

eSports from the Virtual Stands

An Investigation of Spectatorship of *Dota 2*

Name: Arno van Drenth
Student Number: 3966585
Teacher: dr. Chiel Kattenbelt
Year: 2017-2018
Block: 2
Final Date: 20-2-2018
Referencing Style: Chicago Manual of Style (Author-Date)

Abstract

The growth of eSports viewership in the last decade has led to an increase in research completed in the field of eSports. This research investigates how spectatorship is constructed within eSports livestreams. It does so by looking at the *dispositif* as posed by Frank Kessler of the livestreams of the *Dota 2* tournament The International 7 on both Twitch.tv as well as on the in-game spectator mode. This means that this research discusses aspects of the technological and material configuration, the spectator's position within this configuration and the text itself with its mode of address towards the spectator of both livestreams. By discussing these technological and material configuration this research hopes to gain new ground in eSports research and provide a heuristic approach to analysing the spectatorship within eSports. To accomplish this, this research draws on literature about eSports, eSports livestreams and personal livestreams as well as television liveness. This led to the conclusion that Twitch.tv technological configuration provides unique ways of interacting with media via a live chat as well as the availability of clipping significant moments of the livestreams. From the discussion of the spectator's position could be concluded that there is a significant discrepancy between the physical and the digital audience which was even larger when discussing the in-game spectator mode. Lastly this research drew some parallels between television liveness and eSports livestreams by discussing the ways in which the text addresses the spectator as well as some aspects of the text itself.

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Introduction

In recent years there has been an increase of popularity in the broadcasting and watching of electronic sports (also known as eSports). In August of 2014 Nick Wingfield wrote in the *New York Times* about the astonishing number of viewers of eSports, both online and offline (Wingfield 2014). In his article he mentions that SuperData Research estimates the number of people worldwide to be around 70 million. In their market report of 2016 they estimated a global audience of 213 million which is on track to reach 303 million by 2017 (SuperData 2017). Most of these viewers watch eSports online via Twitch.tv and this research will also incorporate the in-game spectator mode as an object for research. In Wingfield's article he wrote about a tournament called The International which is the worldwide championship series of the game *Defence of the Ancients 2* (Valve 2013), commonly called *Dota 2*, and it had a total prize pool of 10 million USD (Wingfield 2014). The International of this year, 2017, had a total prize pool of almost 25 million USD.

With the growing viewership of eSports, it is slowly growing from being a youth culture to a mainstream form of media. Its rapid expansion of viewership and importance of eSports can also be seen in the academic world as in recent years more and more publications pertaining the subject are being published by researchers around the globe. This research will attempt to analyse the how spectatorship is constructed in eSports livestreams by using the concept of the *dispositif* as it is defined by Frank Kessler and operationalized by Nanna Verhoeff and Karin van Es and analysing the spectatorship in *Dota 2* (Valve 2013) livestreams on both Twitch.tv as well as in the in-game spectator mode. The concept spectatorship will be understood as "the act of observing an event without participating in the event" (Ditmarsch 2013, 5). Research towards aspects of spectatorship investigates the relationship and structure of various factors that play a role in this act of observing. Because this research approaches the spectatorship in eSports with a *dispositif* analysis, spectatorship is approached as a construct, a phenomenon that is given shape by various factors, actions and relationships surrounding it.

Research scope

This research will focus on the theme of spectatorship in eSports livestreams, thus the main research question is:

How is spectatorship constructed in eSports livestreams?

To do so the finals of The International 7 will be examined and analysed based on a dispositif analysis. Karin van Es and Nanna Verhoeff describe the dispositif thusly:

“(..) the concept “dispositif” has been used to describe and analyse the relationship between technology, discourse, and subject. In the case of screen media, this refers to the screening situation as a spatial and temporal arrangement of screen (it’s material and technological properties), the “text” (on-screen image, sound, etc.) with its specific mode of address, and the spectator (or: viewer, user, participant) that is positioned within this arrangement”(2017, 1).

