditional schooling*. Reprinted. New York: Routledge (Literacies).

Gee, J.P. (2008) *Social linguistics and literacies: ideology in discourses*. 3rd ed. London ; New York: Routledge.

Geisinger, G. (2020) 'This heartwarming theory from Rogue One's writer fixes a Star Wars original trilogy plot hole', 22 January. Available at: https://www.digitalspy.com/movies/a30624407/star-wars-plot-hole-rogue-one-call-sign/.

Genette, G. (1990) *Narrative discourse: an essay in method*. 1. publ., 4. print. Ithaca: Cornell University Press.

Genette, G. and Maclean, M. (1991) 'Introduction to the Paratext', *New Literary History*, 22(2), p. 261. Available at: https://doi.org/10.2307/469037.

Gilbert, S.A. (2020) '"I run the world's largest historical outreach project and it's on a cesspool of a website." Moderating a Public Scholarship Site on Reddit: A Case Study of r/AskHistorians', *Proceedings of the ACM on Human-Computer Interaction*, 4(CSCW1), pp. 1–27. Available at: https://doi.org/10.1145/3392822.

Glăveanu, V.P. (2014) *Distributed creativity: thinking outside the box of the creative individual*. Cham: Springer (SpringerBriefs in psychology).

Godfrey, C. (2019) 'Detective Pikachu and the case of the highest grossing media franchise of all time', *The Guardian*, 19 May. Available at: https://www.theguardian.com/global/2019/may/09/gotta-catch-em-all-over-again-the-return-of-pokemania.

Gorey, C. (2014) *Gotta map em' all – Google Maps' Pokémon challenge*, *Silicon Republic*. Available at: https://www.siliconrepublic.com/play/gotta-map-em-all-google-maps-pokemon-challenge (Accessed: 26 February 2021).

Gray, K.L., Buyukozturk, B. and Hill, Z.G. (2017) 'Blurring the boundaries: Using Gamergate to examine "real" and symbolic violence against women in contemporary gaming culture', *Sociology Compass*, 11(3), p. e12458. Available at: https://doi.org/10.1111/soc4.12458.

Green, O. (2018) *Somebody Just Completed Pokemon Red/Blue With Only One Ditto*. Available at: https://www.gamebyte.com/somebody-completed-pokemon-red-blue-one-ditto/.

Gusfield, J.R. (1978) *Community: a critical response*. New York: Harper & Row.

'Happy Days' (1974) *All the Way*.

Harding, S. (2018) *Yes, Downloading Nintendo ROMs Is Illegal (Even if You Own the Game)*, *Toms Hardware*. Available at: https://www.tomshardware.com/news/why-most-roms-are-illegal,37512.html (Accessed: 27 February 2021).

Harvey, C.B. (2015) *Fantastic transmedia: narrative, play and memory across science fiction and fantasy storyworlds*. First published 2015 by Palgrave Macmillan. Houndmills, Basingstoke, Hampshire New York: Palgrave Macmillan.

Hassan, I. (2003) 'Beyond Postmodernism: Toward an Aesthetic of Trust', in *Beyond Postmodernism*. Berlin, Boston: DE GRUYTER, pp. 273–283. Available at: https://doi.org/10.1515/9783110906813.199.

Helix Choir (2015) *All-Terrain Victory - Church Of The Helix Chior*, *YouTube*. Available at: https://www.youtube.com/watch?v=4H1dAWPaPec.

Helixpedia (2022) *Helixpedia*. Available at: https://helixpedia.fandom.com/wiki/TPPedia_Wiki.

Hellekson, K. and Busse, K. (eds) (2006) *Fan fiction and fan communities in the age of the Internet: new essays*. Jefferson, N.C: McFarland & Co.

Herman, D. (2009) 'Narrative Ways of Worldmaking', in S. Heinen and R. Sommer (eds) *Narratology in the Age of Cross-Disciplinary Narrative Research*. Walter de Gruyter, pp. 71–87. Available at: https://doi.org/10.1515/9783110222432.71.

Hernandez, P. (2014) *Not Everyone Playing 'Twitch Plays Pokémon' Appears To Be Human*, *Kotaku*. Available at: https://kotaku.com/not-everyone-playing-twitch-plays-pokemon-appears-to-1530921548 (Accessed: 13 October 2014).

Hills, M. (2002) *Fan cultures*. London ; New York: Routledge.

Hills, M. (2014) 'When *Doctor Who* Enters its Own Timeline: The Database Aesthetics and Hyperdiegesis of Multi-Doctor Stories', *Critical Studies in Television: The International Journal of Television Studies*, 9(1), pp. 95–113. Available at: https://doi.org/10.7227/CST.9.1.7.

Hollinger, E. and Ratkos, J. (1999) *Pokémon: Prima's official strategy guide*. Rocklin, Calif.: Prima Pub.

howlongtobeat.com (2020a) *How Long To Beat- Pokémon Crystal*, *howlongtobeat.com*. Available at: https://howlongtobeat.com/game.php?id=7146.

howlongtobeat.com (2020b) *How Long To Beat- Pokémon Red*, *howlongtobeat.com*. Available at: https://howlongtobeat.com/game.php?id=7169.

Internet Archive (2014a) *Twitch Plays Pokémon - Archive*, *Internet Archive*. Available at: https://archive.org/details/TwitchPlaysPokemon.

Internet Archive (2014b) *Twitch Plays Pokémon logs*, *Internet Archive*. Available at: https://archive.org/details/tpp_logs.

Jackson, G. (2017) *Twitch Plays Pokémon's Creator Says He Is Stepping Down Following Alleged Doxing*, *Kotaku*. Available at: https://kotaku.com/twitch-plays-pokemon-s-creator-says-he-is-stepping-down-1820486151.

Jason, P. (2022) *Directory Contents*. Available at: http://files.pushshift.io/reddit/comments/.

Jenkins, H. (1992) *Textual poachers: television fans & participatory culture*. New York: Routledge (Studies in culture and communication).

Jenkins, H. (2006) *Convergence culture: where old and new media collide*. New York: New York University Press.

John-Steiner, V. (2006) *Creative collaboration*. Pbk. ed. Oxford ; New York: Oxford University Press.

Jones, C. (2020) *The Pokémon War Theory Explained*, *Screenrant*. Available at: https://screenrant.com/pokemon-war-theory-explained-red-blue-no-parents/.

Jones, K. (2019) *The World's 25 Most Successful Media Franchises, and How They Stay Relevant*, *VisualCapitalist*. Available at: https://www.visualcapitalist.com/successful-media-franchises/ (Accessed: 26 February 2021).

Jp3ilson (2014) 'Bloody Sunday was the day of sacrifice for Lords Helixs return!', 25 February. Available at: https://www.reddit.com/r/twitchplayspokemon/comments/1yv6xl/bloody_sunday_was_the_day_of_sacrifice_for_lords/.

Juul, J. (1999) 'A clash between game and narrative: A thesis on computer games and interactive fiction.', *University of Copenhagen* [Preprint]. Available at: https://www.jesperjuul.net/thesis/.

Kaufman, J.C. and Beghetto, R.A. (2009) 'Beyond Big and Little: The Four C Model of Creativity', *Review of General Psychology*, 13(1), pp. 1–12. Available at: https://doi.org/10.1037/a0013688.

Kerr, D. (2012) *PETA wages war on Pokemon for virtual animal cruelty*. Available at: https://www.cnet.com/news/peta-wages-war-on-pokemon-for-virtual-animal-cruelty/ (Accessed: 26 February 2021).

Kim, K.H. (2006) 'Can We Trust Creativity Tests? A Review of the Torrance Tests of Creative Thinking (TTCT)', *Creativity Research Journal*, 18(1), pp. 3–14. Available at: https://doi.org/10.1207/s15326934crj1801_2.

King, S. (1977) *The shining*. 1st ed. Garden City, N.Y: Doubleday.

Kirby, A. (2022) 'Examining Collaborative Fanfiction: New Practices in Hyperdiegesis and Poaching', *Humanities*, 11(4), p. 87. Available at: https://doi.org/10.3390/h11040087.

Knaggs, A. (2011) 'Prison Break General Gabbery: Extra-Hyperdiegetic Spaces, Power, and Identity in Prison Break', *Television & New Media*, 12(5), pp. 395–411. Available at: https://doi.org/10.1177/1527476410374966.

Knobel, M. (2017) 'Remix, literacy and creativity: An analytic review of the research literature', *Eesti Haridusteaduste Ajakiri. Estonian Journal of Education*, 5(2), pp. 31–53. Available at: https://doi.org/10.12697/eha.2017.5.2.02b.

Knobel, M. and Lankshear, C. (2008) 'Remix: The Art and Craft of Endless Hybridization', *Journal of Adolescent & Adult Literacy*, 52(1), pp. 22–33. Available at: https://doi.org/10.1598/JAAL.52.1.3.

Kokonis, M. (2014) 'Intermediality between Games and Fiction: The "Ludology vs. Narratology" Debate in Computer Game Studies: A Response to Gonzalo Frasca', *Acta Universitatis Sapientiae, Film and Media Studies*, 9(1), pp. 171–188. Available at: https://doi.org/10.1515/ausfm-2015-0009.

Kovalova, M. *et al.* (2022) 'The digital evolution of art: current trends in the context of the formation and development of metamodernism', *Revista Amazonia Investiga*, 11(56), pp. 114–123. Available at: https://doi.org/10.34069/AI/2022.56.08.12.

Kumparak, G. (2019) *Pokémon GO and the April Fools' joke that made billions*. Available at: https://techcrunch.com/2019/04/01/pokemon-go-and-the-april-fools-joke-that-made-billions/ (Accessed: 26 February 2021).

Kurtzberg, T.R. (2000) 'Creative styles and teamwork: Effects of coordination and conflict on group outcomes.', in. Available at: https://api.semanticscholar.org/CorpusID:199150780.

Kurtzberg, T.R. and Amabile, T.M. (2001) 'From Guilford to Creative Synergy: Opening the Black Box of Team-Level Creativity', *Creativity Research Journal*, 13(3–4), pp. 285–294. Available at: https://doi.org/10.1207/S15326934CRJ1334_06.

Laato, S. and Rauti, S. (2021) ‘Central Themes of the Pokémon Franchise and why they Appeal to Humans’, in. *Hawaii International Conference on System Sciences*. Available at: https://doi.org/10.24251/HICSS.2021.344.

Larimer, T. (1999) ‘The Ultimate Game Freak’, *Time Magazine*, 22 November. Available at: https://content.time.com/time/magazine/article/0,9171,2040095,00.html (Accessed: 20 February 2023).

larunex (2023) *Was inspired to make this minimalist wallpaper after seeing a post about our god-teir team.*, *imgur*. Available at: https://imgur.com/izgFHmQ.

Latham, S. and Rogers, G. (2015) *Modernism: evolution of an idea*. London: Bloomsbury Academic (New modernisms series).

Lebuda, I. (2016) ‘Political Pathologies and Big-C Creativity: Eminent Polish Creators’ Experience of Restrictions Under the Communist Regime’, in V.P. Glăveanu (ed.) *The Palgrave Handbook of Creativity and Culture Research*. London: Palgrave Macmillan UK, pp. 329–354. Available at: https://doi.org/10.1057/978-1-137-46344-9_16.

Leonard, N. (2018) ‘Homage or Biting Lines: Critically Discussing Authorship, Creativity, and Copyright in the 21st Century through Hip-Hop’, *Arts*, 7(4), p. 86. Available at: https://doi.org/10.3390/arts7040086.

Leyton Escobar, M., Kommers, P.A.M. and Beldad, A. (2014) ‘Using narratives as tools for channeling participation in online communities’, *Computers in Human Behavior*, 37, pp. 64–72. Available at: https://doi.org/10.1016/j.chb.2014.04.013.

Literat, I. (2012) ‘The Work of Art in the Age of Mediated Participation: Crowdsourced Art and Collective Creativity’, pp. 2962–2984.

Literat, I. (2014) ‘Measuring New Media Literacies: Towards the Development of a Comprehensive Assessment Tool’, *Journal of Media Literacy Education*, 6(1).

Literat, I. and Glăveanu, V.P. (2016) ‘Same but Different? Distributed Creativity in the Internet Age’, *Creativity. Theories – Research - Applications*, 3(2), pp. 330–342. Available at: https://doi.org/10.1515/ctra-2016-0020.

lostmediawiki.com (2019) *Twitch Plays Pokémon (partially found footage of Let’s Play channel; 2014)*, *Lost Media Wiki*. Available at: https://lostmediawiki.com/Twitch_Plays_Pok%C3%A9mon_(partially_found_footage_of_Let%27s_Play_channel;_2014).

Lowry, L. (1993) *The giver*. Boston: Houghton Mifflin.

Lyden, J.C. (2012) ‘Whose Film Is It, Anyway? Canonicity and Authority in Star Wars Fandom’, *Journal of the American Academy of Religion*, 80(3), pp. 775–786. Available at: https://doi.org/10.1093/jaarel/lfs037.

Machkovech, S. (2016) ‘Pokémon ROM hack stopped by Nintendo four days before launch’, *Ars Technica*, 21 December. Available at: https://arstechnica.com/gaming/2016/12/nintendo-sends-cease-and-desist-notice-to-pokemon-rom-hacker/.

Maigaard, P. (1951) ‘About Ludology’, in *International Congress Of Sociology*. *14th International Congress Of Sociology*, Rome, pp. 362–273. Available at: https://issuu.com/larskonzack/docs/maigaardludology.

Mallindine, J.D. (2017) ‘Pokémemory: Time-images, Transmedia, and Memory’, *TransMissions: The Journal of Film and Media Studies*, 2(2), pp. 122–141.

Mamykina, L., Candy, L. and Edmonds, E. (2002) 'Collaborative creativity', *Communications of the ACM*, 45(10). Available at: https://doi.org/10.1145/570907.570940.

Marguc, J., Van Kleef, G.A. and Förster, J. (2015) 'Welcome Interferences: Dealing with Obstacles Promotes Creative Thought in Goal Pursuit', *Creativity and Innovation Management*, 24(2), pp. 207–216. Available at: https://doi.org/10.1111/caim.12071.

McAdams, D.P. (2001) 'The Psychology of Life Stories', *Review of General Psychology*, 5(2), pp. 100–122. Available at: https://doi.org/10.1037/1089-2680.5.2.100.

McNally, V. (2014) 'Democracy/Anarchy in Action: Twitch Plays Pokémon Changes up Rules With New Voting System', 18 February. Available at: https://www.themarysue.com/twitch-plays-pokemon-democracy/ (Accessed: 9 May 2021).

McWhertor, M. (2014) *Twitch Plays Pokemon creator tweaks channel to make game more 'beatable'*. Available at: https://www.polygon.com/2014/2/20/5428398/twitch-plays-pokemon-democracy-vs-anarchy.

Merrick, J. (1999) *Seribii forums*, *Seribii.net*. Available at: https://forums.serebii.net/ (Accessed: 10 October 2022).

van Mierlo, T. (2014) 'The 1% Rule in Four Digital Health Social Networks: An Observational Study', *Journal of Medical Internet Research*, 16(2), p. e33. Available at: https://doi.org/10.2196/jmir.2966.

Milligan, I. (2023) *Ethics and the Archived Web Presentation: "The Ethics of Studying GeoCities"*, *Ian Milligan*. Available at: https://ianmilli.wordpress.com/2018/03/27/ethics-and-the-archived-web-presentation-the-ethics-of-studying-geocities/.

Mills, R. (2011) 'Researching Social News – Is reddit.com a mouthpiece for the "Hive Mind", or a Collective Intelligence approach to Information Overload?' Available at: https://doi.org/10.13140/RG.2.1.4786.8888.

Milner, R.M. (2016) *The world made meme: public conversations and participatory media*. Cambridge, Massachusetts London: The MIT Press (The information society series).

Murray, J. (2005) 'The Last Word on Ludology v Narratology in Game Studies', in.

Murray, J.H. (1997) *Hamlet on the holodeck: the future of narrative in cyberspace*. New York: Free Press.

Nash, C. (1994) *Narrative in culture: the uses of storytelling in the sciences, philosophy, and literature*. London; New York: Routledge. Available at: http://site.ebrary.com/id/10017189 (Accessed: 14 October 2020).

Navas, E., Gallagher, O. and Burrough, X. (eds) (2017) *The Routledge companion to remix studies*. New York ; London: Routledge, Taylor and Francis Group.

Nielsen, J. (2008) *The 90-9-1 Rule for Participation Inequality in Social Media and Online Communities*, *NIelsen Norman Group*. Available at: https://www.nngroup.com/articles/participation-inequality/.

Noppe, N. (2011) 'Fanwork as a test case for open source cultural goods', in. *First Asian Workshop on Cultural Economics,*. Available at: https://www.academia.edu/2585716/Fanwork_as_a_test_case_for_open_source_cultural_goods.

Ochsner, A. and Saucerman, J. (2015) 'I Choose You! Diversity in the Design of Pokémon', *Well Played*, 4(3), pp. 26–40.

Olin-Scheller, C. and Wikström, P. (2010) 'Literary Prosumers: Young People's Reading and Writing', *Education Inquiry*, 1(1), pp. 41–56. Available at: https://doi.org/10.3402/edui.v1i1.21931.

O'Neill, S. (2015) 'Shakespeare and Social Media', *Literature Compass*, 12(6), pp. 274–285. Available at: https://doi.org/10.1111/lic3.12234.

Osborn, A.F. (1963) *Applied imagination; principles and procedures of creative problem-solving.* 3d rev. ed. New York: Scribner.

Parkhurst, H.B. (1999) 'Confusion, Lack of Consensus, and the Definition of Creativity as a Construct', *The Journal of Creative Behavior*, 33(1), pp. 1–21. Available at: https://doi.org/10.1002/j.2162-6057.1999.tb01035.x.

Paulus, P.B. and Nijstad, B.A. (2003) *Group Creativity*. Oxford University Press. Available at: https://doi.org/10.1093/acprof:oso/9780195147308.001.0001.

Plackett, B. (2018) *Unpaid and abused: Moderators speak out against Reddit*. Available at: https://www.engadget.com/2018-08-31-reddit-moderators-speak-out.html (Accessed: 26 February 2021).

Pokemoncoders (2021) *Best Pokemon ROM Hacks for 2021 (Updated)*, *Pokemon coders*. Available at: https://www.pokemoncoders.com/best-pokemon-rom-hacks/ (Accessed: 26 February 2021).

Prabhu, V., Sutton, C. and Sauser, W. (2008) 'Creativity and Certain Personality Traits: Understanding the Mediating Effect of Intrinsic Motivation', *Creativity Research Journal*, 20(1), pp. 53–66. Available at: https://doi.org/10.1080/10400410701841955.

Prentky, R.A. (2001) 'Mental Illness and Roots of Genius', *Creativity Research Journal*, 13(1), pp. 95–104. Available at: https://doi.org/10.1207/S15326934CRJ1301_11.

Prince, G. (2003) 'Surveying Narratology', in T. Kindt and H.-H. Müller (eds) *What Is Narratology?* Berlin, Boston: DE GRUYTER, pp. 1–16. Available at: https://doi.org/10.1515/9783110202069.1.

Prince, G. (2008) 'Narrativehood, Narrativeness, Narrativity, Narratability', in J. Pier and J.Á. García Landa (eds) *Theorizing Narrativity*. DE GRUYTER, pp. 19–28. Available at: https://doi.org/10.1515/9783110969801.

Propp, V. (1928) 'Morphology of the Folktale', p. 185.

Ralph, P. and Monu, K. (2017) 'Enduring Design Challenges in Western Roleplaying Video Games', *The Journal of Creative Technologies* [Preprint], (6). Available at: https://doi.org/10.24282/jct.06.02.

Ramirez, D., Dietmeier, J. and Saucerman, J. (2014) 'Twitch Plays Pokemon: A Case Study in big G games', *Proceedings of DiGRA 2014* [Preprint]. Available at: https://www.academia.edu/15039351/Twitch_Plays_Pokemon_A_case_study_in_big_G_games.

Rank, O. (1989) *Art and artist: creative urge and personality development*. 1. publ. as a Norton paperback. New York: Norton.

Reddit Community (2014) *THAT'S why I loved this game*, *Reddit*. Available at: https://www.reddit.com/r/twitchplayspokemon/comments/1yao0c/thats_why_i_loved_this_game/.

Reddit.com (2021) *Reddiquette*, *Reddiquette*. Available at: https://reddit.zendesk.com/hc/en-us/articles/205926439-Reddiquette (Accessed: 26 February 2021).

Retez, R. (2022) 'The Vernacular Video Game Language as a Medium of Fandom Storytelling and Content Creation'. Available at: https://doi.org/10.31235/osf.io/ws65x.

Rhodes, M. (1961) 'An Analysis of Creativity', *The Phi Delta Kappan*, 42(7), pp. 305–310.

Rhodes, M. (1987) ‘An analysis of creativity’, in S.G. Isaksen (ed.) *Frontiers of creativity research: beyond the basics*. Buffalo, NY: Bearly, pp. 216–222.

Roetzel, P.G. (2019) ‘Information overload in the information age: a review of the literature from business administration, business psychology, and related disciplines with a bibliometric approach and framework development’, *Business Research*, 12(2), pp. 479–522. Available at: https://doi.org/10.1007/s40685-018-0069-z.

Rogers, CARL.R. (1954) ‘TOWARD A THEORY OF CREATIVITY’, *ETC: A Review of General Semantics*, 11(4), pp. 249–260.

Romero, J., Carmack, J. and Taylor, D. (1993) ‘Doom’. Id Software.

Rosenbaum, R. and Semiotic Society of America (2019) ‘Toward a Renewed Theory of the Narreme’:, *The American Journal of Semiotics*, 35(1), pp. 187–215. Available at: https://doi.org/10.5840/ajs201982255.

RStudio Team (2023) ‘RStudio: Integrated Development for R’. RStudio, PBC. Available at: http://www.rstudio.com/.

r/twitchplayspokemon (2014) *r/twitchplayspokemon*. Available at: https://www.reddit.com/r/twitchplayspokemon/ (Accessed: 25 March 2022).

Runco, M.A. and Albert, R.S. (2010) ‘Creativity Research’, in J.C. Kaufman and R.J. Sternberg (eds) *The Cambridge Handbook of Creativity*. Cambridge: Cambridge University Press, pp. 3–19. Available at: https://doi.org/10.1017/CBO9780511763205.003.

Runco, M.A. and Yoruk, S. (2020) ‘Conflict and Creativity’, in E.G. Carayannis (ed.) *Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship*. Cham: Springer International Publishing, pp. 343–347. Available at: https://doi.org/10.1007/978-3-319-15347-6_428.

Ryan, M.-L. (2002) ‘Beyond Myth and Metaphor: Narrative in Digital Media’, *Poetics Today*, 23(4), pp. 581–609. Available at: https://doi.org/10.1215/03335372-23-4-581.

Ryan, M.-L. (2006) *Avatars of story*. Minneapolis: University of Minnesota Press (Electronic mediations, v. 17).

Ryan, M.-L. (2007) ‘Toward a definition of narrative’, in *The Cambridge companion to narrative*. Cambridge University Press, pp. 22–35.

Ryan, M.-L. (2009) ‘From Narrative Games to Playable Stories: Toward a Poetics of Interactive Narrative’, *StoryWorlds: A Journal of Narrative Studies*, 1(1), pp. 43–59. Available at: https://doi.org/10.1353/stw.0.0003.

Ryan, M.-L. (2015) ‘Transmedia Storytelling: Industry Buzzword or New Narrative Experience?’, *Storyworlds: A Journal of Narrative Studies*, 7(2), p. 1. Available at: https://doi.org/10.5250/storyworlds.7.2.0001.

Saltarin, A. (2014) ‘Twitch Plays Pokémon social experiment is the craziest, funniest thing we’ve ever seen’, 14 February. Available at: https://www.techtimes.com/articles/3539/20140218/twitch-plays-pok%C3%A9mon-social-experiment-is-the-craziest-funniest-thing-weve-ever-seen.htm.

Sarica, S. and Luo, J. (2021) ‘Stopwords in technical language processing’, *PLOS ONE*. Edited by D.R. Amancio, 16(8), p. e0254937. Available at: https://doi.org/10.1371/journal.pone.0254937.

Sawyer, K. (1992) ‘Improvisational creativity: An analysis of jazz performance’, *Creativity Research Journal*, 5(3), pp. 253–263. Available at: https://doi.org/10.1080/10400419209534439.

Sawyer, R.K. *et al.* (2003) *Creativity and Development*. Oxford University Press. Available at: https://doi.org/10.1093/acprof:oso/9780195149005.001.0001.

Sawyer, R.K. (2006) 'Group creativity: musical performance and collaboration', *Psychology of Music*, 34(2), pp. 148–165. Available at: https://doi.org/10.1177/0305735606061850.

Sawyer, R.K. and DeZutter, S. (2009) 'Distributed creativity: How collective creations emerge from collaboration.', *Psychology of Aesthetics, Creativity, and the Arts*, 3(2), pp. 81–92. Available at: https://doi.org/10.1037/a0013282.

Schrage, M. and Schrage, M. (1995) *No more teams! mastering the dynamics of creative collaboration*. 1st Currency paperback ed. New York: Currency Doubleday.

Schuhart, J. (2020) *What SCP Foundation Is (& Why Its Twitch Popularity Is Growing)*, *Screenrant*. Available at: https://screenrant.com/scp-secret-laboratory-containment-breach-foundation-twitch-streaming/ (Accessed: 26 February 2021).

SCPwiki (2021) *SCP Foundation mission statement*, *SCP wiki*. Available at: http://www.scpwiki.com/about-the-scp-foundation (Accessed: 13 May 2021).

Seymour, J. (2018) 'Homage, Collaboration, or Intervention: How framing fanart affects its interpretation', *Participations*, 15(2), pp. 98–114.

Shakespeare, W. (2014) *The tragedy of Julius Caesar*. Updated edition. Edited by B.A. Mowat and P. Werstine. New York: Simon & Schuster Paperbacks.

Sher, S.T.-H. and Su, N.M. (2019) 'Speedrunning for Charity: How Donations Gather Around a Live Streamed Couch', *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), pp. 1–26. Available at: https://doi.org/10.1145/3359150.

Shifman, L. (2015) *Memes: in digital culture*. Unabridged. New York: Hachette Audio.

Singer, P. *et al.* (2014) 'Evolution of reddit: from the front page of the internet to a self-referential community?', in *Proceedings of the 23rd International Conference on World Wide Web*. *WWW '14: 23rd International World Wide Web Conference*, Seoul Korea: ACM, pp. 517–522. Available at: https://doi.org/10.1145/2567948.2576943.

Smith, A. (2014) 'Older Adults and Technology Use', *Pew Research Center* [Preprint]. Available at: https://www.pewresearch.org/internet/2014/04/03/older-adults-and-technology-use/.

Smogon (2021) *Smogon University*. Available at: https://www.smogon.com/ (Accessed: 17 February 2021).

Squirrell, T. (2019) 'Platform dialectics: The relationships between volunteer moderators and end users on reddit', *New Media & Society*, 21(9), pp. 1910–1927. Available at: https://doi.org/10.1177/1461444819834317.

Stalberg, A. (2021) *FAKEMON: Dronkey, Tapesy*, *TheGamer*. Available at: https://www.thegamer.com/pokemon-games-fan-made-designs-fakemon/ (Accessed: 26 February 2021).

Staples, D.E. (1966) 'The Auteur Theory Reexamined', *Cinema Journal*, 6, p. 1. Available at: https://doi.org/10.2307/1225411.

Star Wars (1977). 20th Century Fox.

Stein, M.I. (1953) 'Creativity and Culture', *The Journal of Psychology*, 36(2), pp. 311–322. Available at: https://doi.org/10.1080/00223980.1953.9712897.

Stine, R.L. (1992) *Goosebumps*. New York, NY: Scholastic Inc.

Stoev, D. (2022) 'Metamodernism or Metamodernity', *Arts*, 11(5), p. 91. Available at: https://doi.org/10.3390/arts11050091.

Storm, J.A.J. (2021) *Metamodernism: The Future of Theory*. University of Chicago Press. Available at: https://doi.org/10.7208/chicago/9780226786797.001.0001.

Tajiri, S. (1996) 'Pokémon Red and Blue'. Game Freak.

Talaviya, A. (2019) 'Pokémon became the highest-grossing media franchise of all time with $95 billion, beating out other franchises such as Star Wars, Marvel and Mickey Mouse.', 5 November. Available at: https://medium.com/@atultalaviya9/pok%C3%A9mon-became-the-highest-grossing-media-franchise-of-all-time-with-95-billion-beating-out-13ab4ec54d72 (Accessed: 9 May 2021).

Tannam, E. (2019) *57-hour Donkey Kong 64 stream raises more than $340,000 for trans charity*, *Silicon Republic*. Available at: https://www.siliconrepublic.com/trending/hbomberguy-mermaids-donkey-kong.

Terren, L. *et al.* (2021) 'Echo Chambers on Social Media: A Systematic Review of the Literature', *Review of Communication Research*, 9, pp. 99–118. Available at: https://doi.org/10.12840/ISSN.2255-4165.028.

Thomas, N. (2004) 'Video Games as Moral Universes', *TOPIA: Canadian Journal of Cultural Studies*, 11, pp. 101–115. Available at: https://doi.org/10.3138/topia.11.101.

Thomas, P. (2018) 'Canon wars: A semiotic and ethnographic study of a Wikipedia talk page debate concerning the canon of *Star Wars*', *The Journal of Fandom Studies*, 6(3), pp. 279–300. Available at: https://doi.org/10.1386/jfs.6.3.279_1.

Tobin, J.J. (ed.) (2004) *Pikachu's global adventure: the rise and fall of Pokémon*. Durham: Duke University Press.

Tolstoy, L. (1887) *Anna Karenina*. Translated by N.H. Dole. Hertfordshire [England]: Wordworth Editions Ltd.

Torrance, E.P. (1974) *Torrance tests of creative thinking: verbal tests, forms A and B ; figural tests, forms A and B ; norms-technical manual*. Lexington, Mass: Personal Press.

twitchplayswiki (2022) *twitchplayswiki*. Available at: https://twitchplayswiki.fandom.com/wiki/Twitch_Plays_Pok%C3%A9mon_Wiki.

Vaterlaus, J.M., Frantz, K. and Robecker, T. (2019) '"Reliving my Childhood Dream of being a Pokémon Trainer": An Exploratory Study of College Student Uses and Gratifications Related to Pokémon Go', *International Journal of Human–Computer Interaction*, 35(7), pp. 596–604. Available at: https://doi.org/10.1080/10447318.2018.1480911.

VBA Team (2005) 'VisualBoyAdvance'. Available at: https://sourceforge.net/projects/vba/.

Verba, J.M. (2003) *Boldly writing: a trekker fan and zine history, 1967-1987*. Second edition. Minnetonka, Minnesota: FTL Publications.

Vermeulen, T. and van den Akker, R. (2010) 'Notes on metamodernism', *Journal of Aesthetics & Culture*, 2(1), p. 5677. Available at: https://doi.org/10.3402/jac.v2i0.5677.

Vygotskiĭ, L.S. (1971) *The psychology of art*. Cambridge, Mass: M.I.T. Press.

Walsh, R. (2011) 'Emergent Narrative in Interactive Media', *Narrative*, 19(1), pp. 72–85. Available at: https://doi.org/10.1353/nar.2011.0006.

Wehner, L., Csikszentmihalyi, M. and Magyari-Beck, I. (1991) ‘Current approaches used in studying creativity: An exploratory investigation’, *Creativity Research Journal*, 4(3), pp. 261–271. Available at: https://doi.org/10.1080/10400419109534398.

Weigel, M.B. (1997) *Creativity and Culture: Perception, Interaction, Opposition, and Marginality*. Master’s Theses. Loyola University Chicago. Available at: https://ecommons.luc.edu/luc_theses/4244.

Wikipedia (2020) *Wikipedia-Twitch Plays Pokémon- Game Completion*. Available at: https://en.wikipedia.org/wiki/Twitch_Plays_Pok%C3%A9mon#Game_completion.

Wilson, M. (2017) ‘Nintendo doesn’t want YouTubers streaming its games’, *Kitguru*, 29 September. Available at: https://www.kitguru.net/channel/generaltech/matthew-wilson/nintendo-doesnt-want-youtubers-streaming-its-games/.

Wilson, N. (2010) ‘Social creativity: re-qualifying the creative economy’, *International Journal of Cultural Policy*, 16(3), pp. 367–381. Available at: https://doi.org/10.1080/10286630903111621.

Wittmann, H. (1975) ‘Théorie des narrèmes et algorithmes narratifs’, *Poetics*, 4(1), pp. 19–28.

Bibliography

Abba, T. (2012) ‘Archiving digital narrative: Some issues’, *Convergence: The International Journal of Research into New Media Technologies*, 18(2), pp. 121–125. Available at: https://doi.org/10.1177/1354856511433687.

Acar, S., Neumayer, M. and Burnett, C. (2021) ‘Social Media Use and Creativity: Exploring the Influences on Ideational Behavior and Creative Activity’, *The Journal of Creative Behavior*, 55(1), pp. 39–52. Available at: https://doi.org/10.1002/jocb.432.

Agnew, S. (2015) *Building your own Twitch Plays Pokemon with JavaScript, Twilio Programmable Chat and Socket.io*. Available at: https://www.twilio.com/blog/2015/12/building-your-own-twitch-plays-pokemon-with-javascript-twilio-ip-messaging-and-socket-io.html (Accessed: 17 May 2021).

de Aguiar, C.A. (2011) ‘Cinema and History: archive documentaries as a site of memory’, *Revista Brasileira de História*, 31, p. 16.

Aleta, A. and Moreno, Y. (2019) ‘The dynamics of collective social behavior in a crowd controlled game’, *EPJ Data Science*, 8(1), p. 22. Available at: https://doi.org/10.1140/epjds/s13688-019-0200-1.

Amabile, T. (1996) *Creativity in context*. Boulder, Colo: Westview Press.

Amabile, T.M. (2001) ‘Beyond talent: John Irving and the passionate craft of creativity.’, *American Psychologist*, 56(4), pp. 333–336. Available at: https://doi.org/10.1037/0003-066X.56.4.333.

Amabile, T.M. and Pratt, M.G. (2016) ‘The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning’, *Research in Organizational Behavior*, 36, pp. 157–183. Available at: https://doi.org/10.1016/j.riob.2016.10.001.

Amerika, M. (2007) *Meta/data: a digital poetics*. Cambridge, Mass.: MIT Press (Leonardo).

Andersen, L.R. (2019) *Metamodernity: meaning and hope in a complex world*. Kopenhagen: Nordic Bildung.

Andrews, S.K. (1994) ‘Creating Interactive Media on CD-ROM’, *Cartographic Perspectives*, (19), pp. 31–39. Available at: https://doi.org/10.14714/CP19.912.

Annett, S. (2011) ‘Imagining Transcultural Fandom: Animation and Global Media Communities’, *The Journal of Transcultural Studies*, 2(2), pp. 164–189. Available at: https://doi.org/10.11588/ts.2011.2.9060.

Aragon, C.R. and Williams, A. (2011) ‘Collaborative creativity: a complex systems model with distributed affect’, in *Proceedings of the 2011 annual conference on Human factors in computing systems - CHI ’11*. *the 2011 annual conference*, Vancouver, BC, Canada: ACM Press, p. 1875. Available at: https://doi.org/10.1145/1978942.1979214.

Arik, K. (2022) ‘Social Media Content Review of MMORPG Games: Reddit Comment Scraping and Sentiment Analysis’, *Journal of Emerging Computer Technologies*, 30 June. Available at: https://dergipark.org.tr/en/pub/ject/issue/68031/1103252.

Austin, G. (2016) ‘EU and US Perspectives on Fair Dealing for the Purpose of Parody or Satire’, *UNSW Law Journal*, 39(2), pp. 684–714.

Bainbridge, J. (2014) ‘“Gotta Catch ‘Em All!”: Pokémon, Cultural Practice and Object Networks’, *IAFOR Journal of Asian Studies*, 1(1). Available at: https://doi.org/10.22492/ijas.1.1.04.

Baruah, J. and Paulus, P.B. (2019) ‘Collaborative Creativity and Innovation in Education’, in C.A. Mullen (ed.) *Creativity Under Duress in Education?* Cham: Springer International Publishing (Creativity Theory and Action in Education), pp. 155–177. Available at: https://doi.org/10.1007/978-3-319-90272-2_9.

Beatie, B.A. (1976) '"Romances Tradicionales" and Spanish Traditional Ballads: Menendez Pidal vs. Vladimir Propp', *Journal of the Folklore Institute*, 13(1), p. 37. Available at: https://doi.org/10.2307/3813813.

Becker, H.S. (2011) *Art worlds*. 25th anniversary ed., updated and expanded, [Nachdr.]. Berkeley, Calif.: Univ. of California Press.

Bell, K. (2023) *Twitter is shutting down its free API, here's what's going to break*, *Engadget*. Available at: https://www.engadget.com/twitter-shutting-off-free-api-prepare-174340770.html.

Bennett, L. (2014) 'Tracing Textual Poachers: Reflections on the development of fan studies and digital fandom', *The Journal of Fandom Studies*, 2(1), pp. 5–20. Available at: https://doi.org/10.1386/jfs.2.1.5_1.

Bizzocchi, J. and Woodbury, R.F. (2003) 'A Case Study in the Design of Interactive Narrative: The Subversion of the Interface', *Simulation & Gaming*, 34(4), pp. 550–568. Available at: https://doi.org/10.1177/1046878103258204.

Blouin, F.X. (2004) 'History and Memory: The Problem of the Archive', *PMLA*, 119(2), pp. 296–298. Available at: https://doi.org/10.1632/003081204X22738.

Boorstin, D.J. (1992) *The creators*. 1st ed. New York: Random House.

Boulton, E. and Cremin, C. (2012) 'The Sociology of Videogames', in *Being Cultural*. Pearson Originals, pp. 341–357.

Boyd, D. (2010) 'Social Network Sites as Networked Publics: Affordances, Dynamics, and Implications.', *Networked Self: Identity, Community, and Culture on Social Network Sites*, p. pp.39-58.

Brooker, W. (2009) 'All Our Variant Futures: The Many Narratives of *Blade Runner: The Final Cut*', *Popular Communication*, 7(2), pp. 79–91. Available at: https://doi.org/10.1080/15405700802659056.

Bryson, K. (2012) 'The Literacy Myth in the Digital Archive of Literacy Narratives', *Computers and Composition*, 29(3), pp. 254–268. Available at: https://doi.org/10.1016/j.compcom.2012.06.001.

Bukvova, H. (2010) 'Studying Research Collaboration: A Literature Review', *Sprouts:Working Papers*, 10.

Burt, K. (2020) *Tumblr's Top Fandoms of 2020*, *Den of Geek*. Available at: https://www.denofgeek.com/culture/tumblrs-top-fandoms-of-2020/ (Accessed: 26 February 2021).

Campbell, D.T. (1960) 'Blind variation and selective retentions in creative thought as in other knowledge processes.', *Psychological Review*, 67(6), pp. 380–400. Available at: https://doi.org/10.1037/h0040373.

Carpenter, N. (2020) *Magician ends 20-year battle with Nintendo over Pokemon card*, *Polygon*. Available at: https://www.polygon.com/2020/11/30/21726492/pokemon-nintendo-lawsuit-uri-geller-kadabra-apology (Accessed: 26 February 2021).

Cebik, L.B. (1986) 'Understanding Narrative Theory', *History and Theory*, 25(4), p. 58. Available at: https://doi.org/10.2307/2505132.

Çetinkaya, Ç. (2023) 'The Relationship Between Intelligence and Creativity Within the Threshold Theory Among Gifted and Bright Secondary School Students in Turkey', *SAGE Open*, 13(4), p. 21582440231206612. Available at: https://doi.org/10.1177/21582440231206612.

Chua-Eoan, H. and Larimer, T. (1999) 'Beware of the Pokemania', *Time Magazine*, 14 November. Available at: http://content.time.com/time/magazine/article/0,9171,34342,00.html.

Cluley, R. (2012) 'Art Words and Art Worlds : The Methodological Importance of Language Use in Howard S. Becker's Sociology of Art and Cultural Production', *Cultural Sociology*, 6(2), pp. 201–216. Available at: https://doi.org/10.1177/1749975512440223.

Cohen, B.M.Z. (ed.) (2012) *Being cultural*. Auckland: Pearson.

Cooper, D. (2016) ‘Imagining Something Else Entirely: Metaphorical Archives in Feminist Theory’, *Women’s Studies*, 45(5), pp. 444–456. Available at: https://doi.org/10.1080/00497878.2016.1186495.

da Costa, S. *et al.* (2015) ‘Personal factors of creativity: A second order meta-analysis’, *Revista de Psicología del Trabajo y de las Organizaciones*, 31(3), pp. 165–173. Available at: https://doi.org/10.1016/j.rpto.2015.06.002.

Couldry, N. (2008) ‘Mediatization or mediation? Alternative understandings of the emergent space of digital storytelling’, *New Media & Society*, 10(3), pp. 373–391. Available at: https://doi.org/10.1177/1461444808089414.

Crystal (2013) ‘Inside the ROM: The deepest secrets of MissingNo. and Glitch Pokémon’, *The Smog*, 9 May. Available at: https://www.smogon.com/smog/issue27/glitch (Accessed: 17 May 2021).

Csikszentmihalyi, M. (1982) ‘Does being human matter? On some interpretive problems of comparative ludology’, *Behavioral and Brain Sciences*, 5(1), pp. 160–160. Available at: https://doi.org/10.1017/S0140525X00010980.

Csikszentmihalyi, M. (2009) *Flow: The psychology of optimal experience*. Nachdr. New York: Harper [and] Row (Harper Perennial Modern Classics).

Curwood, J.S., Magnifico, A.M. and Lammers, J.C. (2013) ‘Writing in the Wild: Writers’ Motivation in Fan-Based Affinity Spaces’, *Journal of Adolescent & Adult Literacy*, 56(8), pp. 677–685. Available at: https://doi.org/10.1002/JAAL.192.

Decortis, F. and Lentini, L. (2009) ‘A socio-cultural perspective of creativity for the design of educational environments’, p. 10.

Department of Psychology and Communication, Aalborg University and Glăveanu, V.P. (2014) ‘The Psychology of Creativity: A Critical Reading’, *Creativity: Theories – Research – Applications*, 1(1), pp. 10–32. Available at: https://doi.org/10.15290/ctra.2014.01.01.02.

Derrida, J. and Prenowitz, E. (1995) ‘Archive Fever: A Freudian Impression’, *Diacritics*, 25(2), p. 9. Available at: https://doi.org/10.2307/465144.

van Dijk, Y. (2014) ‘Amateurs online: Creativity in a community’, *Poetics*, 43, pp. 86–101. Available at: https://doi.org/10.1016/j.poetic.2014.02.001.

Domsch, S. (2013) *Storyplaying: Agency and Narrative in Video Games*. DE GRUYTER. Available at: https://doi.org/10.1515/9783110272451.

Dunne, S. and Lerkenfeld, M. (2010) ‘Digital archiving: a call for user inspired digital archiving of cultural heritage’, in *Proceedings of the 8th international interactive conference on Interactive TV&Video - EuroITV ’10*. *the 8th international interactive conference*, Tampere, Finland: ACM Press, p. 27. Available at: https://doi.org/10.1145/1809777.1809784.

Duo8 (2014) *GBAtemp - Play Pokemon through Twitch*, *gbatemp*. Available at: https://gbatemp.net/threads/play-pokemon-through-twitch.361995/ (Accessed: 5 September 2023).

Enjoihunt, Larunex, and Hamigakimomo (2014) *Old school wallpaper of our friends!* Available at: https://imgur.com/O2vxbBU / https://www.reddit.com/r/twitchplayspokemon/comments/1z2dsc/old_school_wallpaper_of_our_friends/.

Eskelinen, M. (2012) *Cybertext poetics: the critical landscape of new media literary theory*. London: Continuum (International texts in critical media aesthetics, 2).

EU parliment (2019) *Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market*, *Document 32019L0790*.

Faure, E. *et al.* (1999) ‘Collaborative animation over the network’, in *Proceedings Computer Animation 1999*. *Computer Animation 1999*, Geneva, Switzerland: IEEE Comput. Soc, pp. 107–116. Available at: https://doi.org/10.1109/CA.1999.781204.

Fichte, J.G. and Kroeger, A.E. (2008) *The science of rights*. Clark, N.J.: Lawbook Exchange.

Fiesler, C., Morrison, S. and Bruckman, A.S. (2016) 'An Archive of Their Own: A Case Study of Feminist HCI and Values in Design', in *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*. *CHI'16: CHI Conference on Human Factors in Computing Systems*, San Jose California USA: ACM, pp. 2574–2585. Available at: https://doi.org/10.1145/2858036.2858409.

finnstats (2021) *Sentiment analysis in R*, *R-bloggers*. Available at: https://www.r-bloggers.com/2021/05/sentiment-analysis-in-r-3/.

Fischer, G. (2004) 'Social creativity: turning barriers into opportunities for collaborative design', in *Proceedings of the eighth conference on Participatory design Artful integration: interweaving media, materials and practices - PDC 04*. *the eighth conference*, Toronto, Ontario, Canada: ACM Press, p. 152. Available at: https://doi.org/10.1145/1011870.1011889.

Fischer, G. *et al.* (2005) 'Beyond binary choices: Integrating individual and social creativity', *International Journal of Human-Computer Studies*, 63(4–5), pp. 482–512. Available at: https://doi.org/10.1016/j.ijhcs.2005.04.014.

Fischer, G. (2011) 'Social Creativity: Exploiting the Power of Cultures of Participation', in *2011 Seventh International Conference on Semantics, Knowledge and Grids*. *2011 Seventh International Conference on Semantics Knowledge and Grid (SKG)*, Beijing, China: IEEE, pp. 1–8. Available at: https://doi.org/10.1109/SKG.2011.47.

Fludernik, M. (2009) *An introduction to narratology*. London ; New York: Routledge.

Foster, H. (2004) 'An Archival Impulse', *October*, 11, pp. 3–22.

Gardner, E. (2017) *CBS, Paramount Settle Lawsuit Over 'Star Trek' Fan Film*, *The Hollywood Reporter*. Available at: https://www.hollywoodreporter.com/thr-esq/cbs-paramount-settle-lawsuit-star-trek-fan-film-966433 (Accessed: 27 February 2021).

Gardner, J., Herman, D. and Kukkonen, K. (2011) 'Comics as a Test Case for Transmedial Narratology', *SubStance*, 40(1), pp. 34–52. Available at: https://doi.org/10.1353/sub.2011.0005.

Gehl, R. (2009) 'YouTube as archive: Who will curate this digital Wunderkammer?', *International Journal of Cultural Studies*, 12(1), pp. 43–60. Available at: https://doi.org/10.1177/1367877908098854.

Gilliland, A. (2010) 'Afterword: in and out of the archives', *Archival Science*, 10(3), pp. 333–343. Available at: https://doi.org/10.1007/s10502-010-9134-x.

Glaveanu, V.P. *et al.* (2019) 'Advancing Creativity Theory and Research: A Socio-cultural Manifesto', *The Journal of Creative Behavior*, 10, pp. 123–167. Available at: https://doi.org/10.1002/jocb.395.

Glăveanu, V.P. (2019) 'Creativity and Wonder', *The Journal of Creative Behavior*, 53(2), pp. 171–177. Available at: https://doi.org/10.1002/jocb.225.

Glăveanu, V.P. and Tanggaard, L. (2014) 'Creativity, identity, and representation: Towards a socio-cultural theory of creative identity', *New Ideas in Psychology*, 34, pp. 12–21. Available at: https://doi.org/10.1016/j.newideapsych.2014.02.002.

Goodson, I. (2013) *Developing narrative theory: life histories and personal representation*. London ; New York: Routledge.

Griffiths, E. (2018) 'Doctor Who archivist says there is hope for the 97 lost episodes', *radiotimes.com*.

Guardati, S. (2021) *How to Download Subreddit Comments*, *Towards Data Science*. Available at: https://towardsdatascience.com/how-download-subreddit-comments-f79557c99170.

Guardati, S. (2023) 'subreddit-comments-dl'. Available at: https://github.com/pistocop/subreddit-comments-dl.

Guilford, J.P. (1950) 'Creativity.', *American Psychologist*, 5(9), pp. 444–454. Available at: https://doi.org/10.1037/h0063487.

Guilford, J.P., Hendricks, M. and Hoepfner, R. (1968) 'Solving Social Problems Creatively*', *The Journal of Creative Behavior*, 2(3), pp. 155–164. Available at: https://doi.org/10.1002/j.2162-6057.1968.tb00098.x.

Guo, J., Gonzales, R. and Dilley, A.E. (2016) 'Creativity and Leadership in Organizations: A Literature Review', *Creativity. Theories – Research - Applications*, 3(1), pp. 127–151. Available at: https://doi.org/10.1515/ctra-2016-0010.

Habermas, J., Lawrence, F. and Habermas, J. (2004) *The philosophical Discourse of modernity*. 14. Nachdr. Cambridge, Mass: MIT Pr (Studies in contemporary German social thought).

Hall, S. (2001) 'Constituting an archive', *Third Text*, 15(54), pp. 89–92. Available at: https://doi.org/10.1080/09528820108576903.

Hämäläinen, R. and Vähäsantanen, K. (2011) 'Theoretical and pedagogical perspectives on orchestrating creativity and collaborative learning', *Educational Research Review*, 6(3), pp. 169–184. Available at: https://doi.org/10.1016/j.edurev.2011.08.001.

Harding, S. (2018) *Yes, Downloading Nintendo ROMs Is Illegal (Even if You Own the Game)*, *Toms Hardware*. Available at: https://www.tomshardware.com/news/why-most-roms-are-illegal,37512.html (Accessed: 27 February 2021).

Harrell (2007) *Theory and Technology for Computational Narrative: An Approach to Generative andInteractive Narrative with Bases in Algebraic Semiotics and Cognitive Linguistics*.

Haskins, E. (2007) 'Between Archive and Participation: Public Memory in a Digital Age', *Rhetoric Society Quarterly*, 37(4), pp. 401–422. Available at: https://doi.org/10.1080/02773940601086794.

Hassan, I. (1993) 'Towardds a Concept of Postmodernism', in L. Hutcheon (ed.) *A Postmodern reader*. Albany: State University of New York Press.

Heinen, S. and Sommer, R. (eds) (2009) *Narratology in the Age of Cross-Disciplinary Narrative Research*. Walter de Gruyter. Available at: https://doi.org/10.1515/9783110222432.

Herman, D. (ed.) (2007) *The Cambridge companion to narrative*. Cambridge ; New York: Cambridge University Press (Cambridge companions to literature).

Herman, D. (ed.) (2012) *Narrative theory: core concepts and critical debates*. Columbus: Ohio State University Press (Theory and interpretation of narrative).

Herman, D., Jahn, M. and Ryan, M.-L. (2012) *Routledge Encyclopedia of Narrative Theory.* Hoboken: Taylor and Francis. Available at: http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=534178 (Accessed: 16 March 2020).

Hernandez, P. (2014) 'How Players Actually Make Progress in "Twitch Plays Pokémon"', 18 February. Available at: https://kotaku.com/how-people-are-actually-making-progress-in-twitch-play-1525261786.

Herwig, J. (2011) 'The Archive as the Repertoire Mediated and Embodied Practice on Imageboard 4chan.org', in G. Friesinger, J. Grenzfurthner, and T. Ballhausen (eds) *Mind and Matter*. Bielefeld: transcript Verlag. Available at: https://doi.org/10.14361/transcript.9783839418000.39.

Hickman, R. (ed.) (2019) *International encyclopedia of art and design education*. Hoboken, NJ, [Corsham]: Wiley ; National Society for Education in Art and Design.

Hill, L.A. (2014) *Collective genius: the art and practice of leading innovation*. Boston: Harvard Business Review Press.

Hollister, S. (2014) *After two weeks of anarchy, 100,000 simultaneous 'Pokémon' players may actually beat the game*, *The Verge*. Available at: https://www.theverge.com/2014/2/26/5451552/twitch-plays-pokemon-nearly-beats-the-game.

Hong, R. (2013) 'Game Modding, Prosumerism and Neoliberal Labor Practices', p. 19.

Horton, J. (2012) '"Got my shoes, got my Pokémon": Everyday geographies of children's popular culture', *Geoforum*, 43(1), pp. 4–13. Available at: https://doi.org/10.1016/j.geoforum.2011.07.005.

Howe, N. and Strauss, W. (2000) *Millennials rising: the next great generation,Chapter 11*. New York: Vintage Books.

Huisman, R., Murphet, J. and Dunn, A. (2005) *Narrative and Media*. 1st edn. Edited by H. Fulton. Cambridge University Press. Available at: https://doi.org/10.1017/CBO9780511811760.

Im, H.B. (1991) 'HEGEMONY AND COUNTER-HEGEMONY IN GRAMSCI', *Asian Perspective*, 15(1), pp. 123–156.

Iqbal, M. (2020) 'Twitch Revenue and Usage Statistics', 23 July. Available at: https://www.businessofapps.com/data/twitch-statistics/.

itsmeaustin (2014) *Gamefaqs -Twitch plays pokemon*, *gamefaqs*. Available at: https://gamefaqs.gamespot.com/boards/696959-pokemon-x/68572138 (Accessed: 5 September 2023).

Jack-Kaiser (2014) *Twitch Plays Pokemon*. Available at: https://www.deviantart.com/jack-kaiser/art/Twitch-Plays-Pokemon-440444607.

Jehn, K.A. (1995) 'A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict', *Administrative Science Quarterly*, 40(2), p. 256. Available at: https://doi.org/10.2307/2393638.

Jordan, B. and Henderson, A. (1995) 'Interaction Analysis: Foundations and Practice', *Journal of the Learning Sciences*, 4(1), pp. 39–103. Available at: https://doi.org/10.1207/s15327809jls0401_2.

Kacurov, D. (2020) *Pokemon Dark Edition noOne Studio Fan Project*, *Future Game Releases*. Available at: https://www.futuregamereleases.com/2020/05/pokemon-dark-edition-noone-studio-fan-project/ (Accessed: 26 February 2021).

Kael, P. (1996) *Raising Kane and other essays*. London: Marion Boyars.

Kainer, R.G.K. (1984) 'Art and the Canvas of the Self: Otto Rank and Creative Transcendence', *American Imago*, 41(4), pp. 359–372.

Kalinkov, K. (2017) 'Transmedia Narratives: Definition and Social Transformations in the Consumption of Media Content in the Globalized World', *Postmodernism problems*, 7(1), pp. 61–68.

KANAMORI, T. and KIMURA, A. (2003) 'Net Communities in Brand Marketing'.

Karmali, L. (2013) *Pokemon X and Y Sales Figures Revealed*. Available at: https://www.ign.com/articles/2013/10/15/pokemon-x-and-y-sales-figures-revealed (Accessed: 26 February 2021).

Kaufman, J.C. and Sternberg, R.J. (eds) (2019) *The Cambridge Handbook of Creativity*. 2nd edn. Cambridge University Press. Available at: https://doi.org/10.1017/9781316979839.

Kerr, A. (2006) *The business and culture of digital games: gamework/gameplay*. London: SAGE.

Kerr, A., Brereton, P. and Kücklich, J. (2005) 'New Media: New Pleasures?', *International Journal of Cultural Studies*, 9(1). Available at: https://mural.maynoothuniversity.ie/426/.

Kersten, D. and Wilbers, U. (2018) 'Introduction: Metamodernism', *English Studies*, 99(7), pp. 719–722. Available at: https://doi.org/10.1080/0013838X.2018.1510657.

Khazov-Cassia, S. (2017) *Teen 'Suicide Games' Send Shudders Through Russian-Speaking World*. Available at: https://www.rferl.org/a/russia-teen-suicide-blue-whale-internet-social-media-game/28322884.html.

King, R. and de La Hera, T. (2020) 'Gamer perception of endorsements from Fortnite Streamers on YouTube', in *International Conference on the Foundations of Digital Games*. *FDG '20: International Conference on the Foundations of Digital Games*, Bugibba Malta: ACM, pp. 1–3. Available at: https://doi.org/10.1145/3402942.3403026.

Kocik, P. (2020) *"Being Cute and Hella Gay:" Pokémon Reborn, Fan Labor, and Queering the Pokémon World Queering the Pokémon World*. University of Wisconsin-Milwaukee. Available at: https://dc.uwm.edu/etd/2394.

Koenitz, H. *et al.* (eds) (2013) *Interactive Storytelling*. Cham: Springer International Publishing (Lecture Notes in Computer Science). Available at: https://doi.org/10.1007/978-3-319-02756-2.

Krämer, B. (2017) ‘Populist online practices: the function of the Internet in right-wing populism’, *Information, Communication & Society*, 20(9), pp. 1293–1309. Available at: https://doi.org/10.1080/1369118X.2017.1328520.

Kretzschmar, M. and Stanfill, M. (2019) ‘Mods as Lightning Rods: A Typology of Video Game Mods, Intellectual Property, and Social Benefit/Harm’, *Social & Legal Studies*, 28(4), pp. 517–536. Available at: https://doi.org/10.1177/0964663918787221.

Kurtzberg, T.R. (2005) ‘Feeling Creative, Being Creative: An Empirical Study of Diversity and Creativity in Teams’, *Creativity Research Journal*, 17(1), pp. 51–65. Available at: https://doi.org/10.1207/s15326934crj1701_5.

Langfred, C.W. and Moye, N. (2014) ‘Does Conflict Help or Hinder Creativity in Teams? An Examination of Conflict’s Effects on Creative Processes and Creative Outcomes’, *International Journal of Business and Management*, 9(6), p. p30. Available at: https://doi.org/10.5539/ijbm.v9n6p30.

larunex (2023) *Was inspired to make this minimalist wallpaper after seeing a post about our god-teir team.*, *imgur*. Available at: https://imgur.com/izgFHmQ.

Lee, H.-K. (2011) ‘Participatory media fandom: A case study of anime fansubbing’, *Media, Culture & Society*, 33(8), pp. 1131–1147. Available at: https://doi.org/10.1177/0163443711418271.

Lee, J. (2018) ‘The Pokémon Adventures manga reveals the franchise’s dark side’, *Polygon*, 26 September. Available at: https://www.polygon.com/pokemon/2018/9/25/17870422/pokemon-adventures-manga.

Lee, J. (2020) ‘Some fish beat Pokémon Sapphire after 3,195 hours’, *Polygon*, 9 November. Available at: https://www.polygon.com/2020/11/9/21556590/fish-pokemon-sapphire-stream-twitch.

Legrady, G. and TIMO HONKELA (2002) ‘Pockets Full of Memories: an interactive museum installation’, *Visual Communication*, 1(2), pp. 163–169. Available at: https://doi.org/10.1177/147035720200100202.

Leskovec, J., Rajaraman, A. and Ullman, J.D. (2014) *Mining of massive datasets / Jure Leskovec, Standford University, Anand Rajaraman, Milliways Labs, Jeffrey David Ullman, Standford University*. Second edition. Cambridge: Cambridge University Press.

Lessig, L. (2008) *Remix: making art and commerce thrive in the hybrid economy*. London: Bloomsbury.

Lewis, S., Pea, R. and Rosen, J. (2010) ‘Beyond participation to co-creation of meaning: mobile social media in generative learning communities’, *Social Science Information*, 49(3), pp. 351–369. Available at: https://doi.org/10.1177/0539018410370726.

Lindqvist, G. (2003) ‘Vygotsky’s Theory of Creativity’, *Creativity Research Journal*, 15(2–3), pp. 245–251. Available at: https://doi.org/10.1080/10400419.2003.9651416.

Literat, I. (2014) ‘Measuring New Media Literacies: Towards the Development of a Comprehensive Assessment Tool’, *Journal of Media Literacy Education*, 6(1).

Littleton, K., Rojas-Drummond, S. and Miell, D. (2008) ‘Introduction to the special issue: “Collaborative creativity: Socio-cultural perspectives”’, *Thinking Skills and Creativity*, 3(3), pp. 175–176. Available at: https://doi.org/10.1016/j.tsc.2008.09.004.

Liu, B. (2012) ‘Sentiment Lexicon Generation’, in Liu, B., *Sentiment Analysis and Opinion Mining*. Cham: Springer International Publishing (Synthesis Lectures on Human Language Technologies), pp. 79–89. Available at: https://doi.org/10.1007/978-3-031-02145-9_6.

Louchart, S. and Aylett, R. (2004) ‘Narrative theory and emergent interactive narrative’, *International Journal of Continuing Engineering Education and Lifelong Learning*, 14(6), p. 506. Available at: https://doi.org/10.1504/IJCEELL.2004.006017.

Lu, C. and Lee, L. (1997) ‘A Web-based distributed and collaborative 3D animation environment’, 9, p. 8.

Lubart, T.I. (2001) 'Models of the Creative Process: Past, Present and Future', *Creativity Research Journal*, 13(3–4), pp. 295–308. Available at: https://doi.org/10.1207/S15326934CRJ1334_07.

Luther, K. *et al.* (2009) 'Predicting successful completion of online collaborative animation projects', in *Proceeding of the seventh ACM conference on Creativity and cognition - C&C '09*. *Proceeding of the seventh ACM conference*, Berkeley, California, USA: ACM Press, p. 391. Available at: https://doi.org/10.1145/1640233.1640316.

Malebeja (2022) *Scarlet King`s Realm*. Available at: https://www.deviantart.com/malebeja/art/Scarlet-King-s-Realm-917915784.

Marfo, N. (2019) 'Playing Fair: Youtube, Nintendo, and the LostBalance of Online Fair Use', *Brooklyn Journal of Corporate, Financial & Commercial Law*, 13(2). Available at: https://brooklynworks.brooklaw.edu/cgi/viewcontent.cgi?article=1297&context=bjcfcl (Accessed: 27 February 2021).

Marshall, D., Murphy, K.P. and Tortorici, Z. (2014) 'Editors' Introduction: Queering Archives: Historical Unravelings', *Radical History Review*, 2014(120), pp. 1–11. Available at: https://doi.org/10.1215/01636545-2703706.

Mashey, J.R. (2004) 'Languages, Levels, Libraries, and Longevity: New programming languages are born every day. Why do some succeed and some fail?', *Queue*, 2(9), pp. 32–38. Available at: https://doi.org/10.1145/1039511.1039532.

de Matos, X. (2014) 'Twitch Plays Pokemon, but can Twitch beat Pokemon?', *engadget*, 20 February. Available at: https://www.engadget.com/2014-02-20-twitch-plays-pokemon-but-can-twitch-beat-pokemon.html.

McCown, F., Marshall, C.C. and Nelson, M.L. (2009) 'Why web sites are lost (and how they're sometimes found)', *Communications of the ACM*, 52(11), pp. 141–145. Available at: https://doi.org/10.1145/1592761.1592794.

McLauchlan, D. (2001) 'Collaborative Creativity in a High School Drama Class', *Youth Theatre Journal*, 15(1), pp. 42–58. Available at: https://doi.org/10.1080/08929092.2001.10012530.

Mcmillan, D. and Chavis, D. (1986) 'Sense of Community: A Definition and Theory', *Journal of Community Psychology*, 14, pp. 6–23. Available at: https://doi.org/10.1002/1520-6629(198601)14:13.0.CO;2-I.

McWhertor, M. (2021) *eShop versions of Pokémon Red, Blue and Yellow can transfer to Pokémon Sun and Moon*. Available at: https://www.polygon.com/2016/2/26/11119602/pokemon-red-blue-yellow-eshop-pokemon-sun-moon-pokemon-bank (Accessed: 26 February 2021).

Mitchell, M. and Egudo, M. (2003) 'A Review of Narrative Methodology: (426492005-001)'. American Psychological Association. Available at: https://doi.org/10.1037/e426492005-001.

Mohammad, S. (2011) *NRC Word-Emotion Association Lexicon*, *saifmohammad*. Available at: https://saifmohammad.com/WebPages/NRC-Emotion-Lexicon.htm.

Mondal, A.A. (2018) 'The shape of free speech: rethinking liberal free speech theory', *Continuum*, 32(4), pp. 503–517. Available at: https://doi.org/10.1080/10304312.2018.1480463.

Mozai (2020) *Ruby Quest Collection*. Available at: https://mozai.com/quests/RubyQuest/ (Accessed: 22 May 2020).

Naji, J. (2019) 'The Art of Machine Use Subversion in Digital Poetry', *Hyperrhiz: New Media Cultures* [Preprint], (20). Available at: https://doi.org/10.20415/hyp/020.net02.

Natoli, J.P. and Hutcheon, L. (eds) (1993) *A Postmodern reader*. Albany: State University of New York Press.

Nielsen, F.Å. (2011) 'A new ANEW: Evaluation of a word list for sentiment analysis in microblogs'. Available at: https://doi.org/10.48550/ARXIV.1103.2903.

Nikkila, J. (2014) *The Hivemind*. Available at: https://i.kym-cdn.com/photos/images/newsfeed/000/701/240/a71.png.

Nora, P. and Kritzman, L.D. (eds) (1996) *Realms of memory: rethinking the French past*. New York: Columbia University Press (European perspectives).

Nünning, A. (2003) 'Narratology or Narratologies? Taking Stock of Recent Developments, Critique and Modest Proposals for Future Usages of the Term', in T. Kindt and H.-H. Müller (eds) *What Is Narratology?* Berlin, Boston: DE GRUYTER. Available at: https://doi.org/10.1515/9783110202069.239.

Ogata, T. and Akimoto, T. (eds) (2019) *Post-Narratology Through Computational and Cognitive Approaches:* IGI Global (Advances in Linguistics and Communication Studies). Available at: https://doi.org/10.4018/978-1-5225-7979-3.

Olson, G. (ed.) (2011) *Current trends in narratology*. Berlin ; New York: De Gruyter (Narratologia. contributions to narrative theory, 27).

O'Neill, S. (2015) 'Shakespeare and Social Media', *Literature Compass*, 12(6), pp. 274–285. Available at: https://doi.org/10.1111/lic3.12234.

Osthoff, S. (2009) *Performing the archive: the transformation of the archive in contemporary art from repository of documents to art medium*. New York: Atropos Press.

Page, R.E. (2012) *Stories and social media: identities and interaction*. New York: Routledge (Routledge studies in sociolinguistics, 3).

Pan, Z. *et al.* (eds) (2013) *Transactions on Edutainment X*. Berlin, Heidelberg: Springer Berlin Heidelberg (Lecture Notes in Computer Science). Available at: https://doi.org/10.1007/978-3-642-37919-2.

Paulus, P.B. and Brown, V.R. (2007) 'Toward More Creative and Innovative Group Idea Generation: A Cognitive-Social-Motivational Perspective of Brainstorming', *Social and Personality Psychology Compass*, 1(1), pp. 248–265. Available at: https://doi.org/10.1111/j.1751-9004.2007.00006.x.

Pearce, C. (2002) 'Emergent authorship: the next interactive revolution', *Computers & Graphics*, 26(1), pp. 21–29. Available at: https://doi.org/10.1016/S0097-8493(01)00175-3.

Peng, J. *et al.* (2018) 'Network Overlap and Content Sharing on Social Media Platforms', *Journal of Marketing Research*, 55(4), pp. 571–585. Available at: https://doi.org/10.1509/jmr.14.0643.

Peppler, K.A. and Solomou, M. (2011) 'Building creativity: collaborative learning and creativity in social media environments', *On the Horizon*. Edited by C. Greenhow, 19(1), pp. 13–23. Available at: https://doi.org/10.1108/10748121111107672.

Pier, J. and García Landa, J.Á. (eds) (2008) *Theorizing Narrativity*. DE GRUYTER. Available at: https://doi.org/10.1515/9783110969801.

Pietrobruno, S. (2013) 'YouTube and the social archiving of intangible heritage', *New Media & Society*, 15(8), pp. 1259–1276. Available at: https://doi.org/10.1177/1461444812469598.

Pokemon.com (2022) *Pokémon Scares up Spine-Tingling Thrills with Spooky Pokédex Entries*. Available at: https://www.pokemon.com/us/pokemon-news/pokemon-scares-up-spine-tingling-thrills-with-spooky-pokedex-entries.

Poulton, E.C. (1975) 'Observer bias', *Applied Ergonomics*, 6(1), pp. 3–8. Available at: https://doi.org/10.1016/0003-6870(75)90204-5.

Prell, S. (2014) *Twitch Plays Pokemon final stats: 1.1 million players, 36 million views*, *Engadget*. Available at: https://www.engadget.com/2014-03-01-twitch-plays-pokemon-final-stats-1-1-million-players-36-millio.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAALx8Tvc6Gd6n4aS8GW_vZ6jk2iGfzgCwjdvHMY_4gLqUTbZjLFlTIip4WtH-nVZITem9u_EvKBreVw0LW_-UQenWp6OzzNnsU7ujqb4MH193uGP5oxKqkeTsNce-Vhyq1VenicUfl3FKs9yoLYy7gTF8ZNF9IGZAwQd9zBaM8RAYmo (Accessed: 23 March 2022).

Rebetez, C. *et al.* (2010) 'Learning from animation enabled by collaboration', *Instructional Science*, 38(5), pp. 471–485. Available at: https://doi.org/10.1007/s11251-009-9117-6.

Rendell, J. (2019) 'Black (anti)fandom's intersectional politicization of "The Walking Dead" as a transmedia franchise', *Transformative Works and Cultures*, 29. Available at: https://doi.org/10.3983/twc.2019.1477.

Richardson, B. (ed.) (2000) ‘Recent Concepts of Narrative and the Narratives of Narrative Theory’, *Style*, 34(2), pp. 168–170. Available at: https://doi.org/10.1002/9780470693780.ch18.

Richardson, C. and Mishra, P. (2018) ‘Learning environments that support student creativity: Developing the SCALE’, *Thinking Skills and Creativity*, 27, pp. 45–54. Available at: https://doi.org/10.1016/j.tsc.2017.11.004.

Rist, T. (ed.) (2003) *Intelligent virtual agents: Fourth International Workshop, IVA 2003, Kloster Irsee, Germany, September 15-17, 2003: proceedings*. *IVA 2003*, Berlin ; New York: Springer (Lecture notes in computer science, Lecture notes in artificial intelligence, 2792).

Robertson, C. (2010) ‘Historicizing the Archive’, *The Communication Review*, 13(1), pp. 1–4. Available at: https://doi.org/10.1080/10714420903558605.

Rojas-Drummond, S.M., Albarrán, C.D. and Littleton, K.S. (2008) ‘Collaboration, creativity and the co-construction of oral and written texts’, *Thinking Skills and Creativity*, 3(3), pp. 177–191. Available at: https://doi.org/10.1016/j.tsc.2008.09.008.

Roque, R., Rusk, N. and Resnick, M. (2016) ‘Supporting Diverse and Creative Collaboration in the Scratch Online Community’, in U. Cress, J. Moskaliuk, and H. Jeong (eds) *Mass Collaboration and Education*. Cham: Springer International Publishing, pp. 241–256. Available at: https://doi.org/10.1007/978-3-319-13536-6_12.

Rossiter, M. and Garcia, P.A. (2010) ‘Digital storytelling: A new player on the narrative field’, *New Directions for Adult and Continuing Education*, 2010(126), pp. 37–48. Available at: https://doi.org/10.1002/ace.370.

Rovai, A.P. (2002) ‘Building Sense of Community at a Distance’, *The International Review of Research in Open and Distributed Learning*, 3(1). Available at: https://doi.org/10.19173/irrodl.v3i1.79.

r/twitchplayspokemon (2014) *r/twitchplayspokemon*. Available at: https://www.reddit.com/r/twitchplayspokemon/ (Accessed: 25 March 2022).

Runco, M.A. and Albert, R.S. (2010) ‘Creativity Research’, in J.C. Kaufman and R.J. Sternberg (eds) *The Cambridge Handbook of Creativity*. Cambridge: Cambridge University Press, pp. 3–19. Available at: https://doi.org/10.1017/CBO9780511763205.003.

Runco, M.A. and Jaeger, G.J. (2012) ‘The Standard Definition of Creativity’, *Creativity Research Journal*, 24(1), pp. 92–96. Available at: https://doi.org/10.1080/10400419.2012.650092.

Runco, M.A. and Pritzker, S.R. (eds) (2011) *Encyclopedia of creativity*. 2. ed. Amsterdam: Elsevier [u.a.].

Ryan, M.-L. (2006) ‘Computer Games as Narrative: The Ludology versus Narrativism Controversy’. Available at: https://doi.org/10.25969/MEDIAREP/17696.

Ryan, M.-L. (2008) ‘Interactive Narrative, Plot Types, and Interpersonal Relations’, in U. Spierling and N. Szilas (eds) *Interactive Storytelling*. Berlin, Heidelberg: Springer Berlin Heidelberg (Lecture Notes in Computer Science), pp. 6–13. Available at: https://doi.org/10.1007/978-3-540-89454-4_2.

Saucerman, J. and Ramirez, D. (2016) ‘Praise Helix! Christian Narrative in Twitch Plays: Pokémon’, *Online - Heidelberg Journal of Religions on the Internet*, pp. 73–94. Available at: https://doi.org/10.17885/HEIUP.REL.23549.

Sawyer, K. (2011) ‘The Cognitive Neuroscience of Creativity: A Critical Review’, *Creativity Research Journal*, 23(2), pp. 137–154. Available at: https://doi.org/10.1080/10400419.2011.571191.

Sawyer, R.K. (2000) ‘Improvisational Cultures: Collaborative Emergence and Creativity in Improvisation’, *Mind, Culture, and Activity*, 7(3), pp. 180–185. Available at: https://doi.org/10.1207/S15327884MCA0703_05.

Sawyer, R.K. (2004) ‘Creative Teaching: Collaborative Discussion as Disciplined Improvisation’, *Educational Researcher*, 33(2), pp. 12–20. Available at: https://doi.org/10.3102/0013189X033002012.

Sawyer, R.K. (2006) ‘Group creativity: musical performance and collaboration’, *Psychology of Music*, 34(2), pp. 148–165. Available at: https://doi.org/10.1177/0305735606061850.

Sawyer, R.K. (2012) *Explaining creativity: the science of human innovation*. 2nd ed. New York: Oxford University Press.

Sawyer, R.K. (2013) *Zig zag: the surprising path to greater creativity*. First Edition. San Francisco: Jossey-Bass.

Sawyer, R.K. (2017) *Group genius: the creative power of collaboration*. Revised edition. New York: Basic Books.

Sawyer, R.K. (2019) *The creative classroom: innovative teaching for 21st-century learners*. New York, NY: Teachers College Press.

Sawyer, R.K. and Henriksen, D. (2023) *Explaining Creativity: The Science of Human Innovation*. 3rd edn. Oxford University PressNew York. Available at: https://doi.org/10.1093/oso/9780197747537.001.0001.

Schafer, S. (2016) 'Ludic Narratology: Creating a Theory of Structure in Choice-Based Video Game Narratives', in B. Kuhn and A. Bhéreur-Lagounaris (eds) *Levelling Up: The Cultural Impact of Contemporary Videogames*. BRILL, pp. 29–37. Available at: https://doi.org/10.1163/9781848884380_005.

Schoenau-Fog, H. *et al.* (eds) (2015) *Interactive Storytelling: 8th International Conference on Interactive Digital Storytelling, ICIDS 2015, Copenhagen, Denmark, November 30 - December 4, 2015, Proceedings*. Cham: Springer International Publishing (Lecture Notes in Computer Science). Available at: https://doi.org/10.1007/978-3-319-27036-4.

Scolari, C.A. (2009) 'Transmedia Storytelling: Implicit Consumers, Narrative Worlds, and Branding in Contemporary Media Production', p. 21.

Shah, A. (2016) 'The Mystery of the Super Bowl I tapes', *nfl.com*, 13 January. Available at: https://www.nfl.com/news/the-mystery-of-the-super-bowl-i-tapes-0ap3000000622357 (Accessed: 22 May 2020).

Shepard, J. (2015) *The Pokemon Company are suing a fan for putting on an 'unofficial' cosplay party*, *Independent.co.uk*. Available at: https://www.independent.co.uk/arts-entertainment/tv/news/pokemon-company-are-suing-fan-putting-unofficial-cosplay-party-a6680381.html (Accessed: 27 February 2021).

Si, M. *et al.* (eds) (2011) *Interactive Storytelling: Fourth International Conference on Interactive Digital Storytelling, ICIDS 2011, Vancouver, Canada, November 28 – 1 December, 2011. Proceedings*. Berlin, Heidelberg: Springer Berlin Heidelberg (Lecture Notes in Computer Science). Available at: https://doi.org/10.1007/978-3-642-25289-1.

Silge, J. and Robinson, D. (2017) *Text Mining with R*, *Welcome to Text Mining with R*. Available at: https://www.tidytextmining.com/index.html.

Simonton, D.K. (1984) 'Artistic creativity and interpersonal relationships across and within generations.', *Journal of Personality and Social Psychology*, 46(6), pp. 1273–1286. Available at: https://doi.org/10.1037/0022-3514.46.6.1273.

Simonton, D.K. (2023) 'The Blind-Variation and Selective-Retention Theory of Creativity: Recent Developments and Current Status of BVSR', *Creativity Research Journal*, 35(3), pp. 304–323. Available at: https://doi.org/10.1080/10400419.2022.2059919.

Siraj-Blatchford, I. (2007) 'Creativity, Communication and Collaboration: The Identification of Pedagogic Progression in Sustained Shared Thinking', *Asia-Pacific Journal of Research in Early Childhood Education*, 1(2), pp. 213–23.

Skaržauskienė, A. and Kalinauskas, M. (2014) 'Fostering collective creativity through gamification', in. *Americas ISPIM Innovation Forum*, Montreal, Canada, p. 7.

Smith, M. and Moore, R. (2008) 'Digital Archive Policies and Trusted Digital Repositories', *International Journal of Digital Curation*, 2(1), pp. 92–101. Available at: https://doi.org/10.2218/ijdc.v2i1.16.

Snyder, S.M. (2019) *DICTATING THE TERMS: GAMERGATE, DEMOCRACY, AND (IN)EQUALITY ON REDDIT*. Graduate College of Bowling Green. Available at: https://etd.ohiolink.edu/apex-prod/rws_etd/send_file/send?accession=bgsu1556553179370925&disposition=inline.

Sonkin, P., D. (2021) *Sentiment Analysis of 49 years of Warren Buffett's Letters to Shareholders of Berkshire Hathaway*. Available at: https://bookdown.org/psonkin18/berkshire/.

Sonnenburg, S. (2004) 'Creativity in Communication: A Theoretical Framework for Collaborative Product Creation', *Creativity and Innovation Management*, 13(4), pp. 254–262. Available at: https://doi.org/10.1111/j.0963-1690.2004.00314.x.

Spigel, L. (2010) 'Housing Television: Architectures of the Archive', *The Communication Review*, 13(1), pp. 52–74. Available at: https://doi.org/10.1080/10714420903558688.

Spitz, E.H. (1989) 'Conflict and Creativity: Reflections on Otto Rank's Psychology of Art', *Journal of Aesthetic Education*, 23(3), pp. 97–109. Available at: https://doi.org/10.2307/3332767.

St. Columba (2020) *The Cathach, Royal Irish Academy*. Available at: https://web.archive.org/web/20140702153948/http://www.ria.ie/Library/Special-Collections/Manuscripts/Cathach.aspx (Accessed: 22 May 2020).

Statt, N. (2014) '"Twitch Plays Pokemon" is now a fight for the soul of the Internet', 19 February. Available at: https://www.cnet.com/news/twitch-plays-pokemon-is-now-a-fight-for-the-soul-of-the-internet/.

Stoler, A.L. (2002) 'Colonial archives and the arts of governance', *Archival Science*, 2(1–2), pp. 87–109. Available at: https://doi.org/10.1007/BF02435632.

Sturgess, P.J.M. (1992) *Narrativity: theory and practice*. Oxford [England], New York: Clarendon Press ; Oxford University Press.

Sullivan, F.R. (2019) 'Serious and Playful Inquiry: Epistemological Aspects of Collaborative Creativity', p. 12.

Swartjes, I. (2010) *Whose story is it anyway? : How Improv Informs agency and authorship of emergent narrative*. PhD. University of Twente. Available at: https://doi.org/10.3990/1.9789036530040.

Sweet, R., Rose, J. and Gustina, C. (2015) 'The Creative Engine That Could: The Uphill Climb towards Integrating Creative Contribution into Interdisciplinary Collaboration', *The International Journal of Design Management and Professional Practice*, 9(2), pp. 1–9. Available at: https://doi.org/10.18848/2325-162X/CGP/v09i02/38627.

Tang, A.K.Y. (2017) 'Key factors in the triumph of Pokémon GO', *Business Horizons*, 60(5), pp. 725–728. Available at: https://doi.org/10.1016/j.bushor.2017.05.016.

Taylor, S. and Littleton, K. (2012) *Contemporary identities of creativity and creative work*. Farnham ; Burlington, Vt: Ashgate.

Tepper, S.J. and Ivey, B.J. (eds) (2008) *Engaging art: the next great transformation of America's cultural life*. New York: Routledge.

The Helix Choir (2021) *Church of The Helix Choir*, *Bandcamp*. Available at: https://churchofthehelixchoir.bandcamp.com/ (Accessed: 26 February 2021).

Thon, J.-N. (2016) *Transmedial Narratology and Contemporary Media Culture*. UNP - Nebraska. Available at: https://doi.org/10.2307/j.ctt1d8h8vn.

TIME Magazine (1999) 'The Ultimate Game Freak', 22 November. Available at: http://content.time.com/time/magazine/article/0,9171,2040095,00.html.

Torrance, E.P. (1962) 'Goals for guiding creative talent.', in Torrance, E. P., *Guiding creative talent.* Englewood Cliffs: Prentice-Hall, Inc, pp. 142–161. Available at: https://doi.org/10.1037/13134-008.

Torrance, E.P. (2012) 'Torrance Tests of Creative Thinking'. Available at: https://doi.org/10.1037/t05532-000.

Toubia, O. (2006) 'Idea Generation, Creativity, and Incentives', *Marketing Science*, 25(5), pp. 411–425. Available at: https://doi.org/10.1287/mksc.1050.0166.

Toyoda, M. and Kitsuregawa, M. (2012) 'The History of Web Archiving', *Proceedings of the IEEE*, 100(Special Centennial Issue), pp. 1441–1443. Available at: https://doi.org/10.1109/JPROC.2012.2189920.

TPP Community (2014) *twitchplayspokemon*, *Twitch.tv*. Available at: https://www.twitch.tv/twitchplayspokemon.

Tucker, J., A. *et al.* (2018) 'Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature', *Hewlett Foundation* [Preprint]. Available at: https://www.hewlett.org/wp-content/uploads/2018/03/Social-Media-Political-Polarization-and-Political-Disinformation-Literature-Review.pdf.

Twitch.tv (2014) 'TPP Victory! The Thundershock Heard Around the World', 1 March. Available at: https://blog.twitch.tv/en/2014/03/01/tpp-victory-the-thundershock-heard-around-the-world-3128a5b1cdf5/.

Usai, P.C. (2001) *The Death of Cinema: History, Cultural Memory and the Digital Dark Age*. Bloomsbury Publishing (UK). Available at: https://doi.org/10.5040/9781838710125.

Uzzi, B. and Spiro, J. (2005) 'Collaboration and Creativity: The Small World Problem', *American Journal of Sociology*, 111(2), pp. 447–504. Available at: https://doi.org/10.1086/432782.

Van Gorp, J. and Kiewik, R. (2018) 'What Is Not in the Archive: Teaching Television History in the Digital Humanities Era', *VIEW Journal of European Television History and Culture*, 7(13), p. 129. Available at: https://doi.org/10.18146/2213-0969.2018.jethc147.

Vass, E. (2004) *Thesis submitted to the Open University in part fulf'llment of the requirements of the degree of Doctor of Philosophy*. P.H.D Thesis. Open University. Available at: http://oro.open.ac.uk/59531/ (Accessed: 21 February 2020).

Vass, E. *et al.* (2008) 'The discourse of collaborative creative writing: Peer collaboration as a context for mutual inspiration', *Thinking Skills and Creativity*, 3(3), pp. 192–202. Available at: https://doi.org/10.1016/j.tsc.2008.09.001.

Vogele, J. (2017) 'Where's the Fair Use? The Takedown of Let's Play and Reaction Videos on YouTube and the Need for Comprehensive DMCA Videos on YouTube and the Need for Comprehensive DMCA Reform Reform', *Touro Law Review*, 33(2), pp. 589–631.

Vollmer, B. (2018) 'The Nuzlocke Challenge and Emotional Attachments in Video Games', 26 October. Available at: https://epiloguegaming.com/the-nuzlocke-challenge-and-emotional-attachments-in-video-games/.

Vygotskij, L.S. and Cole, M. (1981) *Mind in society: the development of higher psychological processes*. Nachdr. Cambridge, Mass.: Harvard Univ. Press.

Wang, C. (ed.) (2020) *Handbook of research on the impact of fandom in society and consumerism*. Hershey, PA: IGI Global, Business Science Reference (Advances in marketing, customer relationship management, and e-services (AMCRMES) book series).

Wang, K. and Nickerson, J.V. (2017) 'A literature review on individual creativity support systems', *Computers in Human Behavior*, 74, pp. 139–151. Available at: https://doi.org/10.1016/j.chb.2017.04.035.

Warner, M. (2002) 'Publics and Counterpublics', *Public Culture*, 14(1), pp. 49–90.

Wieczerzycki, M. and Deszczyński, B. (2022) 'Collective storytelling: Value co-creation in narrative-based goods', *Marketing Theory*, p. 14705931221075832. Available at: https://doi.org/10.1177/14705931221075832.

Willett, P. (2006) 'The Porter stemming algorithm: then and now', *Program*, 40(3), pp. 219–223. Available at: https://doi.org/10.1108/00330330610681295.

Wolf, R. (2014) *Defining the concept of creativity*. P.H.D. Available at: https://onlinelibrary.wiley.com/doi/pdf/10.1002/jocb.344 (Accessed: 13 December 2019).

Wulf, T. *et al.* (2018) ‘Running Head: Video Game Nostalgia and Retro Gaming’, *Media and Communication*, 6(2), pp. 60–68. Available at: https://doi.org/10.17645/mac.v6i2.1317.

Yen, A. (1973) ‘On Vladimir Propp and Albert B. Lord: Their Theoretical Differences’, *The Journal of American Folklore*, 86(340), p. 161. Available at: https://doi.org/10.2307/539749.

Zwiezen, Z. (2020) ‘Over 36,000 Flash Games Have Been Saved And Are Now Playable Offline’, 2 February. Available at: https://www.kotaku.com.au/2020/02/over-36000-flash-games-have-been-saved-and-are-now-playable-offline/ (Accessed: 22 May 2020).

#convert the date/time on the twitch chat data into a standard d/m/y h:m format

```
Twitch_Chat_data_full$UNIX <- as.POSIXct (Twitch_Chat_data_full$`Date/Time`, format="%d/%m/%Y %H:%M")
```

#convert the standard date/time into a numeric unix timecode

```
Twitch_Chat_data_full $ UNIX2 <- as.numeric (as.POSIXct(Twitch_Chat_data_full $ UNIX))
```

#correct the Unix timecodes to the gmt timezone and the Unix time startdate of 1970

```
Twitch_Chat_data_full $Date_Time <- as.POSIXct(as.numeric(Twitch_Chat_data_full$UNIX), origin = "1970-01-01", tz = "gmt")
```

#take the unix time and check it matches the date/time while making columns for date and time

```
Twitch_Chat_data_full $Date <- as.Date (Twitch_Chat_data_full $'Date_Time')

Twitch_Chat_data_full $Time <- format (as.POSIXct(Twitch_Chat_data_full $'Date_Time'), format = "%H:%M:%S")
```

Renaming and reordering of columns

#change names of columns

```
colnames(Submissions_csv)[1] ="Username"
```

#reorder columns

```
Twitch_csv <- Twitch_Chat_data_full[, c(5,4,6,7,2,3)]
```

#saving of transformed data into a csv file

```
write.csv(Reddit_Comments, "C:/Users/jackj/Desktop/Reddit_comments.csv", row.names=FALSE)
```

Appendix B – RStudio code used in analysing data

Simple RStudio requests

#This line asks to return every row from the twitch chat dataset whose date matched March second, easily adjustable for multiple datasets and dates. Multiple lines can be listed in a r script and set to run each after each other.

```
Twitch_Chat_data_full[Twitch_Chat_data_full$Date == '2014-03-02',]
```

#Separation of sentiments

```
Afinn_0<- Sentiment_Afinn[Sentiment_Afinn$Sentiment == '0',]

surprise

sum(Sentiment_NRC[which(Sentiment_NRC$Sentiment=='positive'), "n"])
```

#this counts every comment reading exactly only the term democracy in the feb17 dataset

```
length(grep("^democracy$", feb17$Comment))
```

#This counts every instance of the term dome throughout the comments column of the feb1 dataset, ignoring capitalisation

```
length(grep("Dome", feb1$Comment, ignore.case=TRUE))
```

Subreddit comment and thread downloader

#download the python code

```
git clone https://github.com/pistocop/subreddit-comments-dl.git
```

#set working directory for python

```
cd subreddit-comments-dl
```

#Install required python Packages

```
pip install -r requirements.txt
```

#Set the subreddit to download from in batches of 512 and repeat the process 3000 times for all content before unix time 1393761600 (GMT: Sunday, 2 March 2014 12:00:00) when TPP Red was completed

```
python src/subreddit_downloader.py twitchplayspokemon --batch-size 512 --laps 3000 --reddit-id nZLqNFJzJA-fpgjJlQT5Bw --reddit-secret PhdEyYbljdJRfr0JZBGNj_g5lbHB0g --reddit-username Starship_Fetishist --utc-before 1393761600
```

Transforming twitch chat log files into usable format

#Python code that takes a log file and describes how to change each line into columns and rows

```
python src/dataset_builder.py

dir dataset

= Csv.Document(File.Contents("C:\Users\jackj\Desktop\Log files\ttp_0\tpp_0_000002.log"),[Delimiter="#(tab)", Columns=1, Encoding=65001, QuoteStyle=QuoteStyle.None])

= Table.TransformColumnTypes(Source,{{"Column1", type text}})

= Table.AddColumn(#"Changed Type", "Text Before Delimiter", each Text.BeforeDelimiter([Column1], " "), type text)

= Table.AddColumn(#"Inserted Text Before Delimiter", "Text Between Delimiters", each Text.BetweenDelimiters([Column1], " ", " "), type text)

= Table.AddColumn(#"Inserted Text Between Delimiters", "Text Between Delimiters.1", each Text.BetweenDelimiters([Column1], " ", " ", 1, 0), type text)

= Table.AddColumn(#"Inserted Text Between Delimiters1", "Text After Delimiter", each Text.AfterDelimiter([Column1], " ", 2), type text)

= Table.RemoveColumns(#"Inserted Text After Delimiter",{"Column1"})

= Table.RenameColumns(#"Removed Columns",{{"Text Before Delimiter", "Date"}, {"Text Between Delimiters", "Time"}})

= Table.CombineColumns(#"Renamed Columns",{"Time", "Date"},Combiner.CombineTextByDelimiter(" ", QuoteStyle.None),"Merged")

= Table.TransformColumnTypes(#"Merged Columns",{{"Merged", type datetime}})

= Table.RenameColumns(#"Changed Type1",{{"Merged", "Date/Time"}})
```

Performing a word count on the corpus of data

#join reddit datasets by comment column

```
df = merge(x=Reddit_comments,y=Reddit_Submissions,by="Comment",all.x=TRUE)
```

#load variety of packages used for RStudio analysis

```
packages <- c("wordcloud", "tm", "Rcolorbrewer", "NLP", "SnowballC", "tidyverse", "tmap", "dplyr", "tidytext", "ggplot2", "stringr", "tidyr")
```

#ensure packages are loaded

```
lapply(packages, require , character.only = TRUE)
```

#write the dataframe to a text file

#take text file of comments made from twitch and reddit datasets and transform into values

```
Reddit_all<- readLines("D:/Thesis/Reddit_all.txt")
```

#convert COMMENTS values into a Corpus dataset named Comments text

```
Comments_text <- Corpus(VectorSource(COMMENTS))
```

#remove punctuation that is not needed for counting words

```
Comments_text_clean <- tm_map(Comments_text, removePunctuation)
```

#convert all letters to lowercase to avoid not counting capitalised words

```
Comments_text_clean <- tm_map( Comments_text_clean, content_transformer(tolower))
```

#Remove numbers so they are not counted alongside words

```
Comments_text_clean <- tm_map(Comments_text_clean, removeNumbers)
```

#Remove unnecessary whitespace

```
Comments_text_clean <- tm_map(Comments_text_clean, stripWhitespace)
```

#remove simple words like to, in, a, the, etc… that provide no useful data when counted

```
Comments_text_clean <- tm_map(Comments_text_clean, removeWords,
stopwords('english'))
```

#remove the standard *Twitch Plays Pokémon* inputs from the comments

```
Comments_text_clean_inputs <- tm_map(Comments_text_clean, removeWords, c("a", "b",
"left", "right", "up", "down", "start", "select"))
```

#this step is performed after performing the initial wordcount to remove words and terms that are not useful data from the initial count.

```
Comments_text_clean_inputs2 <- tm_map(Comments_text_clean_inputs, removeWords,
c("joined", "tmi.twitch.tv", "testserver.local", "http", "kappa", "imgur.com", "tinyurl.com", "i.imgur.com",
"adf.ly", "https", "www.twitch.tv", "strawpoll.me", "www.youtube.com"))
```

#This process is performed to convert the corpus back into a dataset for counting

```
dictCorpus <- Comments_text_clean_inputs2
```

#This step removes the ‘ing’, ‘ly’, and similar modifiers from words to help with counting

```
Comments_text_clean_inputs2 <- tm_map(Comments_text_clean_inputs2, stemDocument)
```

 # tokenize the corpus

```
Comments_Tokenized <- lapply(Comments_text_clean_inputs2, scan_tokenizer)
```

 # stem complete each token vector

```
Corpus_dataframe <- lapply(Comments_Tokenized, stemCompletion, dictCorpus)
```

 # concatenate tokens by document, create data frame

```
Corpus_Sentiment_df <- data.frame(text = sapply(Corpus_dataframe, paste, collapse = " "),
stringsAsFactors = FALSE)
```

#set the dataset to be readable for a word count

```
Corpus_Sentiment_df <- tibble(Text = COMMENTS)
```

#have RStudio count each word and create a new dataset listing each word and the count of how many times it appeared

```
Comments_words_processed <- Comments_df %>%
  unnest_tokens(output = word, input = Text)
Comments_words_processed <- Comments_words_processed %>%
  anti_join(stop_words)
Comments_wordcounts_processed <- Comments_words_processed %>% count(word, sort = TRUE)
```

Graphing

#counting the words from a created corpus

```
Comments_wordcounts <- Comments_words %>% count(word, sort = TRUE)
```

#Generating a Word Cloud from word count list

```
wordcloud(words = wordcloud_pruned$Words, freq = wordcloud_pruned$Value, min.freq = 1, max.words=200, random.order=FALSE, rot.per=0.35, scale=c(3.5,0.5),colors=brewer.pal(8, "Dark2"))
```

#Alternative word cloud method including shaping

```
wordcloud2(data=wordcloud_pruned, size=0.2, shape = 'pentagon')
```

Generating sentiment analysis

#Joining the sentiment lexica with the corpus to determine frequency

```
Sentiment_ bing <- Wordcount_ALL %>%
  inner_join(get_sentiments("bing"))
Sentiment_ AFINN <- Wordcount_ALL %>%
  inner_join(get_sentiments("AFINN"))
```

```
Sentiment_NRC <- Wordcount_ALL %>%
  inner_join(get_sentiments("nrc"))
```

#Method for visualisation of sentiments from NRC lexicon

```
Visualisation_NRC %>%
  group_by(Sentiment) %>%
  slice_max(n, n = 10) %>%
  ungroup() %>%
  mutate(Words = reorder(Words, n)) %>%
  ggplot(aes(n, Words, fill = Sentiment)) +
  geom_col(show.legend = FALSE) +
  facet_wrap(~Sentiment, scales = "free_y") +
  labs(x = "Contribution to Words",  y = NULL)
)
```

Appendix C – Sentiment Analysis

The same dataset used to count words functions well for sentiment analysis. There are three frequently used lexicons useful for sentiment analysis: ‘Bing’, ‘NRC’, and ‘AFINN. All three provide different approaches to determining the usage of negative and positive terms by associating different words as either positive or negative. The Bing lexicon achieves this by labelling words as positive or negative and counting the number of occurrences within a corpus. The AFINN lexicon instead assigns a -5/+5 rating to the words in its lexicon, providing a stronger indicator of the strength of sentiment and which words affect the sentiment most strongly. Finally, the NRC lexicon broadens the terms associated with words to nine, associating words with multiple basic emotions, such as anticipation, joy, trust, etc…

The three lexicons can be joined to the TPP corpus of comments, resulting in three pieces of information: words, their frequency of use, and their associated sentiment. This provides us with an idea of what the general mood of the community was and what particular terms are associated with the TPP community’s moods. However, it is not possible to simply run a sentiment analysis that tells us what the TPP community feels, as the three lexicons have biases that can interact with TPP’ comment corpus unexpectedly. The three lexicons associate words with positive and negative sentiments on the basis of their typical usage; with the NRC lexicon adding some additional measured sentiments. There are words with strong associations that appear in the corpus that have different meanings for the TPP community. A particular example of this is the NRC lexicon, which associates the word ‘joined’ with a generally positive sentiment. This is not a surprising or unusual choice; however, as in the TPP comment corpus ‘joined’ is used extremely frequently as an automated notification for when a user has joined the chat.

There are two particular examples of how these lexica had to be considered with respect to the TPP community. The first is the case of anarchy and democracy; both words in English-speaking works are usually associated with negativity and positivity, respectively. Aside from the two words having different connotations in TPP, it must also be recognised that the vast majority of uses of the words in the corpus are voting for a switch in gameplay mode. Additionally, the extreme frequency of each word makes any use of Anarchy or Democracy in a graph meaningless. Consequently, Anarchy was removed for negative, fear, and disgust sentiments. Democracy and the word joined were

removed from the NRC positive sentiment. Finally, the word start was removed from measuring anticipation because of its use as an input increasing the frequency of its usage.

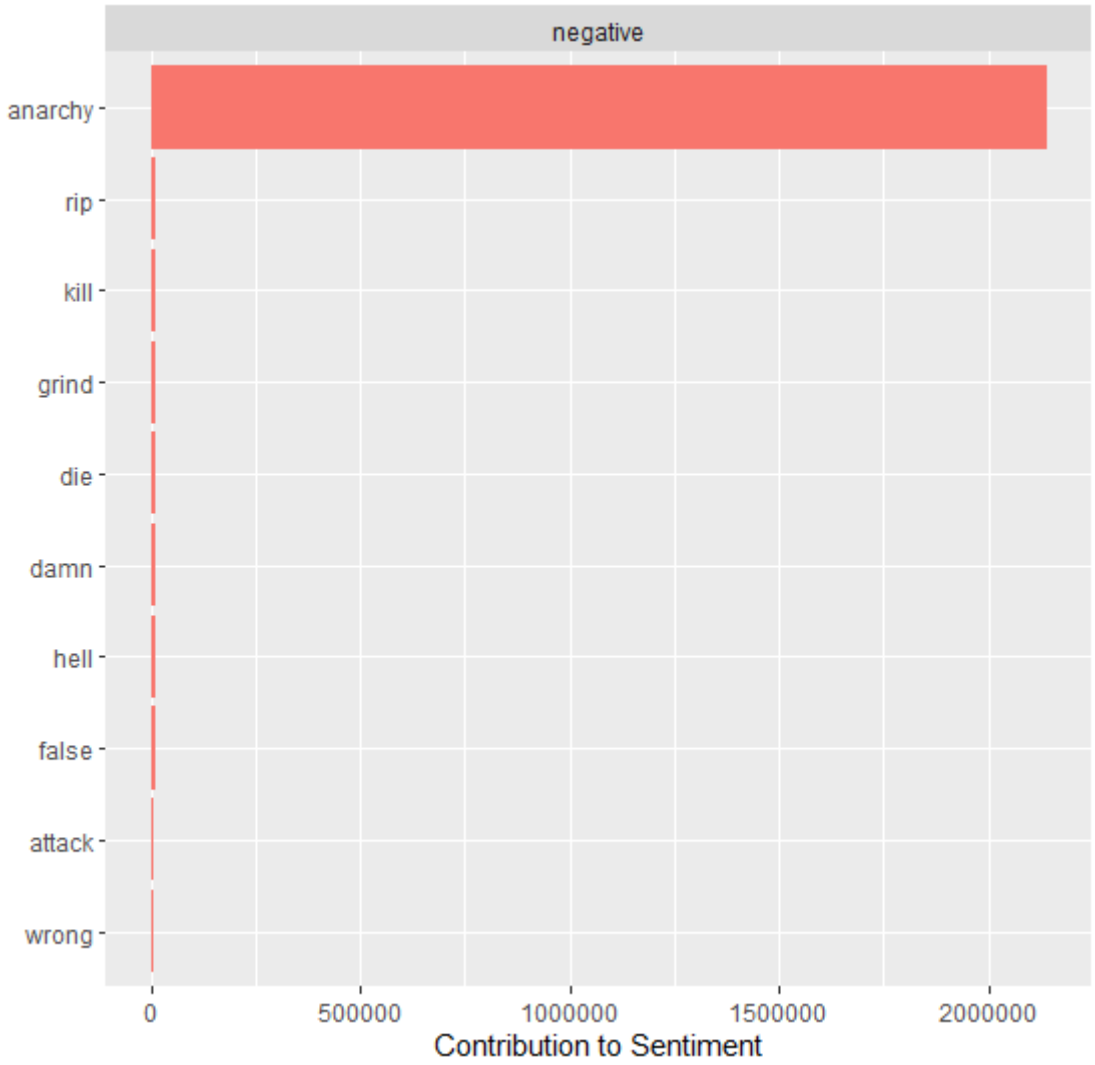

Figure 35 – Bing lexicon graph showing why Anarchy was removed.

The contrasting example of where words were kept as part of the set was in relation to words such as praise, lord, god, holy, and hail, which affect positive, negative, trust, joy, fear, and anticipation sentiments. In this case, these words were used more frequently in the community than in other nonreligious communities. However, despite the frequency of the word's usage being higher, the accuracy of the usage is still relevant. The community did 'Praise Lord Helix' as an exultation of joy; they also invoked 'lord Helix' in relation to anticipation of events that they feared. While it is an unusual situation for the word's usage, the words were used as the NRC lexicon anticipated.

The sentiment analyses provide us with a large collection of approaches to support claims about what the TPP community felt about particular ideas and concepts as a community rather than relying on the comments of individual members of the community. We will examine each lexicon and its use for studying the TPP community.

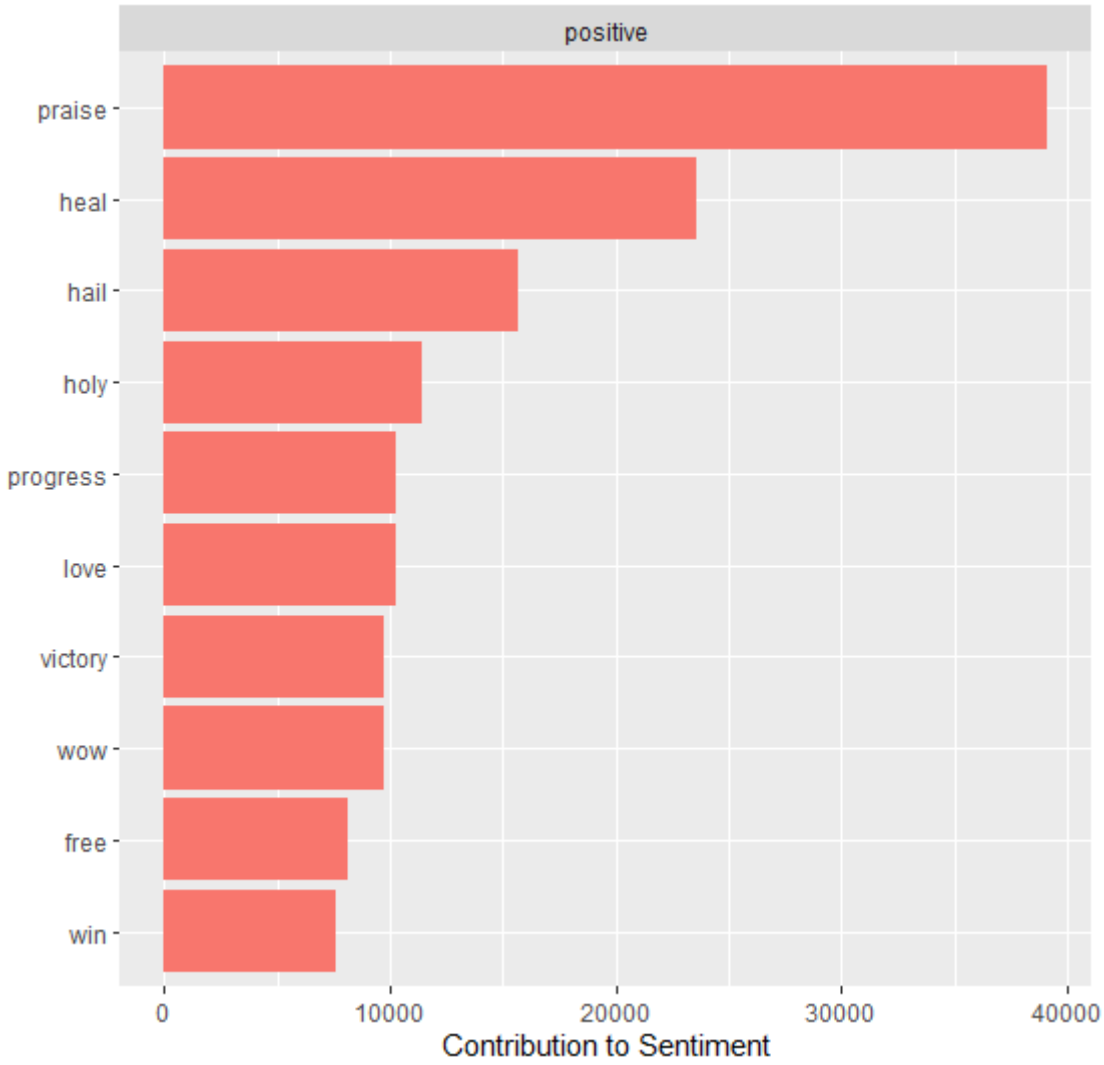

Figure 36 – Bing Lexicon; ‘positive’ words most used by the TPP community.

Among the positive terms, the Bing lexicon recognises praise, hail, and holy, which are all terms that the TPP community strongly associated with the Church of the Helix and its associated characters. Praise in particular is highly rated because of the ‘Praise the Helix’ meme; the term heal is related to the game mechanism of healing Pokémon back to full health. Progress, victory, and win are words that strongly indicate the drive for the community to beat the game. The words wow and free are less easy to associate with a particular concept or drive. The word love, which features highly and

does indicate a general passion within the community for both TPP as an experience and a community. This demonstrates how the Bing lexicon can indicate both the importance of the Church of the Helix to the TPP community and the community's drive towards victory being the primary motivator for the community.

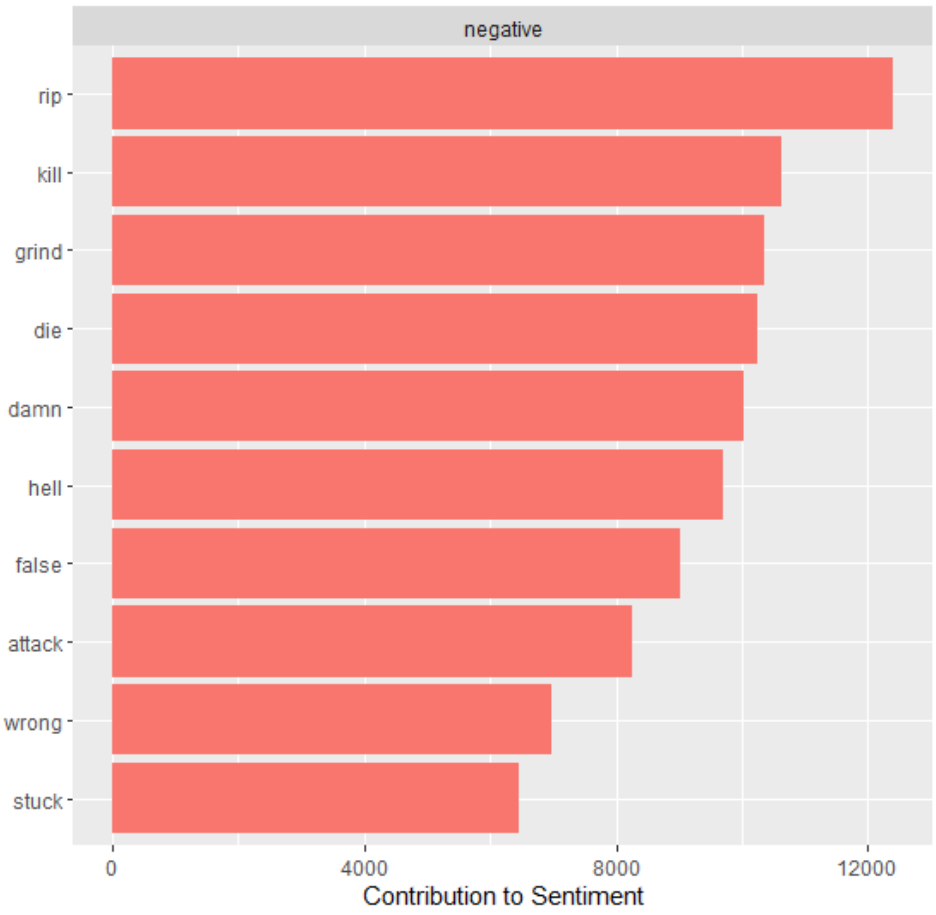

Figure 37 – Bing Lexicon; 'negative' words most used by the TPP.

The negative terms feature a number of game mechanics driving the highest results as well as memetic elements driving other results. The words wrong, hell, die, damn, and kill have no specific meaning for TPP. Grind refers to a gaming strategy of repetitive actions to level up Pokémon; similarly, an attack is likely highly rated because it refers to the moves Pokémon use in battle. The term stuck being highly rated helps to demonstrate how frustrating the community found game experiences where they were unable to make progress in the game and how frequently this experience was a concern for the TPP community.

The remaining two words have a connection that is not immediately apparent, rip and false. The term rip is part of the often-repeated meme ‘RIP Digrat’, and the word false is part of the name ‘The False Prophet’. In the narratives, The False Prophet’ is considered both directly responsible for the death of Digrat and for the emergence of democracy. The False Prophet also showed up at the same time that the community was stuck dealing with the maze in the Team Rocket Hideout, which was a navigational puzzle that Anarchy seemed incapable of dealing with. The Bing lexicon highlights how discouraging this period of time was for the TPP community.

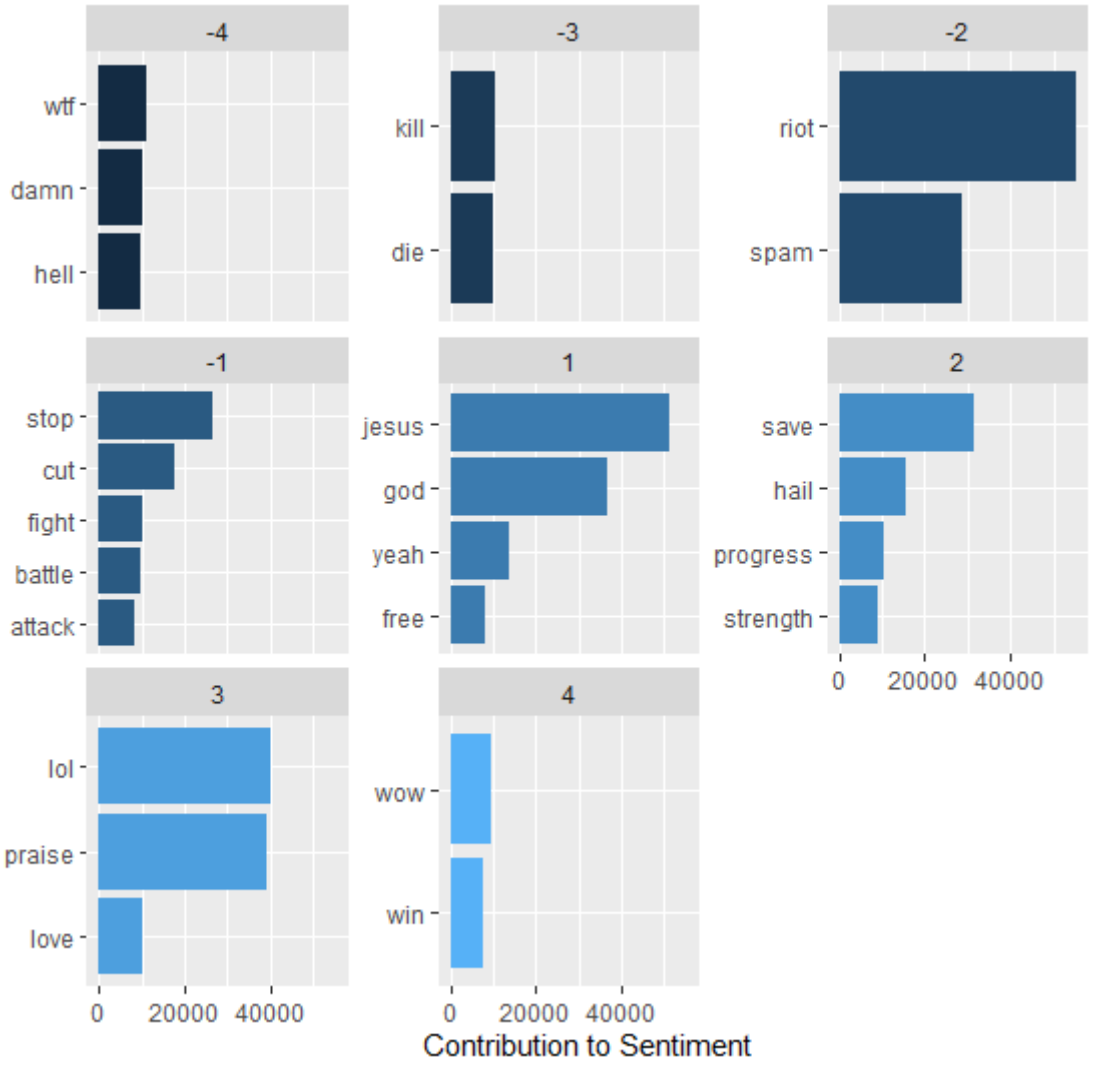

Figure 38 – AFINN lexicon ranking the -5/+5 sentiment of the 25 most used.

Where the Bing lexicon presents positive and negative binary values, the AFINN lexicon transforms this into a spectrum, rating words from -5 to +5 on a subjective scale of how negative a

word is perceived. Although there is a potential debate over whether damn should be -3 instead of -4 or if lol should be 2 instead of 3, the general placements of words are appropriate for creating an overall sense of the TPP community's sentiment. The words with a -5 rating are typically slurs and stronger curse words, and the +5 sentiment is unambiguously positive words such as hurrah, superb, and breath-taking.

This granularity provides us with a more nuanced understanding of the reasons that pushed the community into negative or positive attitudes. While the top-rated -1 words are typically related to game mechanics used and attack/cut, engaging in a fight or battle, most of the other words indicate the frustration that the TPP community often felt; stop (1), riot (-2), and wtf and hell (-3) all indicate reactions to frustrations. Similarly, the positive actions reinforce the religious terms heavy influence that Jesus, god (+1), hail (+2), and praise (+3) all have significant impacts on positive sentiment. Progress, save (+2), and win (+4), demonstrating the importance of making progress in the game to the TPP community. The results are unsurprisingly similar to those of the Bing lexicon, but both methods providing similar indications are useful when making claims about the TPP community.

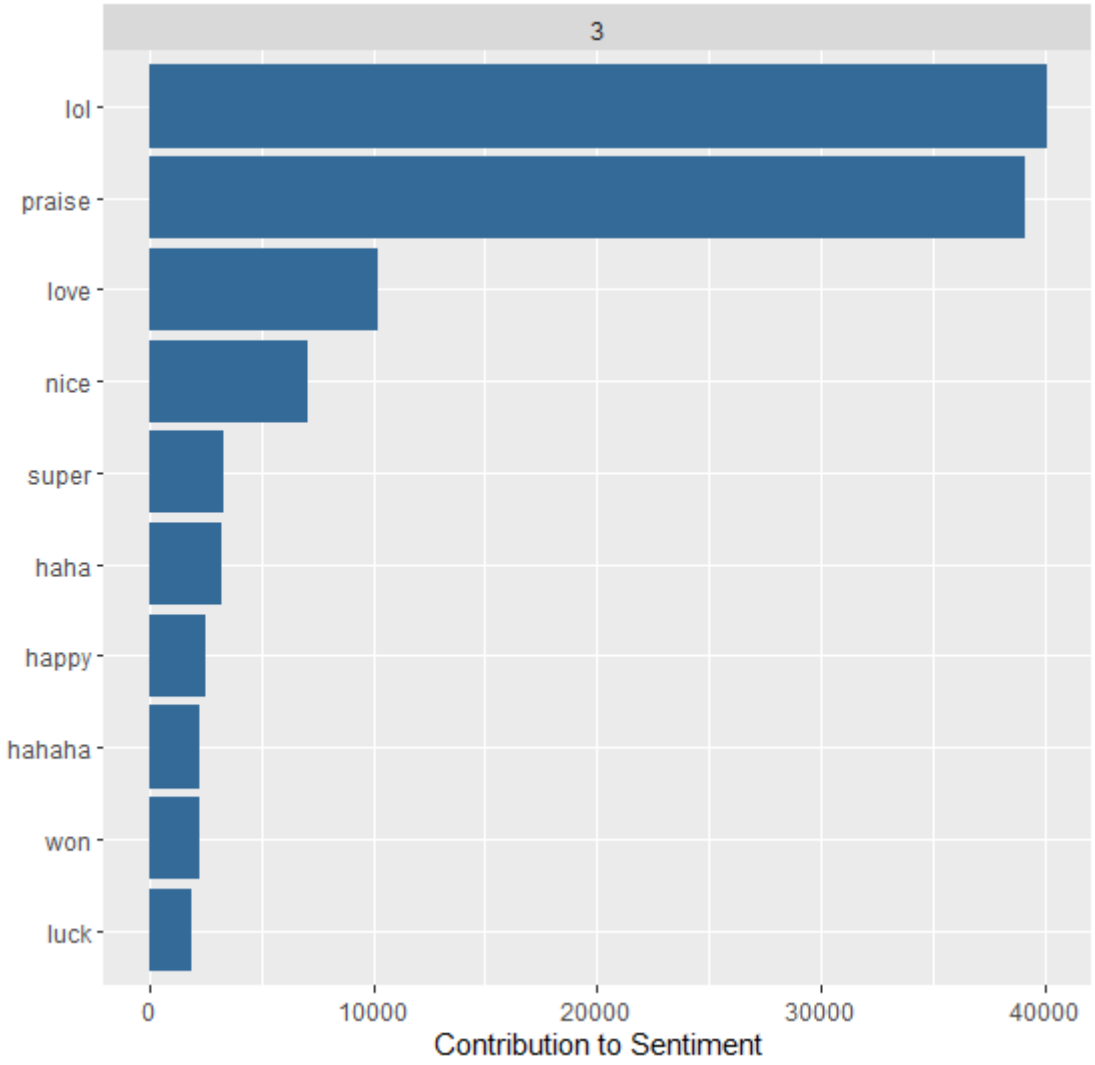

Figure 39 – Most impactful positive AFINN results.

Rather than presenting all ten increments of positive-negative results, looking at two graphs should be sufficient to demonstrate the AFINN lexicon more fully. The results for 3-rated positive words help show how important the word ‘praise’ was for affecting positivity, but the slang ‘lol’ (Laugh-out-loud) also shows that responding and valuing humour was important to the community. The next two highly ranked words are ‘love’ and ‘nice’. Love being a particularly strong and highly rated term, and nice often being used as quiet appreciation of a successful action in a game. Notably, of the remaining positive terms, both ‘haha’ and ‘hahaha’ respond to humour much like lol.

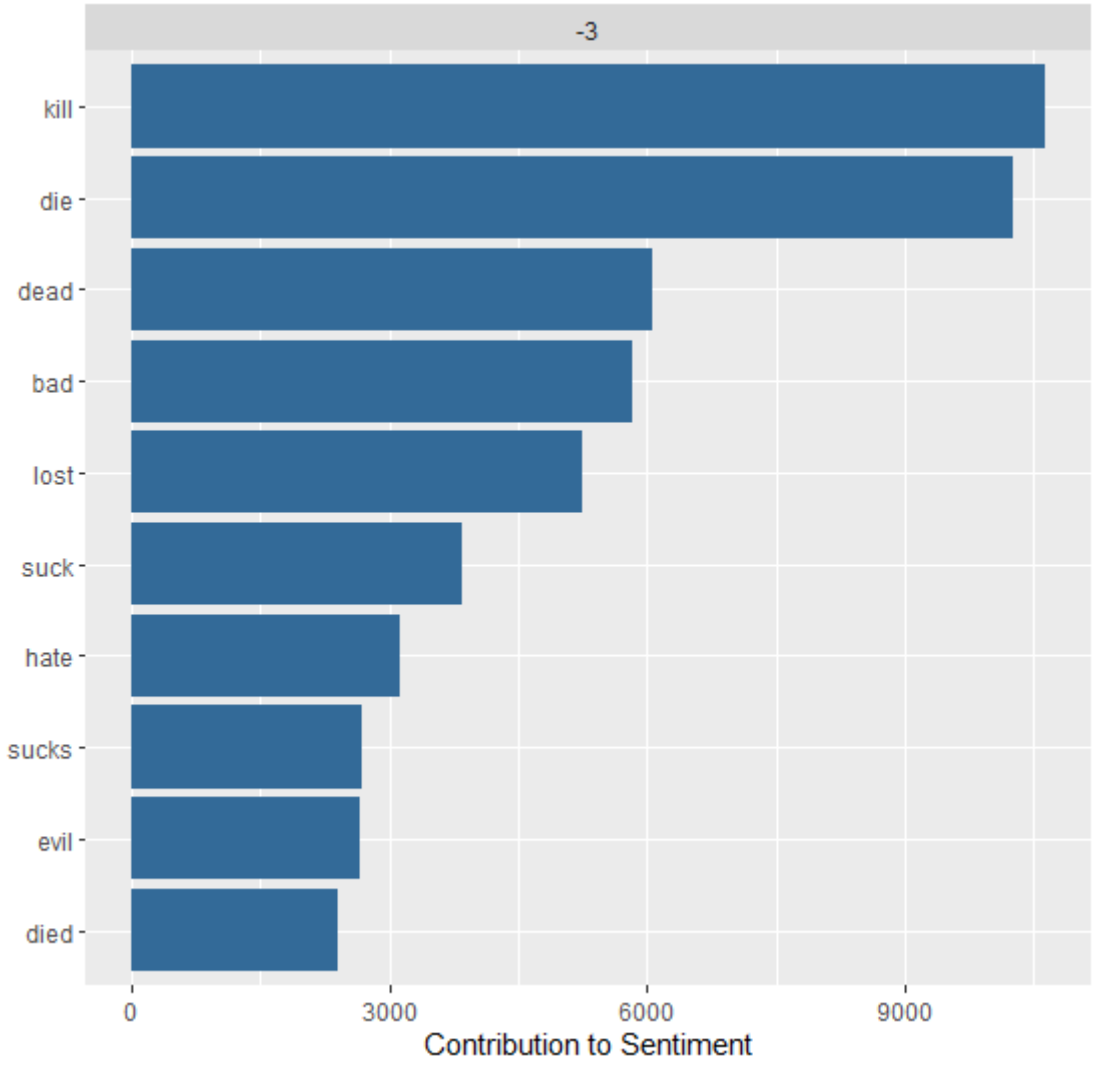

Figure 40 – Most impactful negative AFINN results.

Considering this graph, a difference in scale should be noted because, owing to the words ‘praise’ and ‘lol’ having results in the 40,000 range, the positive graph has a much larger x-axis range. In contrast, the highest negative result only reaches a number equivalent to the terms ‘love’ or ‘nice’ around the 9500 range. The negative terms are notably not particular to TPP, being all generic negative terms that one might expect in any collection of internet comments. The only word that might be unusually highly rated is ‘evil’ owing to its association with The False Prophet and Democracy.

‘Lost’ naturally is highly rated because the TPP community has lost battles, but this is expected in many games.

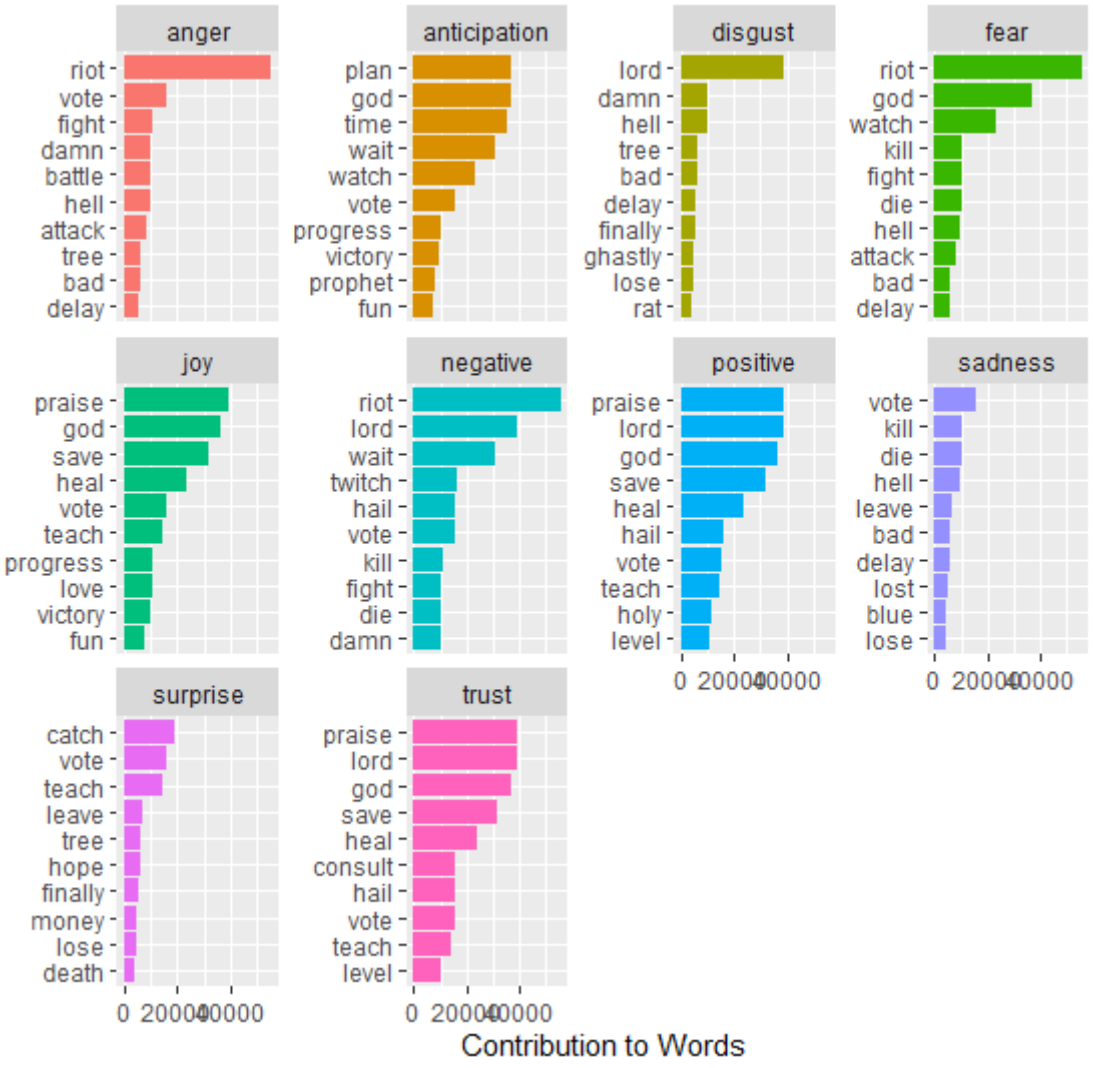

Figure 41 – NRC sentiments.

The NRC lexicon uses a multipolar approach to associating words with particular sentiments, and an individual word can be associated with multiple different sentiments and provide an impression of how strong each sentiment is overall in the TPP community. This lexicon particularly calls the word ‘vote’ into focus, as it appears under every sentiment except for fear and disgust and is particularly strong for anger. This indicates how voting was the core of the conflict between Anarchy and Democracy and helps us to narrow in on particular terms and how they demonstrate particular sentiments within TPP. In a similar manner, it can also help to identify what is not present.

The word ‘vote’ is also highly ranked in surprise and sadness; however, these two sentiments, along with disgust, have very low rankings, disgust only appearing so highly owing to the word ‘lord’. If the word lord is removed, the disgust sentiment is almost irrelevant. While it may be thought that surprise would rank highly along with anticipation, which demonstrates that the game *Pokémon Red* being well known ruined surprises, and owing to the long periods of time where the TPP community would work towards a consensus, there would be plenty of time for the community to prepare itself for many possible outcomes.

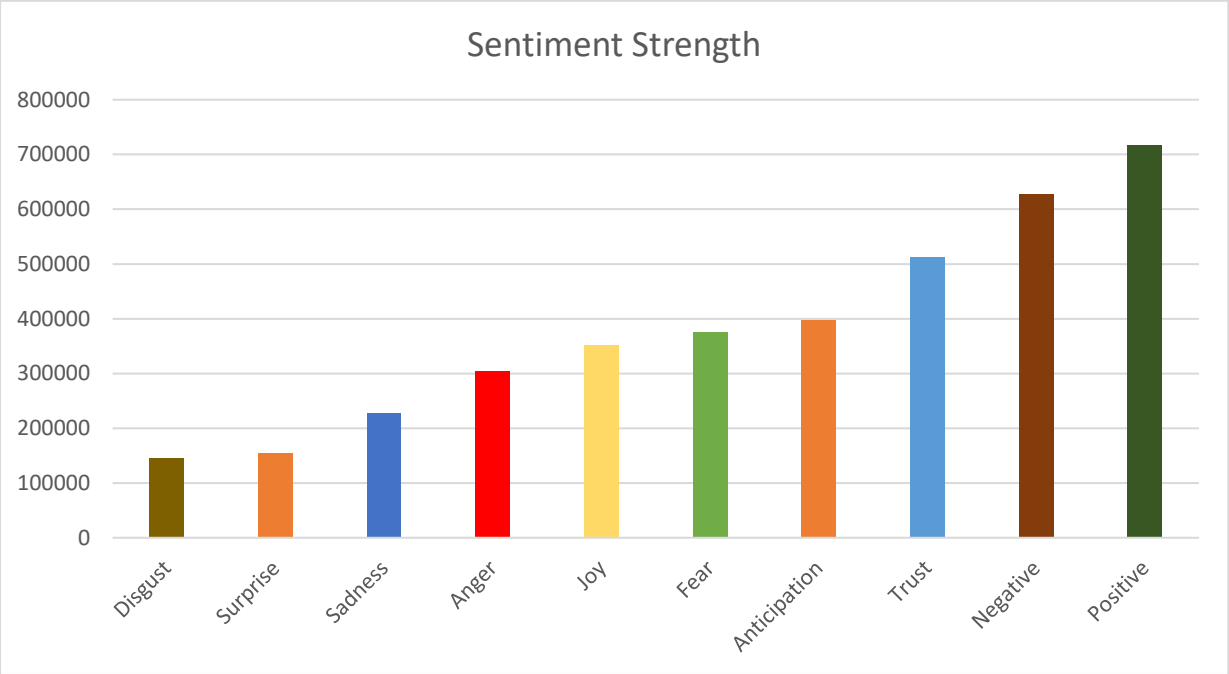

Figure 42 – NRC sentiment ordered from weakest to strongest.

The NRC lexicon combined with the Bing and AFINN lexica provides a method to evaluate what the TPP community generally felt. By using the three sentiments and being aware of the mischaracterisation of some words in the TPP context, it becomes possible to support claims about the TPP community’s attitudes, priorities, and interests. It is apparent that the TPP community was mostly positive and tended to have trust in its members. The TPP community was also defined by its anticipation and fear, as they played *Pokémon Red* while generally not being surprised by events. The lack of surprise likely has to do with the community’s familiarity with *Pokémon Red.* This demonstrates how the community’s players were often concerned about events they knew were upcoming.