

**LANGUAGE AND COMMUNICATION IN SYNCHRONOUS  
CHATROOMS: A DIGITAL ETHNOGRAPHIC STUDY OF  
TWO TWITCH.TV CHATROOMS**

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<p>Tiivistelmä – Abstract</p> <p>Internetin merkitys vuorovaikutuksen ja kielenkäytön alustana kasvaa jatkuvasti. Yhä enemmän ihmisten välisen kommunikaation tapahtumapaikkana ovat erinäiset foorumit, keskusteluhuoneet ja sosiaalinen media. Tämän tutkielman kohteena on suoratoistopalvelu Twitch.tv, jonka kanavien synkronisissa keskusteluhuoneissa suoratoiston katsojat voivat lähettää viestejä toisilleen ja suoratoistoa lähettävän kanavan omistajalle.</p> <p>Tässä tutkielmassa tarkkaillaan kahden eri englanninkielisen pelisisältöön keskittyvän kanavan keskusteluhuoneita ja tutkitaan niissä esiin tulevia eroja ja samankaltaisuuksia. Alustan kanaville on ominaista niiden oman sisäisen yhteisön ja alakulttuurin muodostuminen sekä yhteisön että kanavan omistajan persoonan ympärille. Aineiston keräämisen viitekehyksenä toimii digitaalinen etnografia. Eroja ja samankaltaisuuksia tarkastellaan analysoimalla aineistossa esiin tulleita ilmiöitä ja johdonmukaisuuksia. Tarkkailtavat kanavat valittiin niiden katsojalukujen perusteella siten, että suuremmalla kanavalla oli tarkkailuvaiheessa yli 5000 katsojaa ja pienemmällä kanavalla korkeimmillaan 50 katsojaa. Lisäksi molemmat kanavat olivat tarkkailijalle ennestään vain osittain tuttuja.</p> <p>Kanavien keskusteluhuoneiden kielenkäytössä ja kommunikaatiokulttuureissa havaittiin eroja. Erot esiintyivät erityisesti keskustelujen pituudessa ja usein lähetetyissä viestityypeissä. Lisäksi viestityyppien sisällöissä oli havaittavia ja toistuvia eroja. Aikaisempien tutkimusten perusteella kanavien katsojaluvut vaikuttavat keskusteluhuoneen toimintaan, ja tämän tutkielman tulokset tukevat tätä löydöstä. Erityisesti ”emotejen” käytössä havaittiin tätä löydöstä tukevia johdonmukaisuuksia. Kanavien vuorovaikutuskulttuureissa havaittiin myös eroja, sillä suuremmalla kanavalla viestit jäivät usein ilman minkäänlaista vastausta, kun taas pienemmällä kanavalla lähes kaikkiin viesteihin vastasi joko toinen katsoja tai kanavan omistaja. Viestityypeissä ja niiden sisällössä esiintyi myös samankaltaisuuksia, joka toi esille internet- ja Twitch-kulttuurien vaikutusta molempien keskusteluhuoneiden vuorovaikutukseen. Tämä vahvisti aikaisempaa käsitystä alustan kanavien ympärille syntyvien alakulttuureiden moniasteisuudesta.</p>	
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**FIGURES**

IMAGE 1      Example of emote spam and chat reactions..... 18  
IMAGE 2      Example of chatroom interaction on channel 2. .... 20

# TABLE OF CONTENTS

<b>1. INTRODUCTION</b> .....	1
<b>2. BACKGROUND RESEARCH</b> .....	3
<b>2.1 CMC and CMDA</b> .....	3
<b>2.2 Motivational studies</b> .....	5
<b>2.3 Behavioral studies</b> .....	6
<b>2.4 Livestreaming</b> .....	7
<b>2.5 Memes and emotes on Twitch.tv and in CMC</b> .....	8
<b>3. DATA AND METHODS</b> .....	10
<b>3.1 Research questions</b> .....	10
<b>3.2 Data</b> .....	11
<b>3.3 Digital Ethnography</b> .....	12
<b>3.4 Observation of Twitch chat and field notes</b> .....	14
<b>4. DATA ANALYSIS</b> .....	16
<b>4.1. Channel viewership</b> .....	16
<b>4.2 Types of interaction</b> .....	21
<b>4.3 Types of messages</b> .....	22
<b>4.4 Emotes</b> .....	23
<b>4.5 Conversation topics</b> .....	24
<b>4.5.1 Game/content related topics</b> .....	24
<b>4.5.2 Topics related to the streamer</b> .....	25
<b>4.5.3 Off-topic conversations</b> .....	25
<b>4.5.4 Greetings</b> .....	26
<b>4.5.5 Tips and instructions</b> .....	26
<b>4.5.6 Jokes and memes</b> .....	26
<b>4.5.7 Reactions</b> .....	27

<b>5. DISCUSSION</b> .....	27
<b>6. CONCLUSION</b> .....	30
<b>REFERENCES</b> .....	31

# 1. INTRODUCTION

Online media is a massive and growing industry and is at the forefront of our daily lives. User-generated content especially is still gaining popularity as it has normalized itself instead being the niche it began as. Digital technologies have become an integral part of the daily experience of the human life (Dicks, 2005). Twitch.tv is one of the platforms specializing in user-generated content. It hosts thousands of livestreams every day. Livestreaming essentially means simultaneously recording something on one's selected device and broadcasting it for others to watch. This can be a casual hobby or a full career, depending on the streamer's popularity and their choices in life. An integral part of the streaming experience for viewers is the chatroom, which is the focus for this study.

Twitch.tv started out as Justin.tv, hosting exclusively gaming content, where the streamers recorded their gameplay and, in most cases, their commentary or reactions. In June 2011, Justin.tv became Twitch.tv (Rao, 2011). It has since branched out to become more than a livestreaming platform specializing on gaming, hosting categories such as "just chatting", "creative" and "art and music". The chatroom, often called simply Twitch chat by the users, is on the right side of the screen by default. It is hidden if the viewer watches the stream in fullscreen-mode but is visible in the theater mode. The chat is the primary form of streamer-viewer and viewer-viewer interaction. This provides a unique scene for observing the use of language in multiple unique contexts, as each stream has their own style and atmosphere to them. Different chatrooms can build their own communities over time, especially if the streaming channel has existed for a long time and reached enough popularity to have a large viewer base. The chat can, for example, be suddenly filled with channel specific emotes or memes that only the subscribers of that channel have access to or are aware of.

Livestreaming as a concept has been studied quite extensively (see Ford et al., 2017; Hamilton et al., 2014; Nematzadeh et al., 2016) and even Twitch.tv has been subject to some studies as a platform (see Pires et al., 2015; Gros et al., 2017; Gandolfi, 2016; Chow, 2016). However, outside some of the studies mentioned above, very few studies have focused their attention on the chatrooms and the interactions in there. This study aims to explore language and culture in computer mediated communication and attempts to provide insight into this unique environment. The chat on Twitch.tv (henceforth referred to as "twitch chat") is different from more permanent platforms for discussions and comments, such as the YouTube comment section, as the discussions and comments are presented and reacted to in real-time. In some cases, especially when the channel's viewership is in the thousands, the comments posted in the chat may disappear before one has had the time to read them

or react to them in any way. This happens because the space in the chat window is limited, causing the earlier messages to be pushed out by the new messages posted by multiple chatters at the same time.

As briefly mentioned before, different channels on Twitch.tv can have their own unique emotes for their subscribers to use. Subscribers are viewers who support the streamer by buying a subscription to their channel. The streamer gets a percentage of the subscription as money for themselves, and the viewers get access to channel specific content and get exempted of having to watch advertisements while viewing the stream on that channel. Twitch.tv also hosts their own global emotes that can be used by anyone on any channel, making emotes a prominent feature of twitch chat. Thus, it is an aspect of the analysis in this study.