These three elements of the dispositif are directly borrowed from Frank Kessler (2007, 15) who used the description of Jean-Louis Baudry. A dispositif analysis attempts to understand the relationship between spectator, technology (or screen) and text. The analysis itself serves as a snapshot of media use allowing for future research to determine how media and its use changes over time (Kessler 2006).

From this perspective three sub-questions have been formulated:

1. What is the technological and material configuration of the screening situation?
2. How is the spectator positioned in relation to this screening situation?
3. How does the text address the spectator?

The first two questions are integral to understand the exact way that the medium attempts to construct spectatorship. By very clearly describing the way in which a specific type of text is being presented in its spatial and temporal arrangement, the spectator’s relation to this screening situation can be described and the way that a spectator is engaged to said text can be explained. The third question this research wishes to specify how the spectator is addressed by the text and because of that perhaps drawn to watch the livestream. This last question is therefore very closely intertwined with the concept of liveness and how liveness in and of itself is a feature.

Existing Research

It was not until 2006 when Michael Wagner made a report that eSports was becoming an active research field for various scholars. In general most existing research attempts to define eSports, explain the motivations behind viewers or make comparisons to traditional sports in a way to validate the cultural practice. Some more recent work also involves analysis of the design of video games and how it facilitates or debilitates eSports.

Research that aims to understand the motivations of spectators of eSports is often ethnographical research such as interviews and online surveys (Hamari and Sjöblom 2017; Sjöblom and Hamari 2017). Juho Hamari and Max Sjöblom found that the predominant reason for watching eSports livestreams from the perspective of viewers is the novelty of it, acquiring knowledge about the games that are being played and the aggressiveness between eSports players (Hamari and Sjöblom 2017, 1). One of the recurring goals of watching eSports and in general gameplay videos is self-improvement by learning more about the game.

Research that draws on comparisons between traditional sports and eSports often try to validate eSports as an 'official' sport (Hallmann and Giel 2017; Jenny et al. 2017). Kirstin Hallman discusses the physical, recreational, competitive and organizational aspects of eSports and compares these to sport (2017, 2–3). If eSports would have the same recognition as official sports have then the companies and managers in that market would have similar economic benefits such as tax exemptions and subsidies (2017, 2). If they do not attempt to validate eSports as an official sport then they attempt to understand what place eSports should have compared to official sports (Jenny et al. 2017, 1). But the subject of the comparison of eSports and traditional sports seems to be stagnant and end with similar conclusions claiming that only the future can tell whether eSports can earn the recognition of traditional sports.

Some of the more recent works go into detail into what makes a game watchable for eSports standards. A recent study in Sweden on spectatorship of the new game *Battlerite* (Stunlock Studios 2016) attempted to ascertain both the motivations behind eSports watching as well as what makes a game suitable for watching (Rambusch, Alklind Taylor, and Susi 2017, 1–3). From this they ascertained that a very common motivation amongst spectators is to improve their own skills by watching other people play. The most important aspects that a game should have to make it watchable were 1) the availability of an overview and statistics, 2) the possibility to expose information that the players could not see, 3) the right amount of action so that any spectator can still follow the gameplay and 4) good commentary. Using these aspects, they created several suggestions for developers detailing how to make their game suitable for spectating. These four aspects will also be recurring elements in the analysis of this research.

Because livestreams are as a matter of fact live they do share resemblance to aspects of television liveness. Although this research will not go in-depth into liveness and how it is embodied within eSports, it is worth to note that this research will approach liveness as defined by Daniel Dayan, Elihu Katz and Susan Davis. They claimed liveness is the experience of being at and joining in an event as it takes place (Dayan, Katz, and Davis 1993, 129). While this is the main definition of liveness that will be used by this research multiple themes and aspects of liveness that Jérôme Bourdon discusses will be used to show some parts of liveness in eSports livestreams. Bourdon however claims that liveness is a degree and created four degrees of liveness accordingly (2000, 183) which this research will not. The themes of spectatorial belief, direct address and unpredictability will be used in this analysis.

