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Whose stream is this anyway? Exploring layers of viewer-integration in online participatory videos

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Within this paper, we explore variants of user-integrating (live) videos as examples of collaborative practices in social media. We propose an empirically informed typology of layers of user-integration in terms of: (A) directness / 'bodiliness' of interaction, (B) Unfinishedness in the content at hand and (C) Productive tensions through streamer-audience-interactions. As an example of spontaneously emerging (virtual) communities of practices, we argue that analyzing IOPVs - integrated, online participatory videos – allows us to outline the conditions for such participatory formats to unfold, and how video-communities engage with them. In this analysis, we connect to methodical literature on online participant-videos, applying ethnographic research-methods to our main case-studies 'chAIR Speedtest', 'Snappy's Chain-Stich' and 'Miko's tormenting chat', explicitly exploring methods of tracing viewer-producer-interactions. Here, we also add to conceptual literature on participatory (live) videos by questioning the understanding of live-participation as fundamentally peaceful collaboration. Here, our analytical categories (A-C) help us to get a broader understanding of the dynamics that keep such formats going and the required translation-practices from both viewer and video-producer alike. We conclude by summarizing our results and by discussing the issue of responsibility regarding (video) contents that emerge from such an asymmetrical collaboration.

Key words: Video ethnography, IOPV, grounded theory, participatory media, virtual communities of practice.

INTRODUCTION

Nuke your favorite streamer!

2.222 Bitties - In 2022 and outside of Twitch, that's around 22,22€. What does that get you? In Miko's virtual world, this is enough to drop a bomb on her and ruin (or enhance?) whatever she is doing in her live stream in front of thousands of people at a given moment. Now why in the world would you do that and why is that even a thing? To put it in a nutshell, the (online) video content producer from times past has entered in a symbiotic (or parasitic?, in any case, reciprocal) relationship with his or her audience to create something new, a content-format that not only allows for participation but actively demands it. This reciprocity comes in many shapes and sizes and does not start with V-Tubers[i] getting bullied by their followers on stream (like in the case of Miko, bombed on

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stream). It starts with rather low-key variants, for example YouTube-videos where content-creators commonly ask viewers to comment their videos – An invitation for participation and an implicit declaration of the content at hand as unfinished. As we 'ascend the ranks' of participant-integrating video-formats, we find live-streams that include, for example, voting polls to decide what should/could happen next and ultimately, direct means of engaging with a video-livestream. Be it in the form of changing virtual environments (like in Miko's World) or in mediated, bodily interaction with the streamer him/herself such as remote electrocution[ii] or, - more pleasurable, yet no more safe for work – remote vibrations on sensitive body-parts (Martins, 2019).

What connects all these cases, is a re-configuration of the roles between content-producer (video-producer) and his/her audience: The passive relationship commonly associated with 'kicking back and watching a video' is continually being transformed toward an integration of the audience into the video itself via a variety of means that we seek to further explore. Thus, the viewer becomes a participant that can actively (albeit to varying degrees of integration) influence what is happening in the video for them and for every other viewer / participant.

Acknowledging this trend, in this paper, we seek to systematically introduce the emerging data-type that we identified as IOPVs (integrated, online, participatory videos) and to explore specific variants of how streamers / video-producers and their audiences / participants play off each other in their creation. Through a comparative analysis of three plus one IOPV case-studies and by contrasting those to pre-existing work on bodily streamer-participant-relationships on the streaming-platform Chaturbate[iii] (Martins, 2019), we demonstrate that the process of creating IOPVs is characterized by the introduction of various layers of user-integration that vary explicitly in the following regards:

First, in terms of how directly ('bodily') they impact the stream/video, in other words, how much space they leave for the streamer him/herself to interpret the participatory act.

Second, how they play off and create a sense of 'unfinishedness' and hence affordances for user-integration.

Finally, we investigate the role that productive tensions between participants play in this collaboratively shaped video-format.

After a short excursus into established ethnographic approaches toward (participant) video-material to contextualize the data type of IOPVs in terms of the specific challenges and opportunities they offer for ethnographers, we present an empirically informed typology to identify variants of IOPV-creation. We hereby show how the plurality of variants of user-integration is exemplary for user-oriented, asymmetrical collaboration formats, affording a variety of means of participation to a variety of participants. We conclude by summarizing our results and by discussing the opportunities this new data type offers for collaborative formats. Furthermore, we reflect on the relationship between participant integration and responsibilities emerging from this collaboration.

VIDEOS IN ETHNOGRAPHIC RESEARCH: FROM ARCHIVE TO COMMUNITY-ENTITY

During the last years, the relevance of audio-visual material within ethnographic research has expanded from a means of conserving ethnographic accounts toward an entirely new way of making sense of community-interactions. What started as means of making ethnographic observations durable in a rich data-format that allows for detailed analysis long after the time of recording, by now, has expanded far beyond putting researchers in the video-creating role. With the widespread availability of video-capturing technology, implicitly ethnographic accounts may be created by participants/field-inhabitants without a researcher's direct participation, allowing professional ethnographers to 'dive in' from a participant's perspective by analysing and interpreting the video-material created by them.

The change in perspective on video-material from an ethnographer's tool to a community-product should hereby not be understood as an overcoming and hence the obsolescence of established methods as, for example, video-ethnography is still a viable and important tool in the toolset of any ethnographer. Likewise, while our analytical approach focusses on the depth and means of community-integration into video-creation processes, established methods such as OPV-analysis (online participatory video analysis) remain fruitful for describing and analysing online participant videos in more general terms.

In this first contextualization, we provide a summary of ethnographic approaches toward video-material, highlighting key methodological considerations in bringing video-analysis from an ethnographer's 'conservation-tool' to the analysis of dynamic, participatory accounts of community-members. We acknowledge that this summary is necessarily non-exhaustive and merely includes some of the various methods for conducting research on/with video-material within ethnographic research traditions. For this overview, we sketch a development from video-ethnography (Redmon, 2019; Bates, 2015; Iedema et al., 2006; Vannini, 2017; Strangelove, 2007; Spinney, 2011; Äijälä, 2021; Figeac and Chaulet, 2018; Pink et. al., 2017) over vernacular video analysis / video interaction analysis (Tuma, 2017; Tuma, 2018; Tuma, 2019) to the analysis of online participatory videos (Schmidt and Wiesse, 2019).

Following this summary, we propose an analytical

approach towards participatory videos that builds on and extends beyond those three approaches. Our main goal here is to demonstrate how drawing on all three of these frameworks allows us to establish a methodical toolset that considers the specifics, the opportunities and challenges integrated online participatory videos offer to ethnographers and to highlight modes of user-integration within these participatory formats.