One hypothesis for the results of this study was that the interactions in the chatrooms of the two different types of livestreaming channels will have significant differences based on the content of the stream. Only a scarce amount studies or reliable sources that explored this point could be found, so this hypothesis is built upon the researcher's own prior experiences watching different types of content on Twitch.tv and interacting with the communities. The previous studies that touched upon it mostly focused on motivation or behaviorism as their viewpoints, which are two of the four main categories for earlier Twitch studies, as will be discussed in chapter 2. Only way to illustrate the effect before discussing the results from the data is to refer to the site itself. On the site one can observe that, for example, channels focused on a specific type of game or just a specific game will have chat interactions based on those games. There is a large variety of games found on the platform, which was one of the challenges for choosing the data. An art focused channel can be expected to have different types of chatroom interactions than a politics focused channel, for example. In addition to the different categories the livestreams can belong in, such factors as the streamer's personality, how long the channel has been streaming, the size of the viewership and community building are just a few examples of what might affect the interactions in various chatrooms. The data discussed later was taken from two gaming themed channels, to provide an easier comparison. One of the two channels in each category had a larger number of viewers, and the other had a small number of viewers. These will be defined more specifically in the chapters 3 and 4. Due to the spontaneous and instantaneous nature of the chat, this study was conducted as a digital ethnographic field study, using field notes and observation as primary data collection methods, discussed in more detail in the data and methods chapter. In chapter 5 the findings are explored to provide some insight into the meaning behind them.



## **2. BACKGROUND RESEARCH**

As mentioned in the introduction, four main categories can be identified for previous Twitch related studies. These categories are: 1) Motivation 2) Behaviorism 3) Livestreaming and 4) Memes and Emotes. Of these categories, numbers 1 and 2 are the most researched and can be considered the two main streams of research (Zhao et al., 2021). Motivation focused studies aim to explore the reasons for both streamers and viewers to engage in the activity called livestreaming. Behavioral studies then focus on the behavioral patterns that emerge in the chatroom and streamers on the platform. These also tend to focus on group behavior. Livestreaming as a phenomenon has seen some studies focusing on the technical and commercial aspects of it, such as how the technology is used and how content creators and platforms commercialize their platforms as products. However, as this aspect is not integral to this study, only a brief example of these types of studies is included. Finally, as the interactions between the streamer-viewer and viewer-viewer interactions often include heavy use of internet memes, emotes, slang and gaming-related lingo (Barbieri et al., 2017), some background must be provided to gain some insight into these aspects. For the purposes of this study, they are treated as a unified category, as while they are not the same issue, they are still interconnected often enough that it would not make sense to have a separate section for both. The following sections on background research explore these four categories to provide some understanding of what has previously been studied about Twitch.tv. Additionally, the field of Computer-Mediated Communication is explored briefly to provide background information for the data and methods chapter.

### **2.1 CMC and CMDA**

As this study will deal with online interactions and, therefore, online communication through a computer, it fits within Computer-Mediated Communication (CMC). McQuail (2010: 459) defines CMC as any communication that takes place using a computer and in both offline and online settings. The term can be used to describe a variety of communication between humans through different types of electronical means, in addition to what is traditionally known as “computer” (Herring, 2013: 6). As Twitch.tv can be used on any type of device with the capability of accessing an internet browser, it is an important distinction. It can therefore be argued that the chatroom of Twitch.tv livestreams is

included within the definition. Moreover, Twitch chat fits within Herring's definition for a chat in computer-mediated communication, being a communication mode in which users are using a computer system to simultaneously exchange text messages. Within this definition, such tags as "conversational", "interactive" and "synchronous" are attached to a chat (Herring & Virtanen, 2013). CMC has been studied in multiple different academic disciplines, such as media studies, linguistics, health care and media studies (Thurlow et al., 2004: 20-21). An alternative viewpoint within CMC also exists, called Computer-Mediated Discourse (CMD), which focuses more specifically on language and its use. In CMD the methods of discourse analysis are employed in researching this focus (Herring, 2015: 127).

Herring (2004: 4) also provides a tool for analyzing CMD, called Computer-Mediated Discourse Analysis (CMDA). In the article by Herring, CMDA is described as more exhaustive than a singular theory or a method. It is a collection of analytical tools and approaches from multiple disciplines with an aim to research computer-mediated discourse. This allows the use of CMDA as a framework for a large variety of research relating to any form of discourse or interaction between humans using any kind of device. CMDA is used to explore online behaviors from the viewpoint of language and identifies four levels for the analysis: meaning, structure, interaction and social behavior (Herring 2004).

In CMDA, the meaning level constitutes of utterances, larger functional units and the meaning of words in general. On structural level the special typography, orthography, word formations and sentence structures are brought into focus. The interactional level includes concepts such as turn-taking, topic development and a variety of other exchanges. Building upon that, the interactional level ventures into more complex topics, such as expressions of play, power/conflict and the linguistics related to them. All four levels can directly be applied to a study about online chatrooms, but the levels of meaning and structure are arguably going to be the most used levels from the framework for this study, as the other levels would require a more focused study on phenomena related directly to them. CMDA is focused on exploring recurring patterns that the participants of discourse can be both conscious and unconscious about. Because of the unconscious side of the phenomenon, Herring (2004: 4) argues that direct observation could potentially provide more reliable results of the discourse than self-reported ones. In the present study, which will focus on observing differences in chatrooms, this approach is highly beneficial.

## 2.2 Motivational studies

In 2017, a study by Sjöblom and Hamari set out to lay groundwork for understanding the video stream consumer motivations. More specifically, they sought to find out why the consumers choose to watch other people play video games. They identified five types of motivations: cognitive, affective, personal integrative, social integrative and tension release. Furthermore, they found that some of these types are affected by factors such as how many hours a user has watched a specific stream. Their study was conducted as a questionnaire-based survey distributed on social media and gaming related forums, which appears typical for motivation-based studies within this sphere. Interestingly, through this study they found evidence of the status of video games bleeding into the definitions of more traditional forms of media, such as television, referring to how games can fill the role of gratification through both play and spectating. They also found out that social integrative motivations correlate with the number of hours a consumer has spent watching a specific stream, as a higher amount gives them more chances to interact with the communities (Sjöblom & Hamari, 2017). Viewed from the perspective of the current study, these findings provided an interesting insight, as viewers with longer watch times can be expected to act differently from users who are new to the channel.

In study fitting in two categories in this chapter, livestreaming on Twitch.tv was explored from the viewpoint of how it fosters participation and community (Hamilton et al., 2014). Similar to this study, Hamilton presents an ethnographic investigation on livestreaming on Twitch. However, while the focus of the current study is on the chatroom, Hamilton's study focused more broadly on the subjects of livestreaming and community building. The two primary findings of Hamilton's study were: 1) viewers are drawn to a particular stream for the unique content it provides them and 2) viewers like participating and interacting with the stream and its community. Twitch streams can be considered participatory communities where the members engage in shared activities, the primary of which being sociability (Hamilton et al., 2014). In this sociability, the core community members are the key in community building beyond the streamer themselves, as they reinforce participation and moderate the chatroom (Hamilton et al., 2014).

Furthermore, they found out that as the viewership of a stream continues growing, the viewers can become frustrated with the difficulty of interacting. This refers to the concept mentioned before in the introduction, where the previous chat messages are pushed outside the chatroom window by numerous new messages, and the chatters cannot react to them or read them. Their definition for a massive stream in the study was 1000 simultaneous viewers. According to Hamilton this can lead to some viewers preferring smaller streams, where meaningful interactions are more likely. In the bigger streams the reason for participation was tied to the unique content that stream provided, as one-on-one interactions stop. Even more intriguingly for this study, Hamilton et al. (2014) found that their interviewees identified with streamers who exhibited similar emotions or attitudes as them when playing games, such as silliness or open anger. It was noted that this phenomenon tends to create an environment where the participants have similarities and share common interests and the streamer exhibits a congenial attitude towards their viewership.