Because these themes are mostly ingrained in the text liveness will be discussed at that part of the analysis. Although there are also arguments to be made that it should be discussed at the part of the analysis about the spectator because liveness is a spectatorial belief this research has preferred to discuss this at the part of the analysis about the text because the text determines to what degree the media is live.

The first and foremost important function of this research compared to existing research is that it includes an aspect of eSports that has been left aside by most of the existing research which are the material and technological aspects of the media of eSports. By including the material and technological aspects in the dispositif analysis spectator behaviour and spectatorship can be heuristically identified and partially explained. The second original function of this research is to connect the debate of television liveness to eSports liveness and therefore broader to internet liveness.

Dota 2 and The International 7

This research will be focused on *Dota 2* as a case and mostly use moments from The International 7 because it is one of the most popular worldwide tournament. *Dota 2* is part of a genre called MOBA (Multiplayer Online Battle Arena). A player controls a character in one of two teams called either the Radiant or the Dire. Both teams attempt to destroy the other team's base and are identical in all but name and which side of the map they begin. Every player chooses a character to play at the start of a match. Each character has their own unique abilities and stats which can sometimes involve controlling multiple characters at once. The virtual field that these games are played is a near symmetric battlefield with the teams being on opposing ends each controlling about half the map with various structures and units. The overall goal of any match of *Dota 2* is to reach the opposite half of the map where the other team's main structure lies and destroy it. An average match can take somewhere between half an hour up to an hour. But there is no set time limit which has caused matches to continue for longer than two hours.

MOBAs are a big genre within eSports and helped popularize the emerging eSports scene. At time of writing the most notable MOBAs are *Dota 2*, *League of Legends* (Riot Games 2009), *Heroes of the Storm* (Blizzard Entertainment 2015) and *Smite* (Hi-Rez Studios 2014). eSports are all but limited to MOBAs as various other genres such as fighting games, card games, real-time strategy and first-person shooters are also popular.

An important feature that sets *Dota 2* apart from other eSports broadcasts is the organisation surrounding the event itself. Since 2013 players of the game can buy virtual tickets to watch games in their game client live and part of the money that is spent is used in the prize pool. This is one of the reasons why in the introduction there were such staggering prize pools, they are partially crowdfunded by the players of the game. These tickets are called 'The Compendium' and 'The Battle Pass'.

When a player would purchase one of these they could earn unique items by playing the game. One can also make various predictions surrounding the tournament and participate in fantasy league which will be discussed later. The Battle Pass of The International 7 also included a unique cooperative campaign that could be played with friends. The last feature was that The Battle Pass also featured the Battle Cup which would let players fight for a single spot in the tournament allowing for a real chance to compete. The Battle Pass created another level of interactivity for the spectators with the tournament. At time of writing this is less of a fact in other eSports.

The analysis of these research will be three-fold twice. All the previously mentioned aspects of the dispositif will be discussed starting with the technological and material aspects, followed by the spectator's role and ending with the text and its specific mode of address. Each aspect will be

discussed considering the website Twitch.tv and the in-game spectator mode. This is because there are significant differences in the spectator's experience when watching on either platform.

Analysis

The Technology

Twitch.tv

As has been previously mentioned this research will focus itself on the way that spectatorship is constructed in eSports by looking at the dispositif. The dispositif consists of three elements spectator, text and screening situation and their relationships towards one another. In this analysis it will become apparent that drawing a definitive line between these three is impractical due to interactive elements. Because of that the different segments of this analysis should not be seen as apart from one another but different parts of a single phenomenon with the phenomenon being the spectating of eSports. Firstly, this analysis will look at the technological and material aspects of the medium starting with the interface of both Twitch.tv as well as the in-game spectator mode of *Dota 2*. Below is a screenshot of the web page on Twitch.tv where most of the online audience comes to watch the tournament.