As a starting point, the broadest method of how to engage with video-material from an ethnographer's point of view is the employment of video-ethnography as "[…] a cinematic approach to recording ethnographic expressions of lived experiences" (Redmon, 2019). From a means of understanding lived care-practices in hospitals (Iedema et al., 2006) all the way to capturing interspecies-encounters (Äijälä, 2021), video-ethnographers create video-material as a resource to get insights into highly situational and complex practices, that could not be adequately transformed into ethnographical knowledge by traditional means of written or voice-recorded accounts. Unlike more traditional means of ethnographic research, the multimodality video-material offers, affords a 'conservation' of field-research in a way that remains open for interpretation and analysis even years after having being produced. This great advantage is, at the same time, video-ethnography's greatest potential shortcoming: As Redmon (2019) pointed out, video-ethnographic accounts are necessarily bodily and therefore 'bound up' accounts that, despite their richness, always represent a particular view, a distinct perspective on a given setting. Even though video ethnography has come a long way from putting up stationary cameras, for example through the introduction of body-mounted action-cameras that account for the situatedness and the specific practices of an ethnographer in the field (Woznica, 2020), the researcher's perspective fundamentally guides video-production. To account for this 'boundness', the interpretation of such video-material may be based on the perspectives of a variety of researchers within the context of data sessions (Knoblauch and Schnettler, 2012) to retrospectively question the perspective of a given video-account through a "video analysis of video analysis" (ibid.). Despite this potential shortcoming, the importance of video material for the creation of comprehensive ethnographic accounts, especially for complex settings (Woznica, 2020) cannot be overstated, still, critical reflection and analysis of their 'boundness' remains crucial for its use in scientific contexts.

Similar to the method of 'video-analysing the video-analysis' (Knoblauch and Schnettler, 2012), in which video-researchers take a step back to reflect on and analyse the video-making practices of fellow researchers, Rene Tumas' contributions to what he called "vernacular video analysis" (Tuma, 2017, 2019) puts a focus on how video-experts make sense of video-material. The method he outlines is fundamentally one of 'observing the observer', to take the back seat in video-analysis and to analyse the practices that video experts – people that deal with video material in professional contexts – engage in and how they become such 'video experts' in the first place. Fundamentally, this shift in perspective may be compared to a shift from first- to second order observations (Luhmann, 1995) where the 'what' is subsumed by the 'how', focussing research-efforts not directly on the video-contents at hand, but on how they are being used / transformed within a professional setting. This subsumption is emphasized by Tuma's term of 'Methodicity' ("Methodizität") that he introduced in his 2018 work on video interaction analysis that, broadly speaking, aims at the analysis of video-material from 'natural situations' that have not specifically been constructed for research-purposes. Furthermore, this ethnomethodological approach also highlights the concept of interactivity ("Interaktivität") by (naturally) involved actors within such videos as a pre-condition to explore those actors' reflexive practices from a research-perspective. Here, the fundamental idea is that the ways in which involved actors make sense of the context of a video's production allows ethnographers to gain insights into what is happening in a given video and how those actors account for it.

While Tuma's approach changes the perspective on who interprets video-material, Schmidt and Wiesse's approach of the analysis of participatory videos changes the perspective on who creates and shares video-material in the first place. In most uses of video-ethnography, videos are created with the intent of conserving interactions on film and making them available for later analysis. Schmidt and Wiesse (2019) side-step this perspective by focusing their method of video-analysis on content that has been created specifically by participants within a given setting. The fundamental assumption guiding their method is that the very specific, situational sensemaking-practices of video-creators like panning of the camera, following (from the perspective of the video-creator) interesting events or even creating settings with the intent of being captured on film can be retrospectively analysed and, in their specificities, allow for deeper insights into practices 'through the eyes of a participant'. In terms of their hermeneutic practices, the roles of the video-expert (Tuma) and video-ethnographer (Redmon) could be understood as collapsing into one person in this approach, as the person filming is both situated within a setting as active participant as well as a video-producer that 'acts proficiently' toward the video material as well. As for the researcher's role in all of that, it is one of re-constructing and understanding the video-material in the context of the specific sensemaking-practices that the video-creators demonstrate. Here, the researcher engages with video-material created by participants to

explore the specific ways they make sense of the settings they find themselves in.

Drawing on all three of these approaches, we developed the basis for a methodical framework to analyse a very particular type of video-material that is becoming more and more prominent on social-media (Siapera, 2017)[iv] platforms and live-streaming portals alike: The IOPV – Integrated, Online, Participatory Video.

Here, we use the term 'integrated' as a technical term that describes the assemblage of actors into an inseparable entity[v]. In contrast to Tuma's notion of 'Interactivity' (2013), we use the term 'integration' to highlight that, within IOPVs, users are not only interacting, but are becoming part of the video-material itself, that cannot be methodically separated from the practice of video-creation. Subsequently and given the expansion of video-sharing platforms (examples include YouTube, Twitch, Chaturbate, Periscope (discontinued), etc.), the line between video / content-creator and viewer becomes increasingly blurred. While one might still somewhat clearly differentiate between content-producer and (for example) viewers or commenters on platforms like YouTube, other, – especially live-streaming – platforms such as Twitch allow the video-creator to bind with their viewers in unique ways to collaboratively create video-content, further blurring the lines between who is producing video-content and who is consuming it.

Here, it should be noted that while, in the following, we still use terms such as 'video producer', 'streamer' or 'video participant' to highlight, for example, particular affordances that come with being the host of a stream, this vocabulary is based on a pragmatic, analytical approach that is not intended to suggest a return to a video-creator – viewer – dichotomy but to identify certain actors and their specific practices.

Comparing IOPVs to the previously explored video-types and investigation-methods, our understanding of IOPVs leads us to understand content-producers as both participants (Schmidt and Wiesse, 2019) and as video-experts as being proficient with the medium they inhabit (Tuma, 2017, 2019). Also, we understand viewers / participants as video-experts in themselves, as well (ibid.) that not only display their own hermeneutic practices in interacting with video-material but, through their reflective perspective, add to the content at hand.

Furthermore, in the context of IOPVs, the researcher's perspective is expanded as well: While, in Schmidt and Wiesse's work, researchers could refer to the particular practices of video-creators to guide and inspire their analysis, researchers engaging in the analysis of IOPVs need to also consider the hermeneutic practices of further participants (like, comments posted under videos, live interaction between streamer and participants, etc.) as well as how participants (or even the original video-creator) interact with those practices. This expansion is highly relevant for a sociological perspective on this medium for two distinct reasons:

First, it advances the understanding of participant videos beyond mere participant documents toward a data-type in itself, as participants are fundamentally acting as lay ethnographers that already interpret and make sense of contents at hand. As such, analysis of IOPVs is not ethnography of one account but of community-accounts / a communities' interpretation of a user's account and vice versa. Secondly, it establishes a collaborative framework of content-creation that takes the burden of 'presenting a finished product' off the shoulders of the video-producer and replaces it with the burden of having to navigate tensions emerging from the integration of heterogeneous sensemaking-practices by participants. It is this very relationship and the means of interacting with / integrating oneself into video-practices that we will analyse below. We hereby put a particular emphasis on the coping with heterogeneity created in IOPVs by multi-layered interplays between video-producer and participants, analysing layers of integration and how they are translated into the video-material at hand.

CONCEPTUAL FRAMEWORK AND ANALYTIC TOOLS: COLLABORATIVE ONLINE-SENSEMAKING BEYOND PEACEFUL COOPERATION

Before going into detail in our case-studies, it is necessary to briefly address the fundamental concepts of *community*, *video* and *collaboration* as used throughout this paper.