## **2.3 Behavioral studies**

Nascimento et al. (2014) proposed a model for analyzing streamers and spectators' behavior in 2014, aiming to provide a template for characterizing the communities that form in livestreaming. This model mapped actions of both streamers and spectators to enable quantitative and qualitative analysis of the video game livestreaming communities. Nascimento et al. (2014) also explain that the conversation topics vary depending on their associated sub-communities, similarly to how Hamilton et al. (2014) showed that viewers tend to join communities where the streamer exhibits similar traits or emotions to them. However, whereas Hamilton studied multiple different types of streams, Nascimento et al. (2014) focused on channels streaming a specific game, Starcraft II. Their main findings were as follows: 1) viewers show behavioral patterns such as channel surfing and leaving quickly just before the stream ending, 2) the content of livestreams is longer and less edited compared to other online content, 3) there is a semantic meaning to channel switching, 4) the content is mainly consumed by a small fraction of very assiduous streamers and 5) that they could predict the number of messages in the chat using a closed formula in their model (Nascimento et al., 2014). For the current study, finding number 5 was the most interesting, implicating that there is a pattern for predicting the number of messages based on the viewership amount. While not directly related to the data in this study, this finding can explain some of the findings discussed in the data analysis chapter.

Eric Chow (2016) studied Twitch users behavior using the Uses & Gratification theory in combination with research on Collective Behavior in his Master's Thesis. He found that chat participants have found new ways of expressing themselves in chatrooms where the problem of messages moving too fast occurs. These ways are not dependent on input from other chatters and is easy to comprehend on a quick glance, such as emoticon spam to react to something that happens on the screen (Chow, 2016). He also found that such activities as the emoticon spam requiring multiple chatters engaging in the activity simultaneously fosters a sense of community and solidarity amongst like-minded individuals, further reinforcing the point made by Hamilton and Nascimento that streaming communities form around streamers who exhibit traits that viewers identify with. For analyzing language and cultures in the chatrooms, this insight is highly impactful.

Additionally, Chow (2016) identified three phases in the behavioral structure of Twitch chat. The first of these is *the chat phase* where the messages appear slower and individual chatter's comments have more time on the screen, resulting in a more conversational chatroom. According to Chow (2016) this phase is typically found in lower populated streams. The second phase is *the crowd phase*, where the messages start moving out of the chatroom window faster. In this phase, Chow found that copied messages and spammed memes begin to be more frequent, as conversations are harder to uphold than in the chat phase. He argues that a sufficient number of viewers is required for a chat to enter this phase. In addition, he found that messages sent in this phase had a more entertaining tone and intention. The third phase, which Chow (2016) calls *the collective phase*, of the chat fully resembles the behavior of a large crowd, according to Chow. In this phase any rational discussion becomes impossible, and the chat is filled with memes, outbursts and different types of spam. Certain types of comments are adopted and permuted by other chatters and tend to fill the chatroom window. Chow argues, that in this phase the chatters engage in collective behavior very easily. He sets the viewership threshold for this type of behavior at 10 000 viewers, at which point the behavior of the chatroom fluctuates between the crowd phase and the collective phase.

## **2.4 Livestreaming**

Dapeng et al. (2001) researched livestreaming early on as it was still only growing as a phenomenon. In their article they defined livestreaming as a real-time transmission of a stored video where parts of it are being received and decoded simultaneously. At the time of their article, livestreaming was not a simple matter, as internet providers couldn't promise a service free of such issues as delay and packet loss for livestreaming. They explored various different mechanisms and strategies for combatting these issues and to explain how streaming works. The major components were: 1) video compression, 2) application-layer quality of service control, 3) continuous media distribution services, 4) streaming servers, 5) media synchronization and 6) protocols for streaming media. These issues remain observable in the livestreams of today, but they are not as prevalent, as they were in the times Dapeng et al. (2001) wrote their article. For the purposes of this study, they affected the data only in situations where the livestream suddenly shuts down or the connection to the chatroom window is interrupted, which can affect the messages sent in the chatroom, especially on channels with a large viewership. It also provides a point for discussion later on, as it can be theorized how developing these issues and services has contributed to how the communities and cultures of Twitch became as they are.

## **2.5 Memes and emotes on Twitch.tv and in CMC**

As briefly mentioned earlier in this chapter, the Twitch chat is frequently filled with memes and emotes, some of which are so called “inside jokes” within the community of a specific channel. These can involve often repeated jokes or using channel specific emotes, called channel emotes on the platform. These emotes are often made by community members of the channel and are available for those who paid a subscription fee on the channel, giving them access to emotes and other channel perks, in addition to not receiving advertisements. An article by Barbieri et al. (2017) explored the use of emotes on the platform and is an excellent resource for obtaining an overview for how emotes are used on the platform and how they alter then meaning of messages sent in the chatroom. Twitch emotes are a significant aspect of linguistics on in Twitch chat, as they often serve a different communicational purpose than the more traditional emojis on Twitter, for example (Barbieri et al., 2017).

Relatively few studies have specifically researched memes on Twitch.tv. Nathan Jackson (2021) explored a concept they defined as *memesis*, meaning a process where internet users create new memetic media based on meme-content that already exists. In their study Jackson observed two

different Twitch channels and how their streaming persona affected the collective behavior of the Twitch chat. It is worth noting that this study falls under behavioral studies as well, further solidifying motivational and behavioral studies as the two major categories within this sphere of research. Jackson (2021) demonstrates how memes emerge from the gameplay and community during livestreams and how this changes the dynamics of interaction and spectators. The two major findings of the study were: 1) memes allow for decentering the streamer, therefore allocating for more active participation from the spectators and 2) memes express collective values and operate as tools for moderation within the chatroom. By building upon existing memes on both the internet and the channels, the chatters engage in community building through the process that Jackson calls *memesis*. This includes a term called *memetic history*, which Jackson explains as the history of memes within the collective memory of a channel's audience. For the purposes of current study, the concept of memetic history is a valuable viewpoint, as one of the prerequisites for understanding the culture and linguistic phenomena of a given community, these memes need to be understood by the researcher.

In 2001, a study by Walther and D'addario sought to explore the potential effects of emoticons on Computer-Mediated Communication (CMC). Their results were largely unexpected when comparing to their hypotheses, as the effects of emoticons on the interpretation of messages had no effect in most cases and replicating the results proved difficult. However, when an impact was found they explained that it was more on the emotional level, such as a smile emoticon adding happiness rating to a positively toned message. They maintained that verbal message content prevailed over the impact of emoticons used in the communication. The limitation of not testing the effects of emoticons in conjunction with no verbal content was discussed later in their article, at which point they suggested that the use of emoticons in this way could parallel nonverbal behavior outside of CMC. Additionally, they speculated that adding emoticons to messages with a neutral meaning could make the impact of the emoticon stronger. This provides an interesting point of discussion, as the practice of subverting or modifying the meaning of a message via the use of a Twitch emote becomes apparent in the analysis chapter.

Dresner and Herring (2010) studied the communicative functions of emoticons in the CMC by applying speech act theory to explore the mechanisms in this type of communication. They found that the common function behind the use of emoticons is the indication of an illocutionary force. As one example of the application of illocutionary force they found that a smile was added after a message

to permute it from a complaint to a simple assertion. Furthermore, they concluded that research from the angle of emoticons not always expressing emotion would provide numerous new possibilities for theoretically grounded empirical research into this issue. Dresner and Herring show, that as emoticons imitate facial expressions in communication, they share the tendency of being considered extralinguistic. This motivates the perception of emoticons as icons of emotion, which is also where the name comes from. Dresner's and Herring's research implicates, however, that emoticons can instead serve a similar function to punctuation, for example. This then raises the question whether emoticons should be considered linguistic behavior, answers to which will not be provided by this study. However, as will be discussed further in chapter 5, it affected the interpretation of the data.

### **3. DATA AND METHODS**

In addition to the research questions, a description of the data and methodology of the study are presented in this chapter. As Twitch.tv presents a unique platform for the study of language and culture, critical aspects of it will first be explored and defined further. From there the chapter moves on to discuss the methods of research used in the study, including digital ethnography and Herring's faceted scheme, and how these are applied in the data analysis. Finally, the chapter explains the process of observing Twitch chat as a data collection method.

#### **3.1 Research questions**

1. What differences and similarities related to language and culture can be found observing the two different types of livestream channel's chatrooms?
2. Can the differences and similarities (if any are found) be perceived as being related to the specific content on the channels or are other factors more likely to be direct contributors?

The research questions were specifically formulated to avoid branching outside the intended area of language and culture, as is explained in more detail in the next section. Furthermore, the questions were formulated according to preliminary observations of Twitch.tv chatrooms prior to the actual observations, as it became obvious that the original questions could not be answered with the chosen methods of analysis and data collection.



## 3.2 Data

The data consists of field notes taken while observing two different gaming related Twitch channels and, more specifically, their chatrooms. Due to the nature of the Twitch chat, and depending on the channel, a certain amount of time is required from the observer to learn about the subculture within the specific community. This means that there is a ‘learning curve’ associated with ever new chatroom, as culture in the chatroom is a result of community building within the specific channel. This results in a complex additive construct of different levels of culture: the real-life culture, the internet culture, Twitch culture and channel specific culture. Here the ‘real life culture’ refers to the cultural background of the individual chatroom users referred to as ‘chatters’. While the focus of this study is the channel specific culture and language, the other levels of culture also affect these to some degree. Pointing this out is critical, as it also affects the results of the analysis and increased learning curve for the observations. This learning curve was also a factor in choosing the channels for this study, as the author’s previous familiarity with gaming related content on the platform helped to lessen the amount of time needed to learn the culture of these channels. Very specific types of lingos can be found in the chatrooms, some of them related to the games being played and some related to Twitch itself, as examples. Furthermore, the numerous inside-jokes and memes require familiarization time to allow for an analysis. The channels were also chosen to represent two different sizes of channels, one being a large one and the other a small channel. For the purposes of this study, the definition for a large channel is a channel that has 5000 or more viewers, and the definition of a small channel is 50 viewers or less. This aspect was expected to be a major factor contributing to the type of communication in the chatroom and for the chatter-streamer and chatter-chatter interactions.

Another major aspect of Twitch is the emotes. While the general and better known emojis, such as the “smile”- emoji are also used on the platform, emotes are more frequently used and are a significant part of the communication, thus they need to be further examined before the analysis, despite not being in the focus for this study. Twitch emotes are often directly related to Twitch culture and are used exclusively on the platform. An example of a Twitch emote is “Kappa” emote which turns into a face when a user types the word in the chatroom and sends the message. The meaning of the emote is to implicate sarcasm in the chatter’s message. These types of emotes can be considered ‘Twitch emotes’. In addition to Twitch emotes, there are also channel emotes, which are similar in style to the

Twitch emotes, but are only available for the subscribers of the specific channel these emotes originate from. These can be inside jokes, the channel's own versions of the popular platform emotes, or something related to the channel's host, the streamer. As will become evident in the analysis in chapter 4, these emotes are a major part of language use in the chatroom and are also a major component of Twitch culture. The frequency and significance of emotes was expected to be greater on the larger channel than the smaller one due to the chatroom's interaction speed increasing, as was found by Hamilton (2014) and explained in chapter 2.

As also explained in the prior chapter, motivational and behavior studies are two major types in the scene of Twitch related studies. The focus for this study was attempted to not fall under these two major categories, the nature of the data pushes towards them. To answer the research questions from the observation, an inclination towards describing and exploring the motivations of the chatters and group behavior patterns becomes evident. Thus, certain aspects of the analysis are invariably related to these categories, but as background research into these specific issues is not provided in this study, an intentional correction of the course towards the topic of language and culture was made in the chapter 4.

### **3.3 Digital Ethnography**

The methods of this study follow the framework of ethnographic study applied into a digital environment. One of the premises for the study was to treat Twitch.tv as a digital counterpart to real-life environments where communication and language use occurs, thus the data collection was limited to real-time observation of the chatrooms despite methods such as downloading the entire chat history limited to certain time periods being potentially available. As media can be considered a fundamental element that is embedded into the daily lives and practices of modern people (Hammelburg, 2021), traditional ethnography and digital ethnography can be perceived to be closer to each other. Research that acknowledges this closeness is called for, according to Hammelburg (2021). He explains that analyzing digital datasets in digitally native ways can provide an etic perspective into what happens in this eventsphere.

“As these fields are constantly forming themselves, changing in a multitude of ways, examining them demands a flexible and iterative approach. Studying evolving eventspheres asks for “live research.” Ethnographic research methods

such as participant observation and interviews “allow us to refigure social media as a fieldwork environment that is social, experiential and mobile” (Postill & Pink, 2012, p. 125). They provide the possibility of adapting to the situation encountered and changing plans when the fields ask for adjustments.”(Hammelburg, 2021)

The value in this approach comes from bringing subtle nuances and meanings that occur in the digital environment, with the researcher going inside these environments to conduct research that would not be possible from the outside perspective (Hammelburg, 2021). The main focus of this study is to learn and describe the use of language and emerging culture within the digital environment known as the Twitch chatroom. The method of data collection is observation of the chatroom interaction without participation, as the researcher could greatly influence the discussion and activity in the chatroom. This is more relevant in the case of the smaller channel, as the number of simultaneous chatters is significantly lower, thus resulting in individual chatters potentially having much more of an impact. To avoid this discrepancy, observation was chosen as the method of data collection in the case of both the channels picked for this study. However, it is noteworthy that this method caused certain issues for the data collection, as the streams were not always available when the researcher was ready to conduct the research. One of the channels had a schedule that was dependent on the free time available to the streamer each week, while the other channel had no consistent schedule despite being quite reliable available almost daily. This resulted in the observations being sometimes insufficient in length as the stream ended soon after the researcher opened the chatroom.

While the connection between real world ethnographic field work and the digital one has become closer, there is still the question of in what ways does the researcher need to think differently (Markham, 2013). As, for example, ‘lurking’ is a socially accepted form of non-active participation in social media contexts (Markham, 2013), and it is similarly accepted and practiced in Twitch chatrooms. This is a difference between a digital environment and the real-world physical contexts that allows for the non-participating observation used in this study but is one of the key aspects for this type of ethnographic study. The chatters cannot see each other’s physical form and can only interact with each other through their usernames within the platform.

While the usernames on the platform rarely correspond with the actual identity of the users, it can in some cases be found out due to connections to other platforms or possible internet fame of the user

in question. Showing a user's name could lead to unwanted exposure, and thus the names of both the channels and users are omitted from the examples in chapter 4 of this study. In the case of the smaller channel specifically, showing the names of the participants in addition to the channel name would make finding both the channel and the user simple, as only a few users send messages in the chat at a time. This is a problem with researching these types of environments, as the researcher's perception of privacy can be different from the actual level privacy afforded by the platform's setup (Dicks et al., 2005).

### **3.4 Observation of Twitch chat and field notes**

The concept of travel can still be regarded as the factor that makes ethnography distinctive (Hine, 2000). For this study, the 'travel' for the researcher is simply observing the chatrooms of channels the researcher was previously unfamiliar with. However, due to time constraints and the relatively small scope of this study, the channels chosen for observation were not entirely unknown. This was done to avoid problems arising from picking channels randomly by using only the viewership numbers as a guideline, and therefore gaining a more cohesive and reliable set of data. Enough time was spent by the researcher on the channels previously to have some knowledge about the type of content and interaction that could be found on the channel, thus ascertaining the existence of the phenomena in the focus of this study.

No numerical data outside keeping track of the approximate viewership during the observation was collected. Thus, the data was collected for qualitative and interpretational analysis of interactional material with a small sample size. Furthermore, the analysis itself is based on a type of cycle in digital ethnography, where accumulated new information is compared with and added to previously accumulated data before the study, and therefore either changing or strengthening the previous conception of it. The main method for data collection was systematically observing the chatrooms of the two different channels, instead of interacting with the chatroom as a researcher. As briefly mentioned above, this can be defined as "lurking", which is a form of engagement that allows for observing as much information on the group as possible (Hand & Hillyard, 2013), without having to spend time interacting and asking questions. As an example of such information, let us consider the perception of a new user. Without spending time on Twitch and observing the chatrooms and the platform in general, it isn't possible to understand what affordances and constraints are present in the

chat and for the channels themselves. Similarly, a researcher cannot immediately understand the data they are seeing upon turning on a stream and starting to read through messages sent by chatters they have never seen before. As a channel accumulates viewers, especially viewers who return regularly to watch the same channel, communities start to form around the channel. This results in the communities often forming their own “inside jokes”, that are often relevant to something that happened on the channel before, or they can be a direct reference to something specific about the streamer. Understanding something like this requires sustained presence in the field setting and when combined with intensive engagement, Hine (2000) argues that special kind of knowledge we call ethnographic can be achieved. The sustained presence allows the researcher to reduce the puzzlement about the various factors that hide behind the text messages in the chatroom.

To help with collecting and structuring the emerging data from the observation, field notes were collected during the observation. Due to field notes requiring a certain amount of decision making from the researcher, a part of the analysis was already done during the process of observation, as the field notes could not include everything that happened in the chatroom. This was more relevant on the larger channel, as the messages moved out of the chatroom too fast at times to allow for a detailed recording. The first phase of observations focused on the patterns emerging in the chatroom interactions on the two channels to provide an overview of them. This allowed for the following sets of observations to focus on emerging differences and similarities in these patterns in the chatrooms. One challenge for the study was to explain the ethnographic knowledge obtained before the study as it was accumulated for many years beforehand. While it cannot be completely explored and explained in detail, the question of how it guided the selection of patterns and phenomena during the data collection is discussed in chapter 5 of this study.

As mentioned before, Computer-Mediated Discourse Analysis (CMDA) provided a basis framework for analyzing the data. In essence the analysis will be qualitative data-analysis and the collected data was categorized per channel and per channel category (gaming and non-gaming) in field notes. The found differences and similarities are explored in chapter 4. The primary source of framework for the analysis will be Herring’s faceted classification scheme (Herring, 2007). This will allow for categorizing and organizing the data into eight different categories, consisting of what Herring calls “situation factors. These include: 1) participation structure, 2) participant characteristics, 3) purpose, 4) topic or theme, 5) tone, 6) activity, 7) norms and 8) code. While some of these could be almost

directly applied to the data that was expected to emerge, such as differences in tone, others can be less relevant. For example, due to the observational and anonymous nature of the data collection, participant characteristics and participation structure are almost completely irrelevant, as they rely on background information about the participants in a survey setting. By contrast, the purpose of the chatters who check the box of participants in this study can be explored through critical, informed interpretation. While definitive answers cannot be obtained, it provided points of discussion about the second research question, where definitive answers were not expected in the first place. The analysis with this in mind was done by systematically analyzing the field notes. The overview and results of this are presented in the next chapter.

## **4. DATA ANALYSIS**

For this chapter the two observed channels are referred to as ‘channel 1’ and ‘channel 2’ to conserve the anonymity of the chatters and the streamers. While the names used on the channel are rarely the same as the users’ real-world names, the possibility for tracking down the real-world identity remains. Thus, the names of both the channel and the chatters are either deleted or pseudonymized when the findings are discussed (Franzke et al., 2020). This is more relevant for the smaller channel (channel 2), as the individual chatters could be identified from the contents of the chat if one knew the channel’s name. The bulk of the observation was systematically as planned between November of 2021 and January of 2022, but as the availability of this type of data is unpredictable, some of the findings brought up in this chapter were observed outside of that time period. This issue is discussed further in the discussion chapter later on. This chapter is guided by the emerging patterns identified during the observations and analysis of the field notes. Before the patterns found in the data are discussed, the effect the number of viewers has on the chatroom interactions is explored and compared to consistencies found in the data, as this provides an important perspective in the findings explored later on in the chapter, and as it was also explored by other studies presented in chapter 2. However, it is important to note that verifying the exact correlation between the viewership numbers and the effects on the chatroom communication is not possible in the scope of this study.

### **4.1. Channel viewership**

During the observations, channel 1 had over 10 000 viewers at the highest and around 3 400 viewers at the lowest. Channel 2's viewership fluctuated between 10-50 viewers at the times of observation, maintaining roughly 20 for the majority of the time of observation. These fluctuations created more significant changes in the chatroom communication for channel 1, as the messages moved out of the chatroom window faster the more viewers came in. This was similar with Hamilton's (2014) findings about the number of viewers, however, where Hamilton found viewers becoming frustrated with the difficulty of interacting, a different phenomenon could be observed here. As the number of chatters on channel 1 grew, the length of the messages shortened but the interaction with the streamed content intensified. This was shown as channel emoticon/emote spam when climactic moments occurred on the stream, often mirroring the streamers reactions or expressing amusement. Picture 1 shows an example of what these moments entail in the chatroom. When the viewership on channel 1 reached over 5000 viewers these moments increased in frequency.

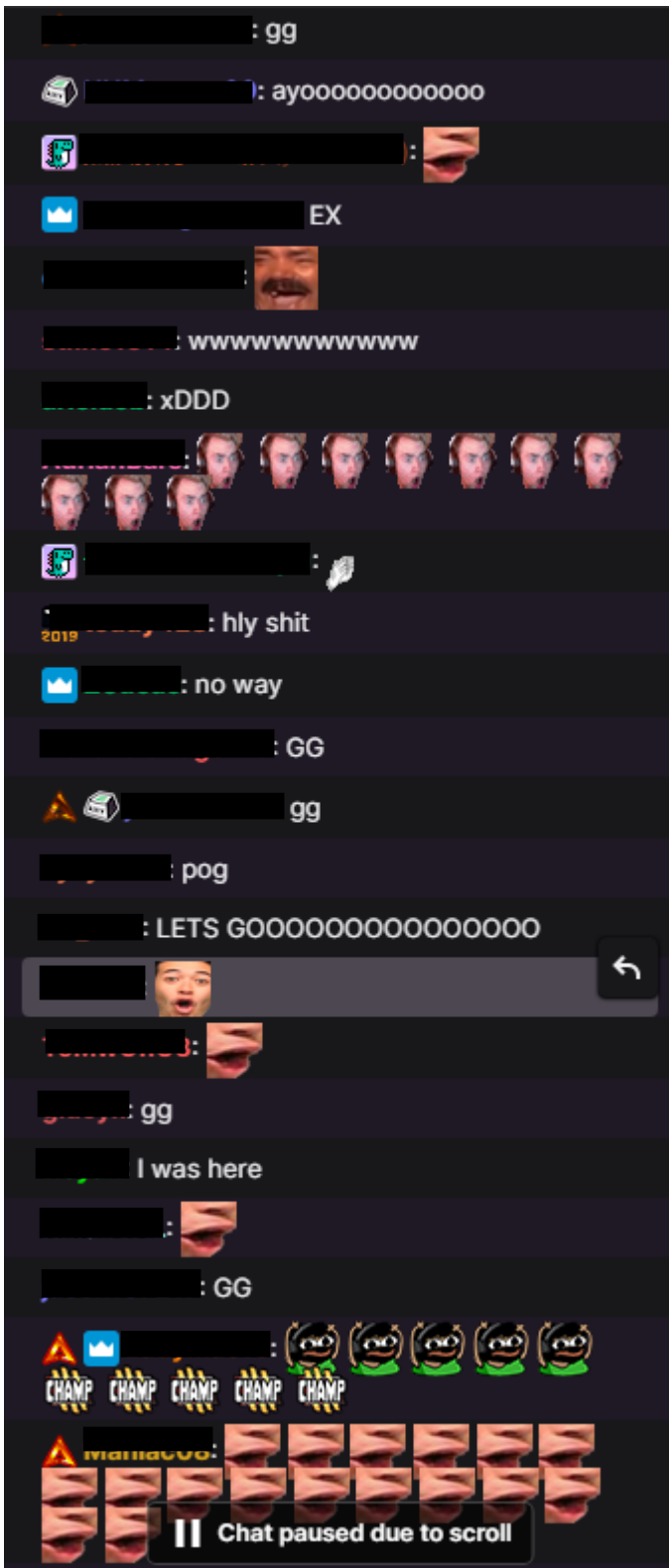


Image 1: Example of emote spam and chat reactions

On channel 2, the viewership never reached over 50 viewers, and thus, these types of spamming and one word/acronym reactions to the content or the streamer could not be found during the observations.



Instead, the chatroom rarely discussed the events of the streamed games directly, focusing more on subjects such as the current events in the world, the games developmental phase and the lives of the streamer and the individual chatters. The topics for discussion and interaction will be explored more later on in this chapter, as they are one of the primary observations of this study. As the chat moved much more slowly for channel two, the viewers also had a tendency to send much longer messages and taking up multiple lines in the chatroom window, making this a noticeable difference between the two channels. Furthermore, the increased screentime for the individual chatter's messages also appeared to encourage more careful consideration of the grammatical accuracy of the sent messages. Grammatical features such as incorrect spelling and syntax were frequent on channel 1 and comparatively rare on channel 2. This pattern was consistent throughout the entire observation period; from the preliminary observations before finalizing the study to the last observations in January 2022.

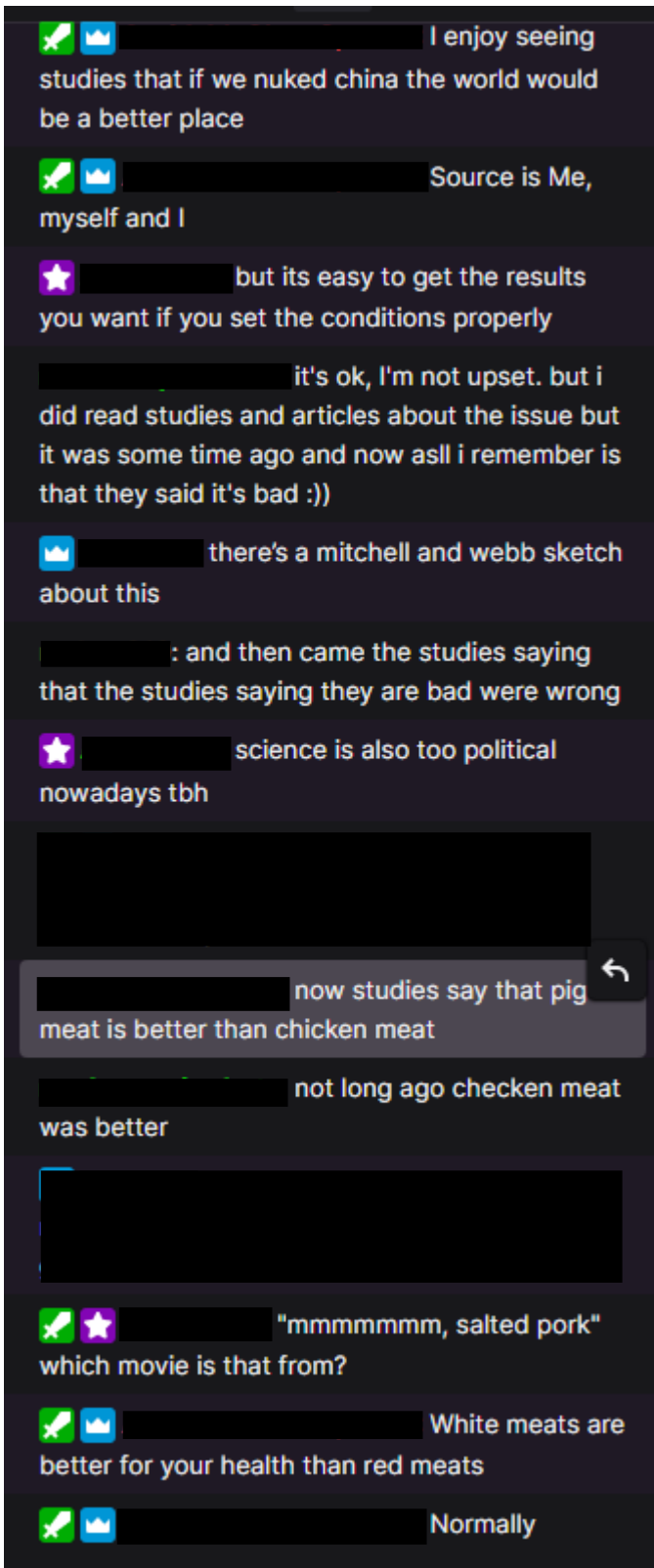


Image 2: Example of chatroom interaction on channel 2

## 4.2 Types of interaction

Three types of interaction were found during the observations: 1) chatter – streamer, 2) chatter – chatter and 3) chatter – content. These refer to the who or what the sent messages in the chatroom were aimed at, and which components the interaction was established between. For channel 1 the chatter-content interaction was more frequent, as the chatters’ messages were reactions to the events in the streamed content, as mentioned in the above section. These messages are directly related to the content of the stream in the form of reactions, emotes, memes and inside jokes within the community. An example of this is the “gg”, which means ‘good game’ that is often used in the gaming community after a game or a match within a game has ended. On channel 1 this message saw frequent use due to the match-based nature of the game being streamer, thus creating multiple instances where the game ended. In the observations these types of messages were consistently more frequent when the streamer won the match. Conversely, when the streamer lost the match, the chatroom was filled with emotes and messages expressing amusement at the streamer’s reaction to the loss or as a sign of empathy.

For channel 2, the chatter – content interaction type was consistently less frequent compared to channel 1. The chatroom interaction instead focused more on chatter-streamer and chatter – chatter interactions, often resulting in long conversation between these components/participants. Conversely, no chatter-streamer interaction could be observed on channel 1 and the conversations for chatter-chatter interactions were usually two messages long, often consisting of a question and an answer. A distinction between chatroom messages and text-to-speech donation messages was made in the analysis here, as the chatter-streamer interaction occurred entirely through these ‘donation messages’ on channel 1. The chatter – streamer and chatter – chatter interaction on channel two could last for the entire observation (1 hour in most cases), which never occurred on channel 1 during observations. As Hamilton et al. (2014) observed, this could result in some viewers preferring the conversational interaction on channel 2 instead of the more content and reaction-centric interaction found on channel 1. Content-centric reactions were also a feature on channel 2, despite the lower viewership. However, they took a different form when compared to the ones found on channel 1; instead of spamming singular emotes or abbreviations, the messages on channel were more specific and informative, such as “Damn, that’s a fatal misclik”. This is explored more in the discussion chapter of this thesis, as this is a major difference between the two communities.

### 4.3 Types of messages

As touched upon in the section above, there were differences in the message contents on the two channels. While not all of them can be categorized under a specific type of message, those that highlight the communicational and cultural differences between the communities of the two channels are explored here. The majority of messages on channel 2 are considered to fall under the broad category *conversational messages*, and similarly, the majority messages on channel 1 are categorized under *reactional messages*. Here the conversational messages refer to messages that are formulated to engage in a conversation with either the streamer or another chatter, whereas reactional messages are simple reactions to either the streamed content or to something either the streamer or another chatter said or did without any further responses. While these broad categories do not encompass all the messages sent during the observations, they highlight the key difference between the channels. The intentionality behind the messages sent is impossible to ascertain in the scope of this study, but there exists an observable difference on the two channels. On channel 1 with the larger viewership the messages tended to fall under what Chow (2016) identified as the *crowd phase*, where copied messages and spammed memes take up most of the interaction. Conversely, channel 2 was permanently in Chow's *chat phase*, where the messages have much more screentime and are conversational in tone. Interestingly, despite channel 1 frequently having viewership close to or over 10 000, the chatroom fluctuated between the *crowd phase* and the *collective phase*, where according to Chow (2016) the chat fully resembles the behavior of a crowd and rational discussions are impossible. This fluctuation consistently followed the flow of the content being streamed, where the types of messages changed from more conversational types to reactional types depending on what was happening in the game or following the streamer's actions on channel 1. While channel 2 never reached these phases, a similar effect of reactional messages depending on the state of the game could be observed, however some of the chatters focused on their conversations while not taking part in these reactional messages.

Another type of message identified was the spam messages, often consisting of specific emotes, abbreviations or game/gaming specific lingo. This type of message was much more prominent on channel 1, and almost nonexistent on channel 2. "Gg", which was mentioned before, was the only one consistently used on both channels. On channel 1 the spam message contents included trolling, ambiguous, instigation or off-topic comments in addition to the purely reactional comments, sometimes resulting in other chatters picking them up and spamming them in the chatroom. Here 'trolling' refers to messages that may seem good intentioned but are meant to mislead or as a prank.

One example of these types of spam messages was a frequently repeated “pp pills” – joke on channel 1, which was mentioned multiple times during all the observations either in chat messages or text-to-speech donations. However, this was different from the other spam messages, as it frequently gained a response from the streamer denying the existence of said ‘pills’. This is an inside joke on the channel that is a product of community building and existed before the observations for this study began. No similar phenomenon could be observed on channel 2.

However, a message type consisting of meta-analysis of the streamed content or the game was present on both channels. These messages referred to topics such as the recent update to the game or the company that created and/or published the game. Unlike the previous types of messages, these started conversations on both channels. On channel 1 the chatters commented on new items in the game or gameplay often without expecting a direct response to their messages and instead just reacting to what another chatter or the streamer said indirectly. On channel 2 these comments were more interactional and were directly connected to another chatter’s message or directed towards the streamer, resulting in clusters or pairs of chatters discussing different topics.

#### **4.4 Emotes**

Twitch emotes are an integral part of Twitch culture. This notion was supported by the findings in this study, as both chatrooms utilized emotes provided by Twitch as a platform, third-party sources and the channels’ own emotes. However, as mentioned in the previous paragraphs, the spam usage of emotes was consistently present on channel 1, whereas on channel 2 there was no spam during observations. On channel 1 the emotes were used to express emotions such as amusement or amazement. This type of use was most consistent in chatter–content interactions but was also present in chatter–chatter interactions. The use of emotes to change or reverse the meaning of sentences was consistently more prominent on channel 2, supporting the argument for the more conversational and informational tone of messages on the smaller channel. An example of this is the use of “Kappa” emote, which is usually attached to the end of the message to implicate that the message is intended to be interpreted as sarcastic according to the researcher’s ethnographic knowledge. While not completely nonexistent on channel 1, this type of emote use was consistently less frequent compared to channel 2 during the observations.

Similar to emote use in general, the extended pool of emotes was consistently more present on channel 1. These emotes can be considered third-party emotes as they are not present on the Twitch.tv

platform unless one installs an extension to their browser and the channel unlocks their use. An interesting linguistic aspect is tied to these emotes, as some of them are modifications to the more general Twitch emotes, similarly to how channel specific emotes can achieve the same effect. However, the third-party emotes can be considered to be positioned somewhere between the general Twitch emotes and channel emotes, as they can be used on any channel without having to subscribe to the channel they originated from, such as is the case with channel emotes. An example of the third party emotes is “monkaS” which is an emote that is meant to signify being scared or shocked. One modification to this emote is “monkaGIGA”, which is essentially an extreme version of the same emote, where the eyes of the emote are enlarged to signify a more powerful shock or scare. The use of these emotes was consistently present on channel 1 and nonexistent on channel 2 during observations, indicating more support for the argument that emotes and spam hold more importance to the communication/interaction on channels with higher viewership number.

## **4.5 Conversation topics**

As touched upon earlier in this chapter, the conversation topics had both similarities and differences on the two channels. This creates a comparison in how conversations occur and are handled in the chatrooms. As the word ‘conversation’ can be ambiguous in the context of a synchronous chatroom, it is defined here as a chain of more than two messages directly linked to each other. However, this is with the caveat that in some cases conversations which included only a question to the streamer and an answer from the streamer were treated as a conversation to provide a tangible comparison between the two channels. To illustrate these findings in a structured way, they were divided into categories that were most descriptive of the patterns that consistently emerged in the data. The categories are broad and were chosen to highlight only the emerging patterns from the field notes. Thus, they do not include every topic that could be identified, as there is no consistency or a point of comparison to topics that occurred on one channel once. These categories are: 1) Game/content related, 2) related directly to the streamer, 3) off-topic conversations, 4) greetings, 5) tips and instructions, 6) jokes and memes and 7) reactions.

### **4.5.1 Game/content related topics**

Overall, game/content related topics for conversation were present on both channels during observations. These refer to conversations about such concepts as the gameplay, mechanics of the game, the current state of the game, the company behind the game and the streamer's performance. While there were differences in length and number of participants in these conversations between the channels, this category of conversation topics was persistently present on both channels during the observations. However, the topics were discussed further and more in depth on channel 2, implicating more support for the limits the faster movement of the chatroom places on the interaction in chat.

#### **4.5.2 Topics related to the streamer**

Similar to the above, conversation topics related to the streamer were present on both channels during the observations. However, the contents of these conversation had observable differences between the channels. One of the major differences was in including the streamer, referring to whether or not the streamer took part in these conversations. On channel 1 these conversations never included the streamer and were consistently about the skill (in gameplay) of the streamer, the cultural background of the streamer or the looks of the streamer. On channel 2 these conversations often included the streamer and included topics such as which foods the streamer preferred, or movie preferences or the streamer's opinion about the game or other media. In rare cases these topics were also present on channel 1 but they were consistently in the form of question and answer and did not proceed into further discussions as they did on channel 2.

#### **4.5.3 Off-topic conversations**

This category of conversations represents a consistent difference between the channels. On channel 2 the conversations were longer, often persisting throughout the entire period of observation and resembled real-world conversations. For example, the topic of the conversation could change and move outside the environment of Twitch and the content being streamed. These conversations included topics such as politics or the current events in the world. On channel 1 the mentions of such topics were rare, and the chatroom communication was consistently focused on the game, thus not venturing outside the main topic of the stream.

#### **4.5.4 Greetings**

Messages involving greetings to the streamer were common on both channels, despite the lack of response from the streamer on channel 1. On channel 2 the streamer responded to the greetings, which sometimes included inquiries such as “How are you?” or “How is the campaign going?”. On channel 1 the greetings rarely deviated from the form off “Hello + channel name + and chat!”, including different variations of that formula. Notable, these greetings frequently lead to a longer conversation on channel 2 but were consistently not reacted to by anyone on channel 1.

#### **4.5.5 Tips and instructions**

Another notable category of conversation topics were various tips and instructions received from either the chatters or the streamer. ‘Tips’ here refer to quick instructional messages such “don’t sell that item it becomes valuable later”, instead of monetary donations to the streamer. However, on channel 1 these were consistently considered either funny or rude when given by a chatter, frequently pointing out that the streamer had no need for tips and instructions from the chatters that were considered collectively less skilled or proficient than the streamer. On channel 2 these tips and instructions to the streamer were accepted and acknowledged by the streamer, leading to conversation about how good the given tip or instruction was. In addition, tips and instructions were frequently inquired for in the chatroom and received from either other chatters or the streamer.

#### **4.5.6 Jokes and memes**

Jokes and memes can be found anywhere on the internet. However, on the two channels in this study there were differences in how jokes and memes were utilized and used in the communication. On channel 1 the jokes and memes were used for reactions and spamming, including some ‘copy pastas’, which refer to a text the users copy from a given source to paste in the chatroom multiple times. On Twitch.tv these are often posted with the intention of other chatters adopting the copy pasta to repeat it in the chatroom, as understood by the researcher from previous experiences on the platform. This usage of jokes and memes was consistently present on channel 1 and was not reported in the field notes for channel 2. Instead, the chatters on channel 2 used jokes in conversation similarly to real-



world conversations, or to amuse other chatters or the streamer. While memes such as often repeated channel specific inside jokes or internet memes were rare compared to channel 1.

#### **4.5.7 Reactions**

As already mentioned, both chatrooms included various reactional messages. On channel 1 these messages were consistently used as just reactions, without any likelihood of evolving into conversations between the chatters or as a form of interacting with the streamer. In other words, the reactional messages on channel 1 did not interact with the streamer, as explained with the concept of chatter – content messages. On channel 2 the reactions were sometimes more directly interactional with the streamer, for example: “That sounds like Morse code”. While this message was a reaction to something specific happening on the livestream, it prompted a response from the streamer and other chatters.

## **5. DISCUSSION**

The results of the study were mostly similar to the various expectations stemming from the researcher’s previous experience with Twitch.tv. The two channels were intentionally picked with the expectations that the viewership and the community building would result in different linguistic and interactional constructs in the chatroom. However, the data selection by itself could not explain the reasons behind the emerging patterns, thus not answering the second research question. While the patterns emerging during the observation and analysis of the field notes were consistent, the data did not reveal any concrete background for such concepts as emote spamming appearing regularly on one channel and rarely on the other. As mentioned in section 4, this particular pattern likely correlates higher viewership and increased difficulty in having meaningful conversations in the chatroom. From the data collected in this study, this cannot be confirmed despite being strongly implicated and supported by previous research.

The interpretation of the data relies heavily on the researcher’s previous ethnographic knowledge of this eventsphere and the communities on the platform. On channel 1 the more reaction-centric interaction in the chatroom is often found on other similarly sized channels on the platform, especially

in cases where the streamer rarely interacts with the chatroom messages directly. However, examples of conversations that are unrelated to the content in the livestream could be found in other streams with a high viewership, based on the researcher's previous experience. According to the researcher's previous experience these channels are rare and should be considered fringe cases and were therefore not considered suitable for this study. This is one of the topics for future research that was considered as a potential topic for the current study. In addition, future research could combine methodologies to find more concrete results for the context of the pattern emerging in the observational study. A questionnaire to the streamer and the viewers could provide more insight into concepts such as the different topics of conversation in the two chatrooms. As this type of method would push the study closer to behavioral or motivational studies, this study refrained from using them. However, this study was concerned only with linguistic and cultural phenomena emerging in English speaking chatrooms. Research into chatrooms using other languages or multiple languages at once could reveal more diverse subcultures in the communities of the platform. Furthermore, a comparison between communities on two different platforms, such as Twitch.tv and YouTube.com, for example, could provide more insight into these environments. Language and culture are intertwining with digital environments, making ethnographic research increasingly more valuable, in connection with more digitally native ways of conducting research such as big data.

One of the topics of discussion suggested in section 2 was the underlying structure behind livestreaming that was explored by Dapeng et al. (2001). From the researcher's previous experience networking issues and malfunctioning hardware could have been something that would show in the livestream communication. For example, one of the expectations during data collection was that the larger channel's audience would be less resilient and react more strongly to sudden loss of internet connection or the quality of the video dropping. However, none of such events happened during the observations, which lead to excluding this particular aspect from the analysis. While this could have been pure happenstance, Dapeng's finding that issues such as streaming servers not working appear less prevalent in livestreaming today.

The memetic history of the chatroom was another point of discussion implicated in section 2. However, it became clear in the data collection phase that the amount and longevity of the data for this study was insufficient to analyze this aspect. Some implications about the memetic history of channel 1 appeared to be observable, for example in the repetition of the "pp pills" - joke but as that joke had probably existed long before the observation period, the *history* of that meme could not be investigated within the framework of this study. In addition to issues in the amount and longevity of the data, a notable challenge with this type of data is its availability. The stream the researcher chooses

to observe may not adhere to any type of schedule from when they start the stream or end it. This creates an issue where the researcher cannot always choose when to collect the data, as the stream might not be available at that time, meaning that the personal schedules of the researcher and the streamer do not match. In addition, the researcher also does not see everything that happens in the chatroom outside the observations, resulting in possibly missing events in the chatroom that could contribute to findings by, for example, disproving previous interpretations or supporting them. This issue is one of the factors that lead to such decisions as removing some of the conversation topic categories identified during the observation from the analysis.

However, using Twitch emotes for meaning modification was an aspect displayed in the analysis, as it could be observed on both channels. As the emotes are an integral part of interaction in the chatroom, this specific topic could provide a basis for further studies. Modification of meaning is not the only function for the emotes, as the continuously increasing pool of emotes is limited only by the users' imagination. As indicated in section 2, it remains a question if the emotes should be considered a linguistic feature or not. In this study they were treated as such, as they are often used in place of other linguistic features or adding more meaning to the user's message. However, as the emotes can be used for other purposes as well, such as pure reaction or expressing a specific emotion without any words, this is an incomplete view into them.

Finally, the purpose of the chatters on the two channels was also raised as a point of discussion, which is close to answering the second research question and is this important to explore. As mentioned earlier in this section, the question cannot be answered with certainty. According to the researcher's understanding of Twitch culture, the purposes of the chatters in the two chatrooms were interconnected with the type of engagement the channels fostered. On channel 1 the streamer rarely interacted with the chat directly, thus discouraging interaction with the purpose of interacting with the streamer. The result is more reactionary comments that interact with the content and other chatters, the latter often indirectly as direct responses are rare. On channel 2 the purposes were directly related to having conversations with the streamer or well-known community members that usually send the most messages in the chatroom during every stream. As also indicated in chapter 2, this type of community structure is the most common on the platform, where the core community members are the ones interacting in the chatroom consistently, while most others either ignore the chatroom completely, lurk or send a miniscule number of messages. On channel 2 the engagement structure cultivated by the streamer and the community around the streamer explained the more conversational and in-depth discussion in the chatroom.

## 6. CONCLUSION

The significance of digital environments and internet spaces for language and culture continuously grows, thus this study aimed to provide some insight into one of these spaces: Twitch.tv. Different subcultures form around the channels on the platform and diverse communities are built over time, resulting in differences between these communities. Digital ethnography was combined with the researcher's experiences in these communities to explore the differences between the two channels in this study. The selection of the two channels was based on the expected viewership and content style of the channels. Both channels focused on gaming content, but where channel 1 had 5000 – 10 000 viewers during the observations, channel 2 had approximately 20 – 50 viewers. Previous research indicated differences in both chatroom interactions and viewer motivations, which was supported by the findings of this study. Furthermore, differences and similarities in types of interaction, types of messages, use of emotes and conversation topics were consistent patterns in the data. Analyzing the reasons behind these patterns was done by drawing on the researcher's previous experience on the platform and comparison with previous research, thus concrete and strictly factual answers for the reasons behind the differences were not found in the scope of this study. However, concrete findings of the patterns existing were found, thus indicating that the underlying reasons exist. The communicational phenomena and practices in the chatroom are a result of community building and interplay of a multi-level cultural structure, combining internet culture, meme culture and Twitch culture into the subculture that is cultivated under the specific channels. Another major reason for the differences was interpreted to be the structure of engagement on the channels, as the findings and previous knowledge indicated a clear difference between the channels. As the limitations for this study resulted in an ultimately narrow viewpoint into these topics within this eventsphere, multiple topics for further research were highlighted in the above chapter to obtain a more comprehensive understanding of it.

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