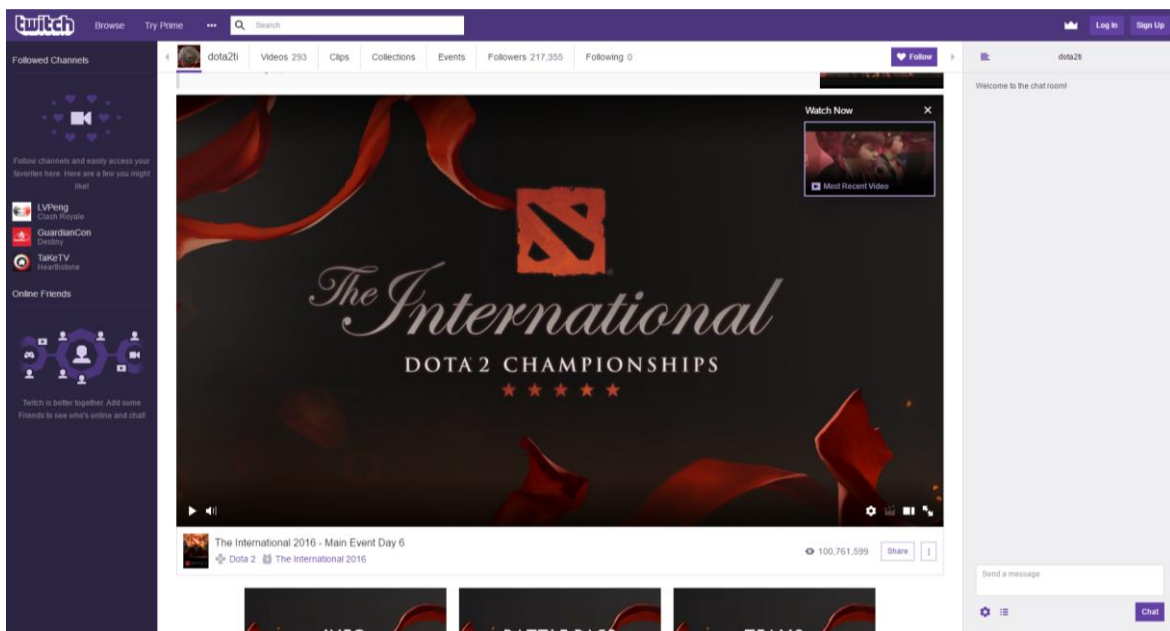


Figure 1 Twitch.tv interface example (www.twitch.tv/dota2ti)

The video player is the main object of attention on this page. On the left and top side are navigational tools to access other parts of the website while just above and below the video player is the content of this channel. Generally, the content below the video player is used by the streamer to put some short information about the stream and the streamer themselves but in the case of a corporate channel like this one the information mostly consists of URLs to corporate pages where said information can also be found.

The most important tool for the spectator besides the stream itself is on the right side of the screen where anyone with an account for the website has the option to chat with the rest of the audience that is watching on this web page. Often the audience on Twitch.tv is therefore referred to as 'chat'. The number of messages that come through during tournaments are about ten to fifteen messages per second during slow times. When something exciting happens that would usually cause the audience to laugh or roar the number of messages is nearly impossible to estimate and thus also nearly impossible to keep up with. Often a lot of emoticons and messages which are unique to Twitch.tv are spammed during those times. This spam has been described as being similar to a 'roar of a crowd' (Cheung and Huang 2011, 770).

A possible negative impact of the existence of a chat in the case of a livestream is that not everyone's connection speed is the same. Generally, Twitch.tv tries to ensure as fluent a stream and experience as possible and because of this it is often the case that the stream is delayed by ten to thirty seconds depending on connection speeds. Because of this everyone can be watching the same event and show but still be at slightly different moments in the narrative. Because of this the interactivity that the chat offers can sometimes be negative when people are trying to comment on the most up-to-date moments.