First, in the context of ethnographic approaches toward video-analysis, we understand 'communities' as an umbrella-term to include all video-participants from streamers, video-creators, commenters and other people interacting within the creation-process of IOPVs. We hereby connect to the asymmetric and practice-focussed notions associated with 'virtual communities of practice' as presented by Zhang and Watts (2008) by acknowledging that, 'video participation' is a process that comes in many shapes and sizes and is not exclusive to a sub-category of streaming-participants or to a given video-hosting / streaming platform. Instead, it applies to all actors that associate themselves with a given video or channel even if their contributions are highly asymmetric and situational.

As for the V in IOPV, when speaking of 'videos', we refer to the data that is being co-created within such communities as a whole. This goes beyond the audio-visual data itself, also including 'traces of participation' such as chat-boxes accompanying live-streams or comments that have been added retrospectively by community-members. We chose to stick with the term 'video' for two reasons: First – in doing so – we connect to previous, methodically similar approaches like video sequence analysis that already opened up 'videos'

beyond audio-visual material itself, albeit without considering, for example, parts of the virtual situatedness of a video as integral to the video itself. Secondly, we use 'video' as a term to sensitize for the 'finishedness' we introduce as ethnographers whenever we rip an IOPV from ongoing community-practices to make it accessible for research purposes. In that sense, using the term 'video' means acknowledging that we interrupted this ongoing process for research-purposes and, in doing so, already affected the content at hand. This is of particular relevance in contrast to the established notion of video ethnography as a method of conserving content that has been outlined above.

Generally, when it comes to understanding IOPVs as examples of viewer participation, we fundamentally follow previous scholars engaging with such content in their description as moments of community-collaboration. However, in aiming at a systematic introduction of IOPVs as a data-type in itself we question the notion of 'peaceful collaboration' that underlies the work of scholars such as Martins (2019) in his explorations of collective, intimate relationships on Chaturbate. Instead, we break with this latent assumption in proposing that tensions between, for example, streamer and people watching the stream ('chat') can be productive (or even essential; Kuhn, 1977) and need continuous practices of negotiation between involved actors, which also includes technical artifacts like, in Martins' case-study, remote-vibrators.

Furthermore, in focussing on the role that tensions play in IOPVs, we identified 'unfinishedness' as second main characteristic of this data-type that is being created by the implicit or explicit invitation/affordance toward participants to involve themselves as integral parts of an IOPV. It is this invitation (even implicitly) that affords the audience integration into in the creation process of video-contents at hand. This factor is crucial as both, the video-producer / streamer and (potential) participants, have to rely on each other for the creation-process of an IOPV and cannot do without each other. Here, we observe an interplay of opening up and closing opportunities of integration from a negotiation-process between those two parties. In this context, we also sensitize for the openness of user-integration as an important category: Not only do we look at the specifics of how users may influence a given IOPV, we also investigate the (technical) preconditions for this participation. As we will demonstrate in the case-studies below, this 'openness of integration' may, for example, be limited by paywalls or required subscriptions.

From a third perspective, we connect back to Martins (2019) by taking into account how directly/'bodily' user-integration impacts video-co-creation. In his example of Chaturbate, the mode of user-integration was characterized by a very much embodied, direct means of interaction (remote control of a vibrator on/ inside the streamer's body). This concept of 'bodiliness' will be of particular interest when it comes to the affordance of negotiation-practices between streamers and participants and how / to what degree streamers can ignore or negate community-interactions.

After the following, methodical overview, we carefully investigate the relationship between those concepts and explore how they manifest throughout a range of IOPVs, as represented by the selected case-studies. We chose to present this variety of three plus one specific case-studies to sensitize for and analyse the diversity of user-integrating practices in terms of the previously identified concepts of productive tensions, unfinishedness and bodiliness.

METHODICAL CONSIDERATIONS ON IOPVs: BETWEEN OPVs AND GROUNDED THEORY

In this chapter, we provide an overview of our methodical approach based on the distinctions and contrasts introduced in "Videos in Ethnographic research –From archive to community-entity" above. Here, we highlight how we build on Schmidt and Wiesse's (2019) as well as Tuma's (2017; 2018; 2019) methodical considerations toward online participant videos and video experts and show how and why we introduce changes to these frameworks. Furthermore, we go into detail on the individual steps we took throughout the process of IOPV-analysis and thereby give insights into our operational framework.

First, we explain our general deliberations on potential case studies and provide an introduction as to how they were made accessible for IOPV-analysis. In order to being able to provide a methodical framework to analyse the broad variety and diversity of different variants of IOPVs, we chose four examples across their integration-range for further analysis below. We will further elaborate on the reasons for why each example was chosen and how it relates to the other cases in detail below.

Analytically, we build on Schmidt and Wiesse's categories of (1) 'Situatedness', (2) 'Situativity' and (3) the 'specific mode of video-creation' to initially open up the specifics of a given video-case-study. Here, the basic notion is that data-material generated by online participant video-material holds fascinating and relevant information for scientific analysis. Therefore, fundamentally, we followed a qualitative, inductive, grounded theory-approach (Charmaz, 2012) to allow our gathered data to guide us through the analytical process.

The live-streams we present (cases two and three) have been sourced from the platform "Twitch", which provides potential content creators with a platform on which they can live-stream from their devices and interact with their communities. The platform's terms of service do not stipulate in detail what content is and is not allowed to be streamed, they merely introduce a set of guidelines

(such as a ban of nudity) and enforce current law.

Therefore, all of our (livestream) case studies are non-nudity live-streams. The two non-live IOPVs we analyse (cases one and four) have been sourced from the platform YouTube, which (for our purposes) follows similar rules as Twitch (Conformity to current law, non-nudity-except from educational formats-, etc).

Because of live stream's temporal volatility, it has proven of crucial importance to record them for the purposes of any kind of socio-scientific analysis. We did this by recording these live-streams (including chat-interactions) by using screen-capture software ("OBS Studio" proved very helpful here). When it comes to non-livestream IOPVs, we used video-downloading tools such as "Free Video Downloader for YouTube" to get a hold of the audio-visual material itself in addition to transcribing the most prominent comments (if the amount of total comments exceeds what could sensibly be transcribed) using MAXQDA.

After archiving the video-contents on our devices, the next step in Schmidt & Wiesse's proposed methodical outline is to repeatedly watch the videos to identify the sequential order of happening within the videos. Here, sequencing means dividing / structuring the video in regard to "situatively meaningful sequences of the events shown" (Schmidt and Wiesse 2019). Tuma describes this process as focussing on the „sequentially inter-related acting of the actors that constitutes the situation" (Tuma, 2018) in his work on video-interaction analysis[vi] ("Video-Interaktionsanalyse"). This consideration is of great importance for us, because it enables us to identify the segments of the material that are most instructive to understand (here) IOPVs and how participants are bound up in their creation.

In the next step, these sequences are being analysed in greater detail by transcribing video contents such as what is being said by video producers, how they position and use their bodies in the video and how the camera is acting. These transcriptions are then shared within the research-group and while the video is being re-watched in the context of a data session, associations and possible interpretations are being discussed to identify and explicate the criteria that guided the selection of sequences of relevance for further study.

Our approach here was also highly influenced by Rene Tuma's work on video-interaction analysis, especially the following two aspects:

First, he strives to analyse the resources, knowledge and practical considerations that are being used by the interacting actors in the situation. Applied to our study this means that we focus on finding out which (especially technical) resources participants in IOPVs use to interact and how they convey their knowledge and deliberations through the means of interaction as provided by the streaming platforms.

Secondly, Tuma emphasizes the „sequential order of the interactions" (Tuma, 2018). To analyze this order, he suggests reconstructing the situations in great detail in order to find out how the actors orient themselves on each other and how they coordinate their interactions. This analytical focus is at the heart of our analysis, as we aimed to analyse how participants interact with each other and with the situation of the IOPV itself to find out how this data-type is being created.

In characterizing IOPVs by the integration of communities into the process of video-creation, we concluded, that their 'virtual career' (as Schmidt and Wiesse describe it) does not start after the video's creation but is tangled up in it. Likewise, the specific modes of video-creation – for example, how a content-creator interacts with a camera, what purpose the video serves (like surveillance-purposes, etc.) or the cadrage of the video (ibid.) – directly impact the sense-making practices of community-members and therefore how they partake in the creation of (here) IOPV-material.

Therefore, we deviate from the previously outlined methodology (Schmidt and Wiesse, 2019; Tuma 2017, 2018, 2019) by emphasizing the integration of the chats' interactions in the transcript. Especially when it comes to more technically mediated interactions – like subscription sounds for example – we treat these as part of the situatedness of the video-creation and therefore add them as a new category to the previously outlined approach. Within the transcription process, we hence furthermore traced integrative moments in the chat or in comments below by reading them while and after watching the recordings. Especially when it comes to live-streams, we stopped the video when interactions between the video-participants occurred that we found to be of interest to our analysis of the dynamics of participant-integration.

Following grounded theory, we then aggregated our observations into codes, increasingly enriching them with references to other video-sequences. In a next step, we conducted further data-sessions in which we re-watched the recordings, read the transcripts simultaneously and shared our interpretations and associations.

Based on this work, we analysed the transcriptions in terms of answering the research-questions that emerged from our dealings with the examples at hand. In the following, we present a summary of this analysis.

VARIANTS OF IOPVs – THREE PLUS ONE CASE-STUDIES TOWARD A TYPOLOGY OF INTEGRATIVE ELEMENTS IN OPVs

To give a sense of the variety of video-formats that may fall under the category of 'IOPVs' as well as to investigate what roles the relationship tensions play within the videos, how unfinishedness is created and communicated

Figure 1. 'Amazing' on his chAIR[1].

and how those two concepts relate to the 'bodiliness' / directness of community-integration, we selected four variants of IOPVs for detailed analysis. Temporally disconnected IOPVs: Amazing's chair and a communities' suggestions on how to improve it

The first IOPV we selected for a detailed analysis is a part of a series of YouTube-videos by the channel "AmazingDIYProjects" (in the following, 'Amazing' in short) of him building a manned multicopter (…or a 'chair' with many motors mounted to it – Hence, the 'chAIR') and, in this particular video, takes it out for a flight test of its maximum practical speed. According to the information provided within this and other videos of the series, the chAIR, as the channel-name suggests, is a DIY-project that has emerged out of a shed and Amazing's mind. The video itself shows Amazing bringing out and assembling his 'chAIR' on Laxå Flygfält, a private airstrip near the Swedish city of Laxå, and flying it alongside a driving car to estimate the chAIR's maximum practical speed (Figure 1).

When investigating the ways in which this video is being integrated into a video-community, we observe a temporal disconnect that has been identified as being characteristic for this variant of integrated OPVs: While the video's community interacts with it and, through comments and likes / dislikes adds to the content and its relevance at hand, this type of integration occurs retrospectively and therefore temporally disconnected from the production of the video itself.

Even though comments (and the subsequent replies by 'Amazing) explicitly connect to practices in the content uploaded by the creator and hence become integral to it, the temporalities in the comment-section remain disconnected from those created in the audio-visual material itself. Unlike the following case studies two and three below, this video could be approached by taking on the established video-analytical framework as proposed by Schmidt and Wiesse (2019), thereby treating audio visual contents (by the uploader) and community interactions as separate entities. However, by employing an IOPV-approach and hence treating the audio-visual material itself and community-interactions as inseparable entities, we sensitize for the co-creative potential that emerges in this very interaction. In the example above (Figure 2), this takes on the form of rather strictly technical advice to improve the 'chAIR' as shown in the video.

Even in a video (-series) like this one, that seems to have been created by 'Amazing' as a sort of video-journal, describing his journey in developing and flying the 'chAIR', was apparently not uploaded with any specific goal of direct community-integration in mind, we observed that very specific moments of unfinishedness are being created by comments such as the one above, questioning and investigating what could / should be changed about (here) the 'chAIR'. Again, this 'unfinishedness' is being created retrospectively and is therefore temporally disconnected from the video-creation, still, it hints at the possibility for (here) community-inspired multicopter-design, if the uploader and initial video-creator see it fitting to their vision of the craft. When compared to the following examples, we also observed an indirectness of integration that allows users to merely participate by 'taking the detour' of using comments / likes, lacking the possibility of directly / 'bodily' impacting the OPV. Despite the rather indirect means of viewer-integration in this case, it still affords viewers the opportunity to question their interpretations of

Figure 2. Comments suggesting a fuel-gauge.

the video by comparing their impressions with those of other people before them, as expressed in the comment-section, if they choose to do so. It is precisely this (potential) shift in perspective from viewer of a video (without the context of other viewers) to a viewer that takes the video at hand as a collaborative product, acknowledging the necessity to challenge and question interpretations of previous viewers that allows them to become lay video-ethnographers themselves.

Synchronous IOPVs: Snappy and the chain-stich

The next IOPV-type we identified is that of the 'synchronous IOPV'. As an example for such, we chose a live-stream by the German Twitch-Streamer "SnappyInc". Her Twitch-account[vii], as of January 2022 has around 6600 followers and the stream-recordings saved by Twitch usually gain between 1000 and 1600 views. She describes her streaming-schedule as her streaming everything she feels like streaming, mainly "CoWorking"-Streams in which she works on her stitching-projects. She mainly streams in the category "Just Chatting" and "Cooking and Food" up to four times a week.

In comparison to the first case we introduced, this type of IOPV is characterized by a continuous temporality between streamer and participants. Despite this synchronism, when contrasted to Martins (2019)' analysis of Chaturbate-streamers, the streamer herself remains the obligatory passage point for all integrative moments occurring during the stream. Fundamentally, it is up to her, which comments she responds to, how she responds to them and which ones she chooses to ignore. Therefore, while her community is enabled to interact with her (the streamer) more directly and without enduring a significant temporal disconnect, interactions that are directly-bodily in nature are not available in this case.

Given those limitations, our focus in this example was therefore to investigate how 'chat' tries to affect the stream and under which circumstances this affection and hence viewer-integration is being 'allowed'. We put a particular emphasis on how aspects of unfinishedness popping up throughout the stream introduce tensions between streamer and 'chat' and how these tensions are being coped with by the streamer. In this case, the chat mainly interacts via text messages directed at the streamer, yet visible to all viewers, which enables us to analyse how the streamer copes with those attempts of impact in the ongoing stream.

The particular case we investigated was created in the ''Just Chatting"-Category. This category is defined by streams in which the streamer mainly focusses on talking / interacting with the chat while streaming oftentimes rather unrelated contents.

In this stream, Snappy is working on a crochet-project while talking to her chat. In the beginning, the conversation centres on her and chats' experiences with siblings. Right after that conversation comes to an end, our chosen sequence starts at minute 10:10 with the chat

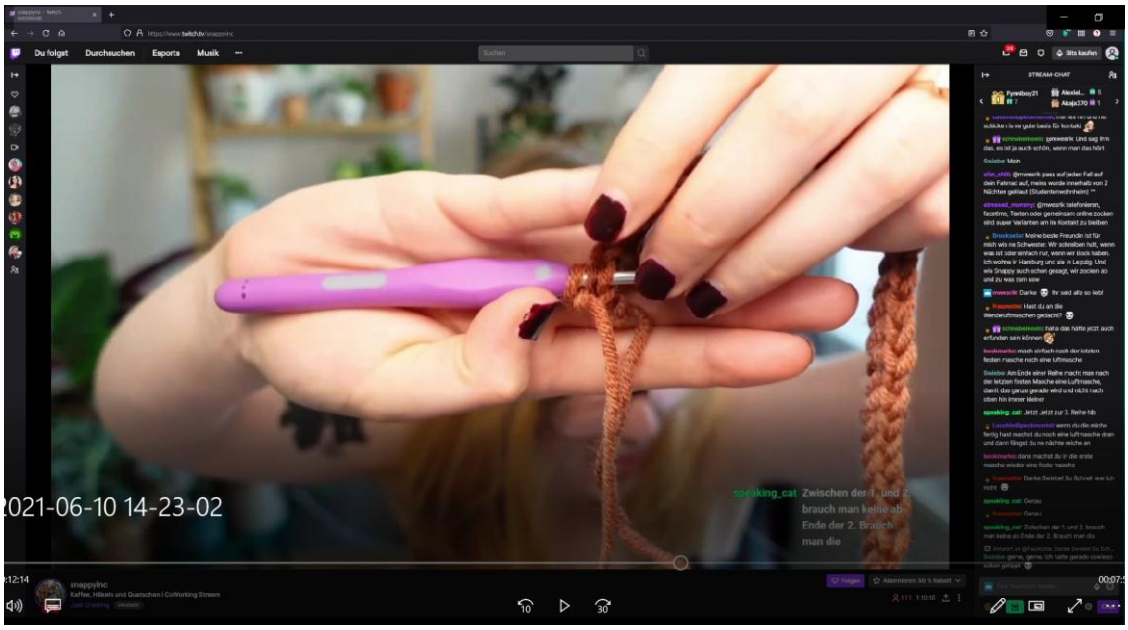

Figure 3. Snappy's Crocheting Project.

asking her if she had thought of something called a 'chain stitch' for her work. While looking at her project she reads the message in the chat, smiles embarrassed and asks "the what?", implicitly creating a window of opportunity for community-integration and declaring (here) her knowledge as incomplete/unfinished. She then continues with her project and starts asking the chat more specific questions about crochet-techniques. Since she did not know what a "chain stitch" was, she announced to google it. While she is entering the search request, she is still reading the chat messages. Here, the chat moves ahead of her and explains the technique to her faster than she can finish her search on Google, inviting Snappy to move from casual chat-interactions to a more direct exchange with the chat. When Snappy, through taking chat's suggestions seriously, follows this exchange, she voluntarily enters a collaborative relationship with the chat that is characterized by this rapid exchange and the necessity to work at the chat's pace instead of the chat accompanying Snappy at her pace. She then aborts her google-search and tries to follow the chats explanations on how to do a ''chain stitch". This sequence hints at the notion of 'peaceful cooperation' between streamer and audience during a live stream only applying to an extent: While Snappy's chat might try to help her; it does so by interrupting her Google-Search, bringing her to close her search-window and to return to the stream. This intervention by the chat therefore is not simply an act of cooperation, but introduces a layer of tension through the unfinishedness Snappy displayed in her project and her crocheting-skills (Figure 3).

After this scene, she tries to implement the tips and suggestions she received from her chat directly in her project. She seems to be struggling a little bit with it and seeks confirmation from the chat that she is crocheting correctly. To do so, she holds her project directly in front of the camera, even covering her face, so the autofocus puts the project into frame correctly. She then shows the chat exactly how she is following the steps suggested by the chat, asking if she is working correctly and waits for the chat to answer. As soon as her chat confirms that the correctness of her work, she looks satisfied, takes her project back towards her lap and thereby out of the picture and continues crocheting 'by herself'. In this moment, she implicitly closed down the stream's 'unfinishedness' as she now knows about the chain-stich. Subsequently, the tensions between her and her chat starts to ease.

Regarding our understanding of IOPVs, this example shows how a live audience may be integrated by the streamer voluntarily to cope with tensions emerging from a sense of unfinishedness, which is an essential aspect of this example. Not only is the crochet-project Snappy is working on far from being finished in itself, the very fact that she relies on the chat's expertise to work on the project shows that the aspect of unfinishedness is an integral part of this stream. This particular example therefore shows that the previously identified concepts of 'unfinishedness' and tensions between streamer and chat are not mere parallel or unconnected occurrences but instead emerge from and through each other – here, tensions emerged from the declaration of the streamer's project and project-related knowledge as unfinished / incomplete. Those tensions were coped with by an

Figure 4. Youna 'Technician' (left) and 'Miko' (right) side by side (taken from the CodeMiko Twitter).

embrace of this 'unfinishedness' and the acceptance of chat's knowledge as a part of the project.

As for the type of data that is being created here, viewers still face the challenge of making sense of the video at hand; however, working with other people's interpretations is occurring more situationally in this example. Unlike the first case where interpretations are occurring and being documented one after another in comment-form, sensemaking in this example is a much more involved process that requires the viewer to take into account the live-reaction of the streamer, other viewers and consider how to relate to these interactions oneself.

Bodily IOPVs: Miko and her 'tormenting chat'

As an example for a rather direct-bodily IOPV, we analysed one sequence taken from a live-stream by the V-Tuber 'CodeMiko', created by Youna Kang aka 'Technician'. Her Twitch-Channel (as of January 2022) has 847.000 followers and her archived videos usually gather between 50.000 and 300.000 views. Currently, she mainly streams in the category "Just Chatting", however (as in the example below) she also occasionally streams in various gaming categories. Being a V-Tuber, Youna frequently plays a set of virtual personae centred around the avatar 'Miko', a 3D model that she controls in real time via a motion-capturing suit and facial tracking (Figure 4).

What sets her video-format apart from the previous examples of IOPVs is the possibility for the audience/ participants to directly ('bodily' when compared to Martins, 2019) influence the live-stream via coded interactions. While other levels of audience-integration like polls or chatting are usually also present in her streams, we focus this case in terms of highlighting integrative aspects that – like in the case of the remote-controlled vibrator in Martins (2019) research – directly impact the streamer and therefore contribute to 'setting the scene' without the streamer being able to directly intervene.

To give a sense of the complex technical framework underpinning the viewer-streamer relationship in CodeMiko streams (especially when compared to the previous examples), we first highlight some of the integrative elements present before analysing a particular example in terms of how those elements contribute to creating tensions between streamer and viewership as well as what role unfinishedness plays in her streams. Figure 5 shows a rather common scenario from the interview-part[viii] of a CodeMiko stream. Unlike the previous examples, this stream provides various, simultaneous means of participant-integration. We identified the following interactive elements in this example:

1. Chat-contents are being continually displayed on Miko's chest
2. In exchange for bits, people can write on Miko's face
3. Viewers can create and vote on polls (here: "change the scene?")
4. Viewers have a set of additional opportunities to influence/sabotage/enhance the stream directly ('bodily') via coded interactions such as throwing food at Miko, changing her eye- or hair-colour, or even nuking / exploding her (see the chart on the screenshot's left side)
5. Viewers can heat up or cool down an egg via coded interactions that, if too cool or too hot, breaks (on the very left side of the screen) Here, not one particular action (like, by contrast, nuking Miko) changes the stream but rather the collective of interactions directed toward the egg.
6. Similar to (5), there is a 'shart'-counter that keeps track

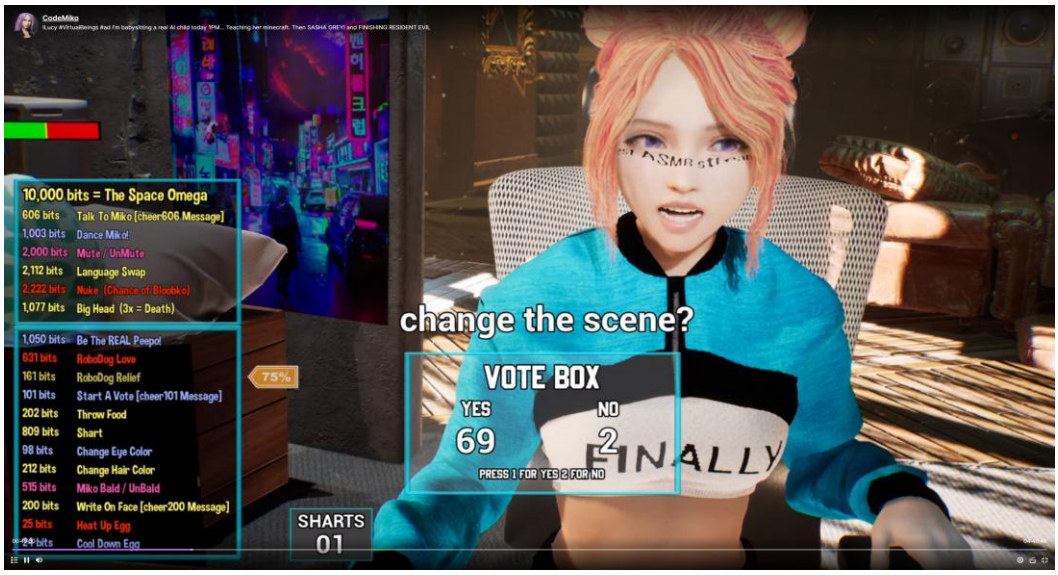

Figure 5. 'Miko' in one of her usual (virtual) environments

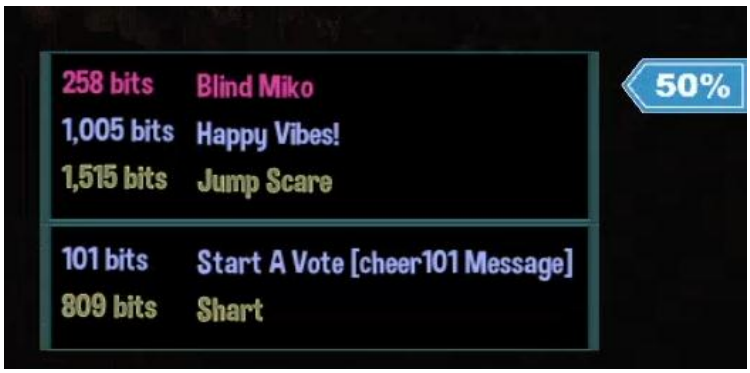

Figure 6. Context-specific coded interactions. Here: for Resident Evil 8.

of how often the coded interaction 'shart' has been triggered. (Here, the 'shart-counter' appears as a meta-artefact, abstracting from specific interactions)

7. Furthermore, throughout the stream, various 'discounts' on coded interactions are introduced (In Figure 5, 75% off for "RoboDog Relief"; in Figure 6, 50% off for "Blind Miko"), creating additional incentives for viewers to interact with the stream and highlighting the possibility to 'take action'.

The sequence we selected for analysis under this category of 'Bodily IOPVs' was taken from a CodeMiko stream from May of 2021. While the stream started off with a visit to the CodeMiko-subreddit, followed by an interview and some playing some Minecraft, Miko eventually turned to playing the game Resident Evil 8, a survival-horror videogame. For this gaming-session, 'Technician' set up a particular set of coded interactions for her chat to directly / 'bodily' interact with the live-stream (Figure 6)

As one may easily imagine, including the options of 'Blinding Miko' (creating an overlay over her game so, she cannot see what she is doing in-game for five seconds) and 'Jump Scare' (one second overlay of a scary face, accompanied by a loud scream) allows for substantial disruptions of the stream by the viewers without Miko being able to mediate them mid-stream. While such disruptions were a common occurrence throughout the entire gaming-stream, the sequence we selected for detailed analysis represents a high-point for stream-interrupting / sabotaging: Within four minutes of gameplay (centring around the 'Urias' boss fight), Miko was blinded twelve times and jump-scared three times, leading her to the escalating statements "[…] guys, stop, I

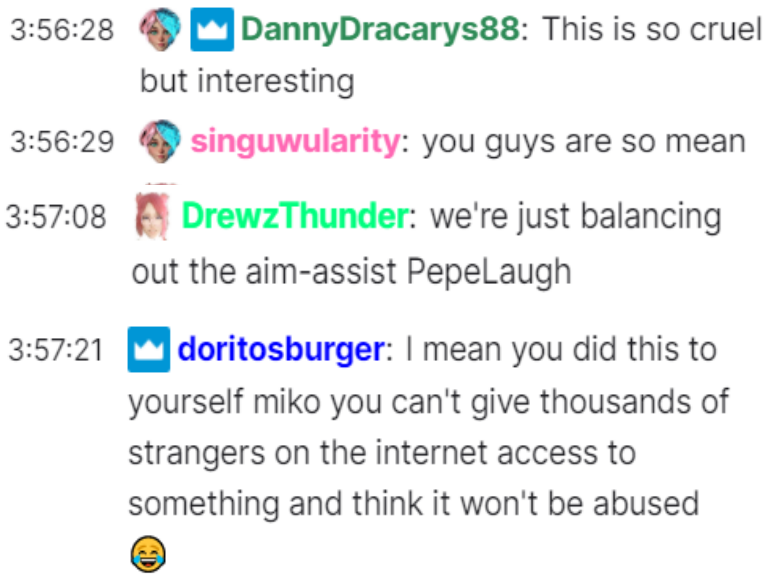

Figure 7. A selection of chat-contents during the boss-fight.

try to fight! […] Guys, stop it! […] God damnit you guys, this is not hard mode right now! […] Fuck you!" (3:54:53-3:55:26).

From a purely cooperative perspective, it is not apparent why 'chat' would decide to make Miko's gaming experience more difficult than it needed to be. However, when considering the previously introduced concept of 'unfinishedness', it seems that the combination of affordances introduced by game-specific, coded interactions (Figure 7) and possibly a sense of Miko having chosen too easy of a difficulty-setting for the game (see viewer comments below) lead to a scenario where additional tensions were introduced as a response to a perceived unfinishedness throughout the stream.

The tensions introduced by the chat by means of directly bodily / coded interactions (and one viewer poll) made this boss-fight much harder for Miko than it would otherwise have been. Only when – despite those additional challenges – Miko was able to complete the boss-fight successfully, the excessive disruptions stopped. On an abstract level, coping with these tensions (both in verbal acknowledgement by the streamer as well as embodied in the gameplay) seemed to be the way back for Miko from a state of 'unfinishedness' (here, possibly as a lack of difficulty in the game) to an equilibrium between 'expected disruptions' like the occasional blinding, etc. and streamer autonomy. From a viewer/participant's perspective, this type of stream is even more complex to interpret than previous examples: Not only do participants need to consider the interplay between 'Chat' and (here) Miko in terms of who says/writes what and therefore reflect on their own interpretations as challenged by this interplay, means of participant-integration beyond (live) comments (such as the direct-bodily interactions above) also have to be made sense of. In this case, watching CodeMiko-streams is an exercise in discovering means of participant-integration and understanding under which circumstances and how they are being made use of by participants. In comparison to the first and second case above, the role viewers take on here could be described as that of media-experts that are not 'just' participating in a collaborative video-format but are implicitly asked to navigate a very complex web of means of user-integration and the implicit rules of when which form of interaction is allowed or – such as in the case of the Urias boss fight – apparently even called for.

Re-integrating IOPVs: From a live-format back to temporally disconnected sensemaking

As a fourth and final case, we chose an example from a category of videos that has been very popular for several years, the reaction video. Unlike the first wave of reaction-videos on YouTube, 'back in the day', what sparked our interest in this case are the specifics of how an integrative video-format such as a live-stream can, in turn, be re-integrated into other forms of integrative content, like comment-able YouTube-videos. As such, this case transcends the previous cases as it is a study into how 'integrating the already integrated' is possible in the context of participatory video-creation.

As the name of the format 'reaction video' indicates, the

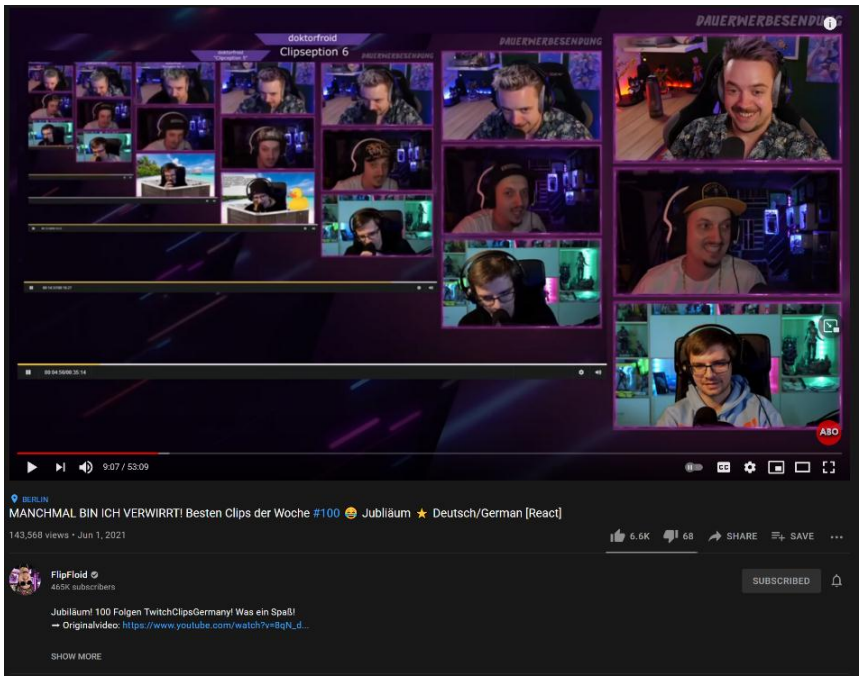

Figure 8. The integrated, integrated, integrated OPV.

theme of it is to react to something else, most of the time other videos or - in this case - to stream-recordings.

Those reactions are commonly recorded live and mostly uncut, to be able to provide the audience with a reaction to the given content that is as genuine as possible. It seems to be for this reason, that most of the currently circulating reaction-videos are actually recordings of live-streams in themselves. This format of live-streams offers a few rather important advantages: On one hand, it is possible to react to a form of content and simultaneously interact with the chat, thereby creating a shared experience of reacting. On the other hand, streaming one's reaction to a live audience further strengthens the notion of authenticity and genuineness of the streamer's reaction. This enables the creators to further play with the format of reaction-videos by implementing, for example, so called "try not to laugh challenges" when watching presumably funny content. In order to win this challenge, one has to be able to verify that one has not laughed while watching. Therefore, the live-stream inherently offers a number of judges and witnesses in the form of the chat.

Our specific example is the recording of a live-stream that was streamed on the Twitch-Channel "DoktorFroid"[ix], which is run by the same three creators as "FlipFloid".It is a 53 min long extract from the original live-stream and otherwise not edited in any way. During the stream, the three streamers reacted to a video, uploaded by the German channel "Twitch Clips Germany", in which the original creator created a compilation of funny snippets from live-streams of German streamers that occurred the week before.[x]

In a nutshell, the three men of "FlipFloid" react to a compilation of funny moments from live-streams, while streaming live themselves. This stream is then being cut into a video and uploaded on YouTube. Here, the integrated character of IOPVs is taken to its extreme: Streamers react to their colleagues and their interactions with their audience, which have been recorded, cut and compiled in a video, while being live themselves and interacting with their audience. This whole reaction-process is being recorded and then uploaded as video again. This example shows how strong and essential the aspect of integratedness and the resulting implementation of tensions between streamer, stream and audience in IOPVs can become.

As an allegory for this integrated character of IOPVs (Figure 8) we present one very specific moment from this example. It occurs approximately around 9:05 and lasts only for a few seconds. We see the three men through their face-cams on the very right side of the video, the compilation they are watching is in the centre of the screen. At this point in time, a strange sight occurs: The three men see themselves reacting to themselves, reacting to themselves, reacting to themselves, reacting to themselves, reacting to themselves. While this is very confusing at first, it actually illustratively shows, what we mean when we talk about integrated IOPVs. To clarify: The video we chose is not the first time "FlipFloid" has reacted to one of "Twitch Clips Germany"s videos during

a live-stream. In one of their reactions they randomly started to hum and mumble rather incomprehensible noises in their microphones. “Twitch Clips Germany” found that so funny that he included their humming in the next compilation. “FlipFloid” reacted to that again and repeated their humming in their live-reaction, trying to copy what they did the last time as accurately as possible. This was again included in the next compilation to which they reacted by copying. The whole process was repeated five times which produces the result shown in the screenshot.

What this example shows is a re-integration of an already in itself integrated OPV. “Re-Integration” in this context means that an IOPV, in form of a recorded live stream, is (here) then again shown in a live-stream setting, by watching and (in this case) reacting to it, thereby integrating it in the newer stream. In other words: An integrated video-format is integrated again into the participatory format of live-streaming and is afforded new possibilities to interact with (for the streamer as well as for the viewers). We use the term ‘re-integration’ to sensitize for the continuous re-cycling, ‘clipping’ and re-connecting to ‘already integrated formats’ in other, overarching formats. While the case we chose surely is a bit on the extreme side of this integrated integration, it stands exemplary for the trend to re-use IOPVs and add an additional layer of participant-integration on top of them. While this commonly takes the shape of live-streams being cut / ‘clipped’ and uploaded to websites such as YouTube, quite frequently, Twitch-streamers commonly re-integrate those formats in their IOPVs as well.

IOPV-VARIANTS AS NEW PARTICIPATORY MEDIA

In this paper, we analysed variants of Integrated Online Participatory Videos in terms of the community-integration-practices they afford. By contrasting existing work on video-ethnography, video interaction analysis and the analysis of online participatory videos, we showed how IOPVs bring together elements from all of these traditions, creating a participatory format that both serves as a data-type for ethnographic work – providing accounts of how participants make sense of such video-formats - as well as a means to drive collaborative content-creation. In this context, the three variants of IOPVs we identified give a sense of the layered nature of IOPVs and the ways in which communities are bound up in their creation. From post-hoc suggestions on how to improve contents at hand all the way to direct ‘intrusions’ into live-streams, it is this heterogeneity and variety of participant-integration that affords creative moments and, overall, the emergence of highly inclusive community work in these virtual spaces. Additionally, we presented a fourth case that showed that (live) IOPVs are not necessarily ‘how the journey ends’ but instead can be re-configured toward new forms of viewer-participation.

Throughout the first three case-studies, we investigated the relationships between ‘bodiliness’, ‘unfinishedness’ and the role that ‘productive tensions’ play in the creation of IOPVs. We identified that the display of unfinishedness, be it through implicit (for example, Miko choosing too easy a difficulty) or explicit accounts (for example, Snappy admitting to not knowing the chain-stich) creates affordances of unfinishedness for viewers to participate. This ‘invitation’ goes hand in hand with the concept of ‘productive tensions’: In contrast to Martins (2019) work on what we would consider IOPVs, participation is driven not only by peaceful and, in a sense, streamlined viewer-integration but thrives off divergences in expectations and in spontaneous interventions into live-settings.

Furthermore, we demonstrated how, throughout our case-studies, participants are expected to make sense of not only what the streamer does at a given point in time but how it relates to the sensemaking-practices of other participants. Here, we regard participants not only as parts of a specific online video culture, but as video-experts in themselves (Tuma) and therefore suggest to view them as lay-ethnographers rather than mere participants.

COLLABORATIVE RESPONSIBILITIES AND THE FUTURE OF IOPVS

As a little outlook, we would like to draw your attention to a further opportunity for inquiry that addresses ethical issues associated with the responsibilities in asymmetrical, situational participatory formats. While examples like our first case-study (the ‘chAIR’) are rather clear-cut in terms of who is responsible for each type of content (the video-creator being responsible for the video, participants being responsible for their comments), with increasing directness of viewer-integration, this line is continually being blurred. While, in practice, the video-producer is still held primarily responsible for the content being co-produced when it comes to TOS (terms of service) -violations, the negotiation of these responsibilities increasingly becomes a part of IOPVs themselves. For example, this may take the shape of streamers reminding their participants of what is and is not considered TOS-friendly or participants testing the waters by provoking with potentially problematic contributions. This interplay becomes particularly relevant to those IOPVs that feature direct, ‘bodily’ means of viewer integration, as – in this case – the ways in which a streamer may react / intervene are necessarily highly restricted and boundaries of what may and may not be considered acceptable behaviour needs to either be agreed upon beforehand or needs to be moderated either by explicit moderators (people that co-participate but may intervene when something goes wrong) or by additional technological infrastructures such as limits on how often/

how a given interaction may impact the stream. The latter approach is however necessarily limited as IOPVs live off the spontaneous and original interactions between streamer and audience and, as such, it seems like creative participants will always find a way to bend or break the rules of TOS-friendly streaming, one way or another. Therefore, it is exactly the dynamic and open collaboration between streamer and participants that is this video-format's biggest advantage and biggest potential issue at the same time: Such collaboration allows for unique and entertaining interactions but also allows for misuse and potentially problematic participant-action. Maybe it is this very interplay and the negotiation-processes that underline it that makes IOPVs such interesting formats.

Looking into the future, it is not a stretch of imagination to assume that the means of interaction between streamers and participants will become increasingly complex – What started off as retrospective commenting has, as shown above, already evolved into more direct means of affecting a video-stream in real-time. Especially considering advances in augmented reality and, more broadly speaking, the blurring of lines between virtual and concrete worlds (Shields, 2005), it seems like it's just a matter of time before new means of stream-participation arise. When V-Tubers (such as CodeMiko) first entered this participatory format, it changed how we thought about live-interaction in the first place. We (the authors) are very much looking forward to what new means of participant-integration streamers will come up next and to see them challenge the classification of IOPV-variants we introduced above.

CONCLUSION

Finally, while this trend in increasing complexity primarily concerns the video-content at hand, we would also like to sensitize for advanced means of conducting ethnographic research on such new emerging formats. Throughout this paper, we took on a rather passive, analytical approach, which served us well in providing a typology of IOPVs. Still – being participatory formats – it is not a stretch to imagine researchers setting up their own stream to further investigate streamer-participant-relationships or to actively 'intrude' into other streams, creating little crisis-experiments to test the waters of what is and is not possible in this weirdly amazing world of collaborative video-production.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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ENDNOTES

[i] 'V-tuber' is an umbrella term for streamers that stream in a virtual environment. In contrast to 'normal' streamers that are situated in the non-virtual world (for example, somebody streaming from their house or room), V-tubers oftentimes take on virtual avatars and stream those avatars and their interactions in virtual environments.

[ii] For Example, see: https://gamerant.com/stream-shock-electrocute-sushidragon/

[iii] A live-streaming platform for erotic content; Portmanteau of 'to chat' and 'to masturbate'.

[iv] Being a form of 'new media' (Siapera, 2017), we hereby focus on the specific social interactions that this video-type, the IOPV, affords.

[v] Referring to this technical understanding of integration – like, for example, technical circuitry -, our goal is not to facilitate a specific mode of integration, for example between a pre-determined set of actors, but to describe the assemblages that emerge throughout IOPVs on social media platforms.

[vi] Tuma suggests to first divide the analysed video in sequences, which are then being studied in great detail with regard to the research question at hand. In order to generate knowledge about factors that are
consistent across specific situations, he then suggests to combine his video-analysis with ethnographic approaches which he then calls „videography" (Tuma P.438). Here, we clearly can see a connection to what Schmidt and Wiesse suggested in their paper.

[vii] https://www.twitch.tv/snappyinc

[viii] CodeMiko frequently interviews various guests like other streamers on her stream.

[ix] https://www.twitch.tv/doktorfroid

[x] This habit of re-using stream recordings may be understood as a given video's 'career' within the online video culture, as defined by Schmidt and Wiesse in their work.