For those exciting moments and the viewers Twitch.tv has developed a tool to instantly create a clip of something that happened in the last five or so minutes of a livestream. This clipping is another way of both interactivity between viewer and text facilitated by the technological aspects of the medium but also another way of sharing and building a community with other viewers as these clips can be uploaded to their own channel, be viewed by anyone whom so desires and upvoted according to value. This has spawned various infamous clips of memorable moments from many branches of eSports. An example of this is the 'TobiGasm' that occurred this year which was an incident where a caster became so excited during a long and drawn out match at the critical deciding moment that he jumped up from his chair and had a rather unique expression. This expression has been turned into an emoticon by various fans of both the game and the person.

Aside from this option of clipping the video player itself has no way of rewinding during the livestream itself and clipping itself is a very limited version of rewinding if one calls it that. While the video player does allow one to pause at any moment from that point onward, the viewer can only press play which will automatically cause fast-forwards to live.

At the end of most tournament livestreams however there is a Video on demand (VOD) uploaded to the channel most of the time. A lot of viewers tend to watch these as most of the viewers on Twitch.tv are unable to attend the tournament in Seattle live and spread across the world which can make it impractical for those viewers to watch the stream live because of the time

difference. When the finals of The International 7 started in Seattle it was already 1:12 AM here in The Netherlands and that is without a match having started at all in a best of five round.

In-game spectator mode

The material options of the in-game spectator mode involve a lot of participation from the spectator, so the options of the spectator will be discussed further in-depth later. In terms of virtual camera and content that is brought to the viewer it is very similar when compared to the streams on Twitch.tv. In both cases the gameplay plays a central role and apart from the language option at the start to decide which broadcaster you want to listen to the content itself is identical. A viewer is still watching the same game at the same time as everyone else on Twitch.tv, with the same commentary and the same video.

It is also possible just like on Twitch.tv to watch the match later. While certain interactive features are no longer available at that time, it is still possible to listen to the same broadcast as anyone who would watch the match live. Every match of *Dota 2* is stored in a database and can be requested to watch again later by anyone if they have the unique match id. Viewers can use this to watch any match at any time for leisure or educative purposes, but it is also used by professional players to review and improve their skills.

The main difference between in-game spectator mode and Twitch.tv is that the in-game spectator mode exclusively shows the gameplay itself. The stream on Twitch.tv has replays, webcam shots, audience shots, commentator shots etc. and more different shots while the in-game spectator mode exclusively shows gameplay. This can sometimes cause a disconnect between what is shown and what is commented on by the casters. At some points during the commentary of the casters they will talk about shots that are only visible to the viewers on the stream and are not visible to the viewers in the in-game spectator mode.

The Spectator

Twitch.tv

The second part of the dispositif that will be discussed is the role of the spectator towards the medium and the text and the level of influence that he has been given. The previously mentioned features of chat, clipping and the availability of VODs from Twitch.tv are all differences between experiencing the event live physically and live digitally. The gameplay that is shown is seen no matter whether the spectator is physically present in the stadium or watching on Twitch.tv or watching via the in-game spectatorship mode. As shown in the picture below, the KeyArena where the tournament is being held features many stands surrounding two booths which have four large displays above them displaying what is currently occurring in the game. Each booth has five seats and often contains the players and support staff such as technical support and referees etc. The displays

above usually show more information than the stream does on Twitch.tv, as they also show some in-game information and statistics at the top-screen which must be manually opened and commented on when this is shown on Twitch.tv



Figure 2 KeyArena Stage Press Photo (www.rockpapershotgun.com/images/16/jul/28dota2int.jpg)

The most definitive difference between being live present as a spectator and watching the stream on Twitch.tv is the difference in immersion into the experience. While some viewers try to emulate the feeling of being part of a mass audience by watching parts of the event together, the omni-presence of a mass audience is incomparable. The same stimulation of a crowd present at a mass event cannot be compared to the chat moving as fast as it does, to a group of friends watching on the couch or even just watching alone.

In-game spectator mode

The in-game spectator mode allows for much more freedom and interactivity for the spectator when compared to the Twitch.tv stream. The Twitch.tv stream is a forced perspective on the gameplay which is facilitated by the people in the control room of the stream at Seattle but when the viewer watches with the in-game spectator mode then the controls are in his hands. To start there are four different camera perspectives that can be used: directed, free, player perspective and hero cam.

Directed camera is the normal option which is controlled by the people in Seattle or in normal spectator mode determined by the computer itself. Free camera means that the player can freely move the camera and watch any part of the game that he or she wants. This allows for easier picking and choosing of what to watch and prevents frustration when the directed camera is missing important events that are occurring in the match. However, this perspective creates a disconnect

between the commentary and the video feed as they do not align. Player perspective is a camera option where the viewer at home gets to see the same things as the player currently in the game. The mouse movement and camera view of the player are shown in this case. Lastly there is the option of hero chase which makes the camera centre on a single hero and follow it.

Furthermore, the viewer can show the different perspectives of each team. *Dota 2* has a game mechanic where some parts of the map are obscured by 'fog'. When someone watches a match in spectator mode that spectator has the option to show the same view as either Radiant, Dire or a combination of both. Usually the combination of both is shown but sometimes before an important fight the broadcasters will show what both teams are seeing to show whom has the advantage. This is shown to be one of the key features that makes eSports a 'spectator' sport / entertaining to watch. The uneven division of information where the spectator is king as they can observe everything as an omnipotent sideliner (Rambusch, Alklind Taylor, and Susi 2017, 6).

The last control that the viewer has in the game is the ability to show some of the game stats which are not visible to the players in the game. This includes hero's levels, gold, XP, scores etc. Often the casters will also bring up these diagrams and charts to illustrate which team is in the lead at that moment but a spectator using the in-game spectator mode can decide which game stats they wish to view at any moment in time while this option is unavailable for the people watching the Twitch.tv stream itself.

The Battle Passes that were sold to crowdfund the prize pool of the tournament also gave spectators who had bought one and were watching in the in-game spectator mode the option to make prediction as to how the game would develop. These predictions were about things such as which character would have earned the most gold after fifteen minutes or which character would have the most kills at the end of a match. If the spectator were correct on the predictions, they could earn points which could open the possibility to earn more cosmetic items in the game. Cosmetic items are items that allow players' characters to look different but have no further impact on the gameplay in any way. The predictions were also another object of interest shared between spectators as at the end of the match percentages were shown of how many people were right or wrong about them.

Another feature of the Battle Pass was the availability of a fantasy league. The basic idea is that each day an owner of a Battle Pass can create their own fantasy team with five players that participated the tournament. Then at the end of each day they would earn fantasy points based on how their chosen players performed during the event itself. At the end of the entire tournament the number of points that were earned placed each owner on a spot on the leaderboards and based on

the percentile that a spectator was in they once again earned some points which could open the possibility to earn more cosmetic items in the game.

This fantasy league also shows an important aspect of eSports. The fact that a fan in eSports can choose to be fan of a particular game, team, player, genre or title (Taylor 2012, 149). This is showcased in the fantasy league where spectators who are often players themselves can create their own teams, use their own favourite players and watch how they perform compared to other people's fantasy teams.

The Text

Twitch.tv

The last part of the dispositif that will be discussed is how the text addresses the spectator and makes use of the technological and material aspects. One of the key features of eSports and Twitch.tv is the aspect of liveness which is reinforced in various ways that are the same as television's liveness within the text. The simplest for instance is the existence of a red dot on the top right of the screen when watching a livestream with the word "LIVE" written next to it, informing the spectator that what is currently being streamed is in fact live. Furthermore, the rhetoric of the commentator and presenter are directly addressing both the physical and the digital audience at various points to further reinforce the spectator's belief in liveness. This rhetoric has been defined as 'direct address' by James Bourdon for television liveness (Bourdon 2000, 540–41). Another example of this that both happens when spectating via Twitch.tv and the in-game spectator mode is that every few minutes a text message will pop up telling the viewer and the professional players who are playing how many people are currently spectating via the in-game spectator mode.

Another key aspect of liveness that is embodied within both normal sports television as well as eSports broadcasts is the unpredictability of events that are unfolding (Bourdon 2000, 538). None of the spectators or the presenters is entirely sure of what events will unfold and this further develops a sense of liveness for the spectators. The live commentators fulfil the role of a chaperone, guiding both the physical and digital audience through the events and games. They do this by reacting live to any event but reacting in extraordinary ways to unexpected events. Unexpected events that have great reactions from live commentators have often led to the community sharing these moments by making snapshots, clips and videos about these moments (Veli-Matti 2016, 10). The previously used example of the "Tobigasm" in the explanation of clipping is one of those reactions that has been shared among the community across various platforms.

A final remark about the spectatorship in eSports broadcasts regarding the camera is that the digital spectator in a way has the best seating when compared to the physically present spectator. The discrepancy in spectatorial position is further amplified by the text that is being produced by the

livestream by featuring different close-ups and camera positions that are not available for the physical audience.

Another point about the digital camera can be made in relation to the earlier remark of live commentators and unpredictability of live media. The directed camera in the case of the tournament is controlled by a person in a booth somewhere. Sometimes this camera is clearly not pointed at the most interesting thing to watch at a certain point or is entirely at the wrong spot. An example of this is when a key fight occurs at for instance the top side of the map, but the camera is focussed on a character on the bottom side of the map. When this happens often the commentators make a remark about this and it is usually corrected in quick fashion, but it does further reinforce that the broadcast is live. This entire point of the directed camera does occur at various points during the tournament when a person is behind the camera controls but the directed camera that is in any normal spectator game outside of tournaments which is programmed performs even worse and seems to sometimes just go to entirely random spots.

In-game spectator mode

As has been previously mentioned the in-game spectator mode only shows gameplay. Because of this it loses several aspects of the livestream that occur at the tournament but are shown with different cameras. One of the things that are lost in the in-game spectator mode is the visuals of the commentators, audience and players. Because of this the spectator is not shown the reactions of these people in a visual manner but solely in an auditory manner as they can still often be heard in the background except for the players as the sounds in the booths are not streamed.

Secondly, if spectators watch the tournament solely from the in-game spectator mode they do not see the intermissions, interviews and recaps. For instance, after every match there is often a small panel with a couple of presenters discussing the key moments in the last match. Furthermore in between rounds members of the teams from the previous matches are often invited to join the panel in these discussions. Some players are even invited to join exclusive interviews to talk about the match and usually these interviews also include some questions that let the players express their goals and feelings.

Lastly a spectator using the in-game spectator mode does not see the extra statistics that are shown on the livestream on Twitch.tv. These statistics are reminiscent to for instance the statistics shown in football matches such as shots on goal, saves, goals, passes, corners etc. These statistics cannot be found in the in-game spectator mode by the digital spectator and are compiled by the staff that work at the tournament itself. Thus, these statistics are not shown in the in-game spectator mode as that software is not designed to support external features to be shown.

An important note of these features being lost when one watches with the in-game spectator mode is that the spectator needs to use the in-game spectator mode to access the extra features such as the Battle Pass predictions. There is also a case to be made that some of the spectators whom are players themselves prefer to watch the in-game spectator mode as they are less interested in the tournament and reactions and more interested in the gameplay itself. That is why some of the spectators choose to use the in-game spectator mode over the Twitch.tv version. While the content is still overall the same, the details differ.

Conclusions

This research started with the goal to uncover how spectatorship is constructed within eSports livestreams. It has attempted to do so by looking at the dispositif of the livestreams of Twitch.tv and the in-game spectator mode.

First the interface of both Twitch.tv and the in-game spectator mode have been both discussed. Concluding that the chat and the option of clipping are unique ways of spectator interaction on Twitch.tv which are facilitated by the technological aspects and quickly discussing the virtual camera in the in-game spectator mode. Because Twitch.tv is an online medium and facilitates these features it separates itself from traditional sports broadcasts with its ways of letting people interact with the content. Especially these unique ways of spectator-medium interaction, such as control of the virtual camera and clipping, that is facilitated by the technological aspects has been omitted in existing research about eSports.

Secondly the spectator's position in relation to these two media was discussed. This led to the conclusion that there is a certain discrepancy between the position of the virtual spectator and the position of the physical spectator. But the option that the in-game spectator mode provided for the spectator was of greater interest as the level of interactivity could be seen with the control over the virtual camera and the existence of interactive 'play' with the features of the Battle Pass and the livestreams. This means that while the physical spectator might have a more immersive experience by being physically present at the event as it is happening, the digital spectator receives more agency compared to the physical spectator.

Lastly this research discussed the text itself which led to the confirmation of several aspects of television liveness within eSports broadcasts. It showed that especially on Twitch.tv the direct address and unpredictability of liveness were both present. These factors reinforce the spectatorial belief that the content that the spectator is watching is in fact live. By the direct rhetoric that everything is occurring right now and the reaction of the commentator on the unfolding events the spectator is convinced that the content is live.

Existing research attempted to focus on comparisons between traditional sports and eSports or understand people's motivations to spectate eSports or discover design aspects that lend itself well to eSports. This research has attempted to focus itself solely on the media of eSports and by doing so it tried to better understand the phenomenon of eSports livestreaming and its audience. This has created a research which has investigated eSports in a descriptive manner centred around the dispositif.

For future research there are of course a multitude of options. One field that is still left unexplored and left out of the scope of this research within the eSports scene is its fandom. While

the fandom and fan activities in television studies are fairly flushed out by scholars such as Henry Jenkins the same cannot be said for the research on fandom of eSports. Taylor also noted this in her book and critiqued it (2012, 148) because fandom in eSports is very similar to television fandom and leads to new transformative and provocative forms of media. As mentioned in this research people make clips of memorable moments of livestreams and create fantasy teams but it does not end there. People also dress up as characters, buy merchandise, gather for events etc.

Another field that was left almost entirely unexplored by this research are the individual broadcasts that are on Twitch.tv. While Karhulahti Veli-Matti for instance explored the aesthetics of personal livestreams (2016, 1) but does so based on a single case. While this of course leads to great insights into how eSports personal livestreams are organized and created, there is a wide variety of streams available on Twitch.tv. For example, there are IRL streams (in-real-life) which usually consists of people just talking with the chat and about their days. Another example is speedrunning streams which are not so much focussed on playing for eSports but are people playing a game to be the fastest at completing said game.

Speedrunning itself is also a potential subject for future research. Speedrunning is the activity of trying to complete a game as fast as possible with certain community-created rules. Since 2014 the website speedrun.com has been created which has exponentially increased the interest of many people into this activity. On that website anyone can submit a recording of a run of a game and then be placed on the leaderboards with many people competing to be world record holder for the game and the category they are running in. This is both interesting for ludology because of the community-created rules and for new media research on platforms such as Twitch.tv.

A last suggestion for future research would be to look at the phenomenon of agency within eSports. In this research I avoided the discussion of agency but still by discussing the material aspects noted some functions that the spectator can use to make his own decision in what he watches. These functions or 'affordances' are a way of the medium to provide the spectator with a certain level of agency. As noted earlier this research wanted to discuss these material and technological aspects of the medium. From this point further research can discuss the ways in which these aspects or 'affordances' invite the spectator to perform certain actions.

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Glossary

Battle Pass a premium item that can be purchased in Dota 2 to obtain vanity items

Caster derived from shoutcaster, a commentator.

Crowdfunding the practice of funding a project or venture by appealing many (outside) people

eSports competition that is being mediated by video games

In-game spectator mode a specific technology available within the game that allows players to spectate other people playing.

Livestream

Vanity items items that can be used to customize playable characters in games but that have no impact on the actual game aside from visually.

VOD (Video-On-Demand) systems that allow users to rewatch content when they choose to.

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Naam: Arno van Drenth

Studentnummer: 3966585

Plaats: Nieuwegein

Datum: 25-1-2018

Handtekening